I.   COMPREHENSIVE DEVELOPMENT PLAN

Bakersfield College celebrated its centennial in 2013 as one of the oldest continually operating community colleges in the nation. The college has a long, distinguished history serving the city of Bakersfield and an expansive area that is approximately 143 miles wide from east to west and is larger than the states of Connecticut, Rhode Island, and Delaware, combined. The service area has changed dramatically over the last hundred years, and Bakersfield College (BC) has adapted and grown in response to educational need. While generations of families have made Bakersfield College their preferred education choice, BC's student body is increasingly first-generation college-going, minority, and academically under-prepared. Given the

> **Bakersfield College Today:**
> - 153 Acre Main Campus, with centers in downtown Bakersfield and in Delano, a rural, predominately Hispanic community 35-miles north of Bakersfield
> - Over 70 AA/AS degrees primarily in career & technical areas.
> - Expansive 5,000 sq. mile service area
> - Enrolling over 24,000 students in 2013-14
> - 80% are first-generation college goers
> - 62% of student population is Hispanic
> - 67.17% of first-time students are Hispanic.
> - 81% of first-time students are underprepared

challenges of serving our high-need, at-risk student population, BC must improve its developmental education program because it is the first stop on the degree pathway for the vast majority of our students. Through the proposed Title V Project "*Making it Happen! – A Pathway for Equitable Degree Completion*" BC will improve student outcomes and increase degree completion rates by:

- Fully integrating student services and instruction, designed to help retain students and prepare them to rapidly enroll into core courses and through program completion.

- Developing highly accessible online and hybrid learning opportunities and interventions.

- Support faculty development and curriculum redesign.

- Improving and documenting student progress towards academic achievement as they reach specific milestones towards degree completion.

- And, nurturing faculty and staff sensitivity to ethnic and learning style diversity.

This project reflects to the president's vision that BC must "…*guarantee that any college-ready student will get through in two years and that underprepared students will experience extraordinary effort to place them high, support them and make them college ready at the most rapid pace possible*".

Table 1: Overview of Proposed Title V Goals, CDP Objectives, and Project Strategies
Overall Project Goal
To develop an accessible and equitable degree pathway for service areas students that supports success and timely progression from first touch through to completion.
CDP Goals
G1: (Academic Programs) To develop an exemplary, holistic pathway (*Making It Happen!*) for our underprepared students – through improving vertical and horizontal connections and processes - with a clear mission to significantly improve learning and success from entry to degree completion.   **G2: (Institutional Management)** To significantly increase underprepared student learning and success rates while closing the equity gap at identified *momentum points* through development of an engaging, integrated, and supported degree pathway that utilizes technology as a means to improve delivery of instruction and services.   **G3: (Fiscal Stability)** To significantly increase BC's productivity and overall six-year *completion* rate by addressing the needs of our underprepared students.
CDP Objectives (Outcomes to be achieved by September 30, 2020)
1. 50% of all first-time, degree-seeking, underprepared students are participating in BC's Completion Program and have signed a success contract for "*Making It Happen!*"   **2.** 20% decrease in student enrollment in courses three and four levels below transfer, with concurrent increases in levels one and two levels below transfer.   **3.** 80% of basic skills faculty (N=approx. 80 including adjuncts) are trained through the *Making it Happen! Academy* in best practice pedagogy and methods including effective use of instructional technology.   **4.** 15% increase in the current successful completion rate of developmental instruction within two years.   **5.** 15% increase in successful completion of the initial college level/gateway courses in English (ENGL 1A) and math (MATH B65 & B70).   **6.** 8% increase in students who successfully complete at least 30 college level units within six-years of enrollment.   **7.** 10% increase in the underprepared student six-year completion rate.   **8.** 5% increase in BC's overall six-year completion rate.   **9.** 10% improvement in CA Scorecard efficiency metric (currently being developed, with baseline expected by Summer 2015).
Summary of Project Strategies

S1: Accelerated Math Programs. Develop a new Statistics pathway for non-STEM majors; develop a new course that eliminates overlap between the lowest two levels of math remedial courses; develop a new course that eliminates redundancies on course materials in the existing upper two levels or remedial math courses. Accelerate the two lowest levels of reading courses by combining them into one new course eliminating significant overlap that currently exists. All new courses will include hybrid delivery format with much of the work done online using best methods to increase access and success.

S2: Contextualized Basic Skills Math and English (Beginning with Basics Skills Math and expanding to English faculty will work together with Career Tech faculty to develop activities that relate to specific subject areas such as nursing, industrial automation, culinary, automotive, and many others. The new Math Lab will serve as the hub for the new student activities.)

S3: Effective Academic Student Support (Intrusive counseling, online tutoring and online supplemental instruction services.)

S4: Effective Use of Technology (Improve technology infrastructure to support the hybrid and online delivery of new accelerated basic skills courses in Math and English.)

S5: Faculty Development (faculty will be trained on new learning methodologies that use technology and support the development and delivery of hybrid and online courses.)

S6: Predictive Analytics and Multiple Measures Assessment (BC will be part of the statewide Multiple Measures Assessment and Placement (MMAP) initiative instituted by the CCC Chancellor's Office with the assistance of the CA RP Group and the Cal PASS statewide educational data system. The MMAP combines student scores from a CC standardized placement test with GPA, high school English and math grades, and scores on the California Standardized Test to decide on the final placement for each student.

The *Making It Happen!* Action Plan (Ready!- Set!-Go!)		
Stage 1: "Ready!"	**Stage 2: "Set!"**	**Stage 3: "Go!"**
• High School Outreach • Early Preparation • Pre-assessment • Pre-college intensive preparation • Parental Outreach	• Multiple Measures Assessment and Placement (MMAP) • Early Alert • Intrusive Counseling • Degree Completion Plan • Renegade Freshman Seminar	• Accelerated Basic Skills courses • Hybrid and fully online basic skills curriculum • Online Supplemental Instruction • Contextualized learning in basic skills

Part of the California Community College (CCC) system, Bakersfield College is almost fully dependent on state funding and is accountable to meet state performance standards while the 112 college system as a whole is struggling to improve student outcomes and make them more equitable with severely restricted funding. Bakersfield College faces significant challenges even compared to other CCCs, but also has many strengths to build upon in responding to the needs of our students, local and state workforce demands, as well as the national interest in increased degree completion. The proposed Title V project is designed to build on BC's strengths and opportunities to make good on the promise that student success, as measured by degree completion achievements, is our singular goal. By underlining student success in all

activities, the project will also accelerate Bakersfield College's trajectory toward excellence as a Hispanic-serving Institution.

Challenge: dramatically-changing, high-need, high-demand service area. Bakersfield is now California's 11th largest city and one of the fastest growing metropolitan areas in the western United States. Bakersfield is strategically located in one of the world's largest economies and in a place where cutting edge technology development is blended with a rich history of agriculture and oil production. Research by the Great Valley Center indicates that the area has had the greatest percentage increase in available jobs in the state, with a total of 144,400 jobs added over eight years. (*Assessing the Region via Indicators, The Economy.*) Despite this growth, per capita income in the area is among the lowest in California, at just $22,360 – more than 50 percent below the state average of $44,980. Though workforce demands are increasing, too few local adults are qualified for the area's well-paid jobs. The industries that produced these jobs increasingly need workers with college degrees to enable them to continue their contribution to the area economy, and circularly workforce shortages restrict growth and economic recovery. The Public Policy Institute of California (PPIC) released a series of reports projecting a significant shortage by 2025 in the supply of college-educated workers versus the demand for those workers by employers.[1] PPIC predicts that by 2025, the percent of jobs for which a degree is required or preferred will increase to 41% of all employment in California. At the same time, PPIC predicts that only 33% of the population will possess such a degree. **State trends are magnified in Kern County, where only 15% of adults over the age of 25 hold a bachelor's degree.**[2] A major reason for the slowdown in the share of college-educated adults in California is the low number of Latinos earning degrees. The share of Latinos with a bachelor's degree is

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[1] *Closing the Gap: Meeting California's Need for College Graduates* is one of a series of reports issued by PPIC as part of the California Workforce: Planning for a Better Future Project. (January 2011.)
[2] American Community Survey, U.S. Census Bureau. (2012.)

projected to reach only 12 percent in 2020 demonstrating the lowest college-education levels of any of the major racial and ethnic groups in California. Increasing Latino educational attainment is therefore an increasingly important factor in overall education levels and economic growth as Latinos are projected to grow to 40 percent of the working-age population by 2020.

Agriculture remains the economic base of the Bakersfield area. California's Central Valley is the most productive agricultural region in the United States and a critical part of the nation's food supply. If California's Central Valley were a state, it would be ranked first in the nation in agricultural production. However, the Bakersfield area has experienced the loss of more than 16,000 acres of prime farmland over the last six years, resulting in the loss of traditional agricultural jobs. While agriculture provides more than ten percent of the jobs in the area, that number is down from 20 percent just five years ago. Significant job loss in the agricultural industry has forced many to seek higher education as a means of finding stable employment.

The regional economy is also heavily dependent on energy/oil industries. Even today Kern County is the largest oil-producing county in the country. For over 20 years, Kern County has also been a leader in the development of Solar and Wind energy production, taking advantage of its unique climatic characteristics. Highly skilled workers with specialized technological knowledge are in high demand and short supply. The service area's main industries have stated a desire to hire local college graduates because workers hired from outside the area tend not to stay, and investment of time and money lost. The economic future of the area depends on the development of well-educated, local workforce.

The service area's current economic conditions and increased job opportunity and workforce needs challenge BC to produce more college graduates and develop/adopt programs and services to address new industry needs. BC is now primarily educating a high-need student

population, however. The families served by the college today are among the most economically and educationally disadvantaged in California.

Table 2: Indicators of Key Problems in BC's High Need Service Area
• The county's population has increased significantly since 2000 (26.9% growth, compared to approximately 10% in California and 9.7% in the United States). Data provided by the Kern Council of Governments projects population growth to nearly one million in 2020, with more than half being identified as Hispanic. By 2020, more than 208,000 residents of college-going age will reside in Bakersfield College's service area. • The percentage of Hispanics now residing in Kern County (50.3%) is much higher than California as a whole (38.2%) and the U.S. (16.9%). • Percentage of persons living below poverty levels (30.5%) is higher than the average for California (15.3%) and the country as a whole (14.9%). If the area were to be taken as an individual state, it would rank 48th in the nation in per capita income. • Bachelor's degree attainment is also lowest in the BC service area (14.9%) compared to California (30.5%) and the U.S. (28.5%). **Bakersfield ranks last out of 100 metropolitan areas in terms of college degree attainment**.[3] Less than 12% of California Latinos age 25 and older hold a degree, compared to 39% of White, non-Latinos. • The county's unemployment rate (12.1%) is much higher than the state's (9.8%) and nation (7.3%), as of January 2015. The unemployment rate for young Hispanics aged 18-24 is at least 7% higher compared to Caucasians.

Opportunity: Greater role as leader and collaborative partner in service area economic development. Bakersfield College is the only accessible gateway to college for most local students, and has a major role in the workforce/economic development needs of the service area. The demand for a better-educated workforce has led to unprecedented cooperation between BC, California State University, Bakersfield (CSUB), and local employers to align program development with industry needs. For example, there is now a fast growing engineering program at CSUB, with a seamless pathway for BC students under development. There has been strong community support for the new BC/CSUB engineering pathway. Opportunities in the service area for well-paid employment provide a powerful incentive for local residents to enroll in college and complete a degree. In 2015, BC was selected as one of 15 community colleges in CA to offer a 4-year baccalaureate in Industrial Automation. This is a much needed degree for our

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[3] The Brookings Institute, *The State of Metropolitan America: Educational Attainment*.

area and will make BC a significant contributor to the local and regional recovery. Even though we continue to develop well-designed pathways to degree and careers for our local students, much work is needed to support our students through to completion.

Challenge: BC is challenged with serving a rapidly growing Hispanic population that is among the most underprepared for college in California. Service area schools have struggled to serve a rapidly changing and growing population while disinvestment in public education has occurred. Schools are overwhelmed and their outcomes are declining. The largest K-8 elementary (Bakersfield City) and the largest high school district (Kern High) in California are in the service area, and over 60% of students in both are Hispanic. (*Kern County Superintendent of Schools*). Numerous California reports have documented the decline in K-12 learning outcomes statewide, particularly among Hispanics, the fastest growing segment of the K-12 population in California. The disparity in academic achievement presents a major challenge in terms of equitable education and a real problem in degree production. Increasing the educational attainment of Hispanics is an essential piece of the national completion agenda. But the challenge is formidable. California Standards Tests (CST), developed for California public schools to assess state-adopted content standards in grades 2-11, reveal that Hispanic students in the BC service area are much less likely than White (non-Hispanic) students to be proficient in all of the areas tested.

Table 3: Percent 11th Grade Students in BC Feeder High Schools in Kern County Meeting or Exceeding State Standards on the California State Standards Test (2014)				
	Kern County		State of California	
Subject	White	Hispanic	White	Hispanic
English Language Arts	54	34	62	37
Algebra II	19	12	18	12
Source: California Department of Education, 2010. http://star.cde.ca.gov/star2014/Index.asp				

Opportunity: Increased understanding of best practice from national, state and local initiatives and evidence about "what works" with underprepared students. There has been increased national recognition of the critical role community colleges play in higher education access. It has been said that California cannot succeed unless community colleges succeed. And the nation cannot succeed unless California succeeds. The biggest challenge facing California community colleges is working to repair the remediation "bridge to nowhere",[4] and there is now much more evidence-based guidance for program improvement. The California Basic Skills Initiative (BSI), funded by the CCC Chancellor's Office, is a well-established initiative to increase the number of underprepared community college students who transfer and complete a degree. BSI, in cooperation with the CCC Research Planning Group (RP Group), conducted a comprehensive review of literature in the area of basic skills. Study after study by a multitude of researchers confirms a consistent set of elements that commonly characterize effective developmental education programs, which were then categorized by functional area, in the BSI Handbook. A growing body of basic skills program research, discussed further in the project implementation rationale, has added significantly to this research base and informed project planning. Institutional change is difficult, but made easier when research illuminates the path with evidence of successful practices.

Extensive internal assessment has also found BC practices in basic skills education are not effective enough to meet the needs of our students. Statewide basic skills outcomes are recognized to be far too low overall, and Bakersfield College is below the statewide average in remediation completion rates in each discipline. Notably, that despite basic skills improvements,

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[4] There is now an extensive body of national research aimed at understanding and improving developmental education, also called the "Bermuda Triangle". The role of public community colleges in providing remediation has grown rapidly nationwide. Almost every CC system has been under fire for inadequate remediation outcomes. The problems with CCC's basic skills practices are fully documented in State reports. www.cccco.edu

college data mirrors state and national research showing that underprepared students, as opposed to those who do not require remediation, continue to fall behind at each momentum point along the degree pathway. BC's high proportion of underprepared students therefore has a significant and negative impact on student outcomes overall.

Table 4: BC Student Success Scorecard – Momentum Point Comparison Data[5]					
	Math			**English**		
	BC-White	BC-Hisp.	State-Avg	BC-White	BC-Hispanic	State-Avg
Remediation	27%	25%	31%	37%	26%	44%
	Underprepared			**Prepared**		
30 Units	60% white & (Hispanic 58.3%)			73% white (Hispanic 66%)		
Degree/Transfer	34% white (Hispanic 31%)			68% white (Hispanic 59%)		
Remediation: Percentage of credit students who started below transfer level in English, mathematics, and/or ESL and completed a college-level course in the same discipline. **30 Units:** Percentage of degree, certificate and/or transfer-seeking students who achieved at least 30 units within six years. **Transfer/Completion**: Percentage of degree, certificate and/or transfer-seeking students who completed a degree, certificate or transfer-related outcomes within six years.						

Table 5: ANALYSIS OF BC's STRENGTHS AND WEAKNESSES	
Strengths	**Weaknesses**
Academic Programs	
BC has knowledgeable and enthusiastic faculty (both full-time and part-time) with strong commitment to students and learning. According to a recent College Survey of Student Perceptions, 84% of students are satisfied with the overall quality of instruction at BC College.	Even after extensive professional development and faculty-driven initiatives to make pedagogy and practices more responsive to underprepared, diverse students, too many students are not succeeding in BC's classrooms.
All academic programs have undergone at least one program review during the last six years with many needed improvements identified and some progress has been made addressing improvements in many areas. Many BC programs are recognized and valued by students and the community.	Traditional CC program review has not provided data and information needed to redesign services in the transformational ways now known to be necessary for improved student success. Scorecard and BSI data indicate academic programs need to be assessed in terms of valid student success indicators.
BC has made Career Tech academic programs a focus and has developed a number of degrees in response to community needs. BC has formed many partnerships in the Valley to build this pathway. There has been a significant coordination with local high schools to increase the career tech population and outreach.	Mainstay Valley industries critically need a **local** well-educated workforce. Too few local students graduate from local high schools prepared to enter college career pathways. BC's transition rate from remedial to college courses is very low.
Students are provided with a wide range of support services rated as essential and useful by many	National and state research and analysis has found that BC's traditional community college

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[5] California Community Colleges Student Success Scorecard, Student Success Initiative, 2015. http://scorecard.cccco.edu/scorecard.aspx. Rates were determined based on achievement by cohort at each "momentum point" during six-year timeframe from 2008-09 to 2013-2014.

students. These services are outstanding by traditional CCC standards in spite of budget cuts.

- **Student Success Lab** –provides an environment for students assessed at the lowest two levels of remedial English and math courses, to remediate at their own pace using PLATO. The lab also provides a venue for students who are unsatisfied with their assessment/placement scores to brush up on their skills and then re-assess.
- **Math Lab** – The Bakersfield College Math Lab is housed in the Jerry Ludeke Learning Center, run by the Math department. The Math Lab has one fulltime faculty member, 2 two teaching assistants, one teacher aid, and two adjunct faculty currently working in the lab. The Math Lab serves students assessed in the upper three levels of remedial math. Drop-in tutoring is available.

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student support model needs to be redesigned to be more effective and efficient. "Student Services" has become a silo in all CCCs. The RP group found that CCC's approach to Student Services is not consistent with what CCC students themselves say they need to succeed.

- There is no coordination between the Student Success Lab and the Math Lab that serve the two lowest levels and two upper levels of remedial math respectively. They use different software programs to enhance student learning, which leads to inconsistencies of pedagogical approaches as students progress in the sequence. Tutors offer help only upon request from students with no structured intervention mechanisms. Disciplined students can progress at their own pace, but most students need structured help to be successful in a self-paced environment.

- **Tutoring Center** - The Tutoring Center offers one hour of free peer tutoring per week for each BC student. Tutors are trained by a full time faculty member and the Center is CRLA certified. The Tutoring Center has 80 student tutors and averages 329 scheduled appointments and 25 drop in appointments weekly. (about 1000/month or 250 per week and 24 drop-ins per week)
- **Writing Center** – The Writing Center provides writing assistance for students in all disciplines, as well as resume writing assistance. The Center is staffed with one Writing Center Coordinator and six Writing Consultants, all with at least a BA in English or another related subject. The Writing Center had an average of 177 appointments per week. (45 appointments/day, drop-ins and serves about 2,800 students per semester)
- **Supplemental Instruction** –Supplemental Instruction is an important part of the support offered through the Learning Center. The Center is housed in the Library to allow for extended appointment hours, and has 1 fulltime coordinator (with additional basic skills support duties elsewhere as well) with 17 trained SI leaders. STEM Supplemental Instruction has 58 mentors with 10 working with Pre-collegiate courses. SI covers 12 pre-collegiate courses in the Humanities, concentrating on accelerated English courses.

- Too few students take advantage of passive/voluntary support services available at the tutoring and writing centers. At-risk students are least likely to utilize services.
- With more than 5,000 students needing remediation per semester, BC has to develop capacity to serve these students if a more prescriptive and intrusive support model is developed. BC needs desperately to develop capacity for hybrid and online self-paced courses so all students access needed courses, as well as online tutoring and SI support for students to ensure success.
- According to the most recent Accountability Report the BC "Annual Successful Course Completion Rate for Credit Basic Skills Courses" is 54% compared to 62% for the state average. The improvement rate for credit basic skills courses is 48% compared to 59% for the state.

Source: *Focus On Results: Accountability Reporting for the California Community Colleges*, California Community College Chancellor's Office, 2013.

Institutional Management	
BC has an experienced, energetic new president.	New leaders are faced with almost overwhelming

The president's cabinet is comprised of people with extensive experience in student services and including a new Dean of Pre-collegiate and Student Success.	environment challenges, unfunded mandates to make transformational change and threats of performance-based funding.
There is unprecedented support from the CCC System to guide change, prioritize action and benchmark progress.	Performance-based funding is problematical for colleges like BC, which serve high-need service areas and students. BC must accelerate progress and develop hybrid and online opportunities for learning without disrupting services.
BC has been pilot-testing a new method of student assessment and placement, in conjunction with the official placement test, using "multiple measures" that take into account prior experience. For many students this results in placement of at least one course higher in the development course sequence.	BC does not currently have the necessary human capacity to assess all of its students using multiple measures. Only about 350 students per year are benefited by this effort so far. BC needs a full time developer for this innovative program, which will result in more accurate placement and less waste.
Fiscal Stability	
Fiscal stability maintained through the major State fiscal crisis rollercoaster that has affected all California community colleges; BC has a long history of conservative fiscal management and a sufficient state mandated fiscal reserve.	BC has always had students with special needs, a bare bones budget and funding below the level of other CCCs (which have the lowest State funding level per student of any community college system nationally). The current fiscal challenges mean that the college must operate even more cost-effectively.
Enrollment is again on the rise which will improve BC's fiscal stability but the recent State budget woes have created future uncertainty. Outreach has increased Hispanic enrollment to be more representative of area demographics.	The State CC system is moving toward performance-based funding and BC student outcomes are among the lowest in the State. New students are almost all high-need and at-risk without extensive assistance. Funding will be lost unless there is improvement in student outcomes.
External resource development is energetically pursued by administration and the Math/Science/ Engineering division through grant applications to state, federal and private agencies.	The 2011 STEM HSI cooperative grant with CSUB has resulted in significant improvements in the M/S/E area, but has had little effect on improving outcomes for underprepared students.
Financial planning, evaluation and budgeting are integrated with the College's Mission, Goals, and planning models.	As the state moves towards performance-based funding, BC's fiscal stability will be depend on improving the outcomes of our underprepared.
The Bakersfield Community College Foundation was established to raise external funding and has been successful in raising private donations from local entities at a small scale.	BC has a small endowment fund currently that is focused on community needs and some scholarships but cannot be used for academic or curricular improvements; BC needs to establish long term, sustainable support mechanisms for Hispanic and other low-income students to promote access and support completion.

BC's Basic Skills Bermuda Triangle. In BC's current strategic planning efforts there is clearly good reason to focus on improving practices and services for underprepared students based on internal, statewide, and national research about the basic skills challenge. BC is not alone. A

recent article compared community college remedial basic skills classes to the "Bermuda Triangle" because so many students in these classes simply disappear.[6] Basic skills courses in community colleges nationally have the highest dropout and failure rates, even though these courses were created to increase access to higher education for growing numbers of underprepared students. The "Bermuda Triangle" is a particularly troublesome problem for California community colleges (CCC) because of structural impediments system wide (*e.g.,* it was believed to be illegal until recently to mandate basic skills assessment testing and placement) as well as severely limited funding.[7] Recognizing this problem, the Chancellor's office provided funding and resources through a statewide Basic Skills Initiative which enabled BC to comprehensively assess its basic skills practices as they compare to practices with high effectiveness rates.

Table 6: How BC Basic Skills Practices Compare to Practices of Highly Effective Programs*	
Practices Known to be Effective	**BC Basic Skills Practices**
Course-related learning assistance (*e.g.*, supplemental instruction, course-based tutoring) is provided to basic skills students and is comprehensive and systematic.	BC provides generalized tutoring and has piloted some course-related SI, but services are not adequately integrated into basic skills program. Too few at-risk students are receiving needed academic support.
A comprehensive learning assistance center provides support to developmental education students, is used by students who need assistance, and is effective in providing learning assistance to a growing number of students each year.	BC's academic services, though fledgling, are well received and show evidence of success. Unfortunately, ACDV and Learning Center resources are not integrated enough with academic programs, systematic, and are not well utilized by at-risk students.
Specific training in developmental education instructional strategies is provided to faculty teaching developmental education courses; faculty use responsive, engaging pedagogy.	Faculty teaching basic skills are not provided adequate professional development in strategies which are effective with Hispanic and other at-risk students.

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[6] Camille Esch, "Higher Ed's Bermuda Triangle." <u>Washington Monthly</u>. (Camille Esch directs the California Education Program at the new America Foundation.). September/October 2009.

[7] Nancy Shulock & Colleen Moore, "Rules of the Game: How State Policy Creates Barriers to Degree Completion and Impedes Student Success in the California Community Colleges." CSU, Sacramento, Institute for Higher Education Leadership & Policy, February 2007.

Counseling support provided is substantial, accessible, and integrated with academic courses/programs.	No college-wide comprehensive approach exists to integrate student support and counseling support into the program.
A well-planned, step-by-step sequence of developmental course offerings exists. Developmental education course entry/exit standards are regularly reviewed and revised as needed. Exit points are eliminated whenever possible to prevent attrition.	Student outcomes in basic skills clearly indicate that the existing sequences need review and revision, but faculty have heavy teaching loads and lack training to review/revise sequences, pilot alternative methods and formats.
Individual courses (particularly those taken earliest in the developmental sequence) engage students in highly structured and active learning experiences designed to build their skills and knowledge.	Instructors use traditional methodologies primarily. Some use more engaging methods, but innovations are piecemeal and inconsistent. There is no cohesive model for active or contextual learning in basic skills courses.
*Effective practices are delineated in a CCC assessment tool developed by the Center for Student Success, Research and Planning Group. This table summarizes specific weaknesses pinpointed by CDP planning as priorities for corrective action over the next five years.	

CDP PROBLEM ANALYSIS: Bakersfield College has forty years of experience providing remedial education, an institutional commitment to meeting the needs of our students so they may thrive in a rapidly changing world, and faculty leaders who have been deeply involved in statewide efforts to improve basic skills. Yet our current approach to basic skills is simply inadequate to serve our current student body who are typically underprepared, first-generation, and low-income. The challenge of better serving these students is formidable, but increasing student success is mission critical for BC. A recently completed study looked at cohorts beginning in 2007-08 and finishing 2013-2014. 84% of these first-time students entered underprepared, and only 34% of students who started at any level of remedial math or English completed a certificate, degree, or transfer related status during the six-year period. The disaggregated data is even more startling. Only 6% of students who began three or four levels below college level English completed, and only 1% of students who began three of four levels below college level in math completed after six years. With the majority of our students falling

into one of these categories, an institution-wide effort is needed to bridge the moat that surrounds

college for far too many of our students.

Table 7: Indicators of Institutional Weaknesses which Informed CDP Analysis and Planning
Students enter BC underprepared: Over 80% of BC students enter college in need of at least one basic skills course; over 98% of these students need developmental math.   **Basic skills students fail math, English, and ESL at unacceptable rates:** Between 2010 and 2013, failure rates in basic skills math ranged from 28-67%; English from 18-43%, and ESL from 19-43%.   **Hispanics are particularly at risk of failing:** Between 2010 and 2013 the failure rates among Hispanic students in their first math class at BC was approximately 56%.   **The majority of students who do enter the basic skills math sequence do not persist:** Over a three-year period (20010-13), only 48% of the students in Modern College Arithmetic and Prealgebra enrolled in the next level, beginning algebra; 33% of students in beginning algebra enrolled in the next level, intermediate algebra.   **Very few students make it to college-level math:** Less than 19% of the students who begin college in Modern College Arithmetic and Prealgebra (3 levels below transfer) will make it through the math sequence (2008-2011). Only 12% will make it to a college-level math class.   **The longer students spend in remediation, the less likely they are to finish the sequence and continue into college-level work.** In Math, of those placed in the highest level basic skills course, 33% will finish; at mid-level, only 12% will finish. Only 4% of those placed in the lowest level of basic skills math will finish the sequence.   **It's not much better in English:** Less than a quarter of students enrolling in developmental English will enroll a transfer-level English class. Only 16% of students who begin in developmental English will pass the college-level course.   - The **six-year completion rate** for underprepared Hispanic students is 30.3%; for all students it is 34.8% (2007-08 cohort).   - Only 18% of all BC students completed a Student Educational Plan (SEP) (Fall 2013.)   **Inadequate and inequitable degree completion as key institutional indicator** 14.5% of all students in the Achieving the Dream cohort earned a certificate, degree or transfer in 3 years (2008-11 cohorts). ***Hispanics: 11.7%; White 19.5%.***
Sources: CCCCO Datamart, Bakersfield College Data Central, BC Institutional Research and Planning, CCCCO Student Success Scorecard, ATD Research Study

Bakersfield College fully recognizes these challenges and opportunities and has

undergone extensive planning informed by the Basic Skills Initiative, CCC Student Success Task

Force recommendations, and also by internal self-study. The college is on a steep trajectory of

planning to improve student success framed by and modeled on the principles of the *Achieving*

the Dream: *Community Colleges Count* program. Participation in Achieving the Dream (ATD),

which began in 2013, has provided BC with a rigorous and comprehensive data-driven approach

to ensuring that the college will continue its long history of responsive education services. The ATD principles are being integrated into the fabric of the college. Using the ATD model, BC has identified the student population that is the most underachieving and the most underserved at BC and this led to recognition of the need to redesign our approach to serving basic skills students.

Table 8: Milestones in the Development of Bakersfield College's Proposed Title V Project: Making it Happen! – A Pathway For Equitable Degree Completion

- **Energetic, well-qualified president arrives.** Dr. Sonya Christian was named President of BC on October 15, 2012. Dr. Christian, who was a math faculty member, division chair and dean of science, engineering, allied health and mathematics at Bakersfield College from 1991 to 2003, has held increasingly higher level administrative roles at Lane Community College in Oregon over the past 10 years. She introduced BC to the opportunities to improve student success provided by participation in the Achieving the Dream program.
- **Strategic Planning.** President Christian led the final stages of the development of the BC 2015-2018 Strategic Plan through a collaborative process which engaged campus constituents and community members in discussion about the college's future in light of extensive information from environmental scanning. The process helped the college and the community to understand the importance of BC's role in the service area future and the challenges and opportunities confronting BC today.
- **Accreditation Renewed in 2012**. After extensive self-study and work to meet standards, BC was fully accredited. The self-study process also engaged many in the college in examining available data and establishing new planning and assessment capability. President Christian was commended for her leadership in the final stages of the accreditation process after she arrived at BC.
- **Updated Strategic Focus 2013-14.** Represents an evolution in thinking and further refined the 2012 Strategic Plan to link strategic goals, strategic initiatives, and benchmark data strands to develop a stronger culture of evidence to inform and improve institutional planning and effectiveness.
- **Bakersfield College joined Achieving the Dream in 2013** – to undertake a rigorous process and comprehensive approach to identify, in a disaggregated manner, those student populations not achieving and to develop targeted interventions to ensure equitable success**.**
  - o **Data summits (**beginning October 31, 2013) and creation of data coaches has led to collegewide attention to the importance of uncovering institutional weaknesses and identifying best intervention through data gathering and analysis.
  - o **Data coaches,** development of an organically grown cadre of grass roots data coaches representing wide-ranging areas and way of viewing information. The coaches are diverse in data capabilities and strengths creating diversity of thinking and perspective which strengthens our ability to communicate data more effectively to various stakeholders.
  - o **BC's Equity Summits,** (Achieving the Dream through Student Equity and Excellence April 3, 2014, and March 2015) called attention to and educated the college and community about the importance of the national agenda (and major focus of the ATD movement) to increase student success overall and close the gaps in the achievement of student groups that are underrepresented in degree completion.
  - o **Locally-driven Institutional Effectiveness Scorecards** have been developed for BC, framed both by ATD data requirements and those of the CCC system. These have facilitated the identification and prioritizing of BC weaknesses that are most mission-critical and provided data to plan solutions.
  - o **Attendance at League of Innovation March 12, 2014** - received feedback on Institutional Scorecard, Data Coach strategy.
- **Active Participation in Statewide Multiple Measures and Predictive Analytics Work -** including Cal PASS summit (Feb. 14, 2014), various Cal PASS webinars, met with CCRC researchers, reviewed software options and attended IT conference on predictive analytics, ATD breakouts at Florida ATD

- **On campus Outreach Meeting (April, 2015)** data presentation about college readiness and placement and **District-wide Counselor Workshop (April, 2015)** at the Kern County Superintendent of Schools

Focused Title V project planning to address institutional weaknesses affecting underprepared students reflects an evolution in thinking as the college developed its strategic plan, engaged in the accreditation renewal process, and secured new college leadership. In fall 2013, President Christian sought recommendations across the college for projects with the most potential to move BC forward in the specific directions indicated by the data and evidence gathered in the accreditation strategic planning and Achieving the Dream process. After much analysis, the President appointed a cross functional team led by Dr. Janet Fulks, Dean of Student Success, to develop an exemplary, holistic and integrated pre-collegiate *Completion Program* which would could positively impact 80% of BC's student population, resulting in improved institutional effectiveness, fiscal stability, and institutional management. The Title V project planning team conducted bi-monthly meetings beginning in February 2014. Attended by senior administrators and faculty across ESL, English and math, Academic Development, and Counseling departments, team members were tasked with designing a project which reflected best practice research on improving the success of high need, underprepared students, and was grounded on BC's accreditation self-study report, Achieving the Dream research, and internal experience and assessment of locally piloted success strategies.

Table 9: Bakersfield College Title V Planning Team Members	
Sonya Christian, President	*Sue Vaughn*, Admissions & Records/Director, Enrollment Services
Kimberly Bligh, Department Chair Academic Development	*Anthony Culpepper*, Vice President, Finance and Administrative Services
Nan Gomez-Heitzeberg, Office of Academic Affairs/Executive Vice President	*Ibrahim Ali*, Vice Chancellor, HR
Liz Rozell, Dean of Instruction and STEM HSI grant director	*Amber Chiang*, Director, Marketing and Public Relations
Michele Bresso, Interim Dean of Instruction (English, ESL,	*Laura Lorigo*, Auxillary Manager - Maintenance and Operations
Janet Fulks, Interim Dean of Student Success and Precollegiate Studies	*Zavareh Dadabhoy*, VP, Student Affairs
	Tom Gelder, BC Foundation/Executive Director

Pam Boyles, Paula Parks, Gloria Dumler, Rebecca Monks, English/Technology *Edward Ham*, Rachel Vickrey, Regina Hukill, Kurt Klopstien, Pat Serpa & Kris Toler - Mathematics Jeannie Parent, John Hart, ESL *Eileen Pierce*, Supplemental Instruction *Lesley Bonds*, Student Support Success Manager *Keri Kennedy*, JoAnn Acosta - Educational Advisors *Odella Johnson*, Director of Equity and Inclusion *Erin Miller*, Habits of Mind *Kathy Rosellini*, Counseling/Chair, Articulation Officer, Transfer Center Coordinator	*Primavera Arvizu*, Financial Aid/ Director *Richard McCrow*, Delano Campus Science & Technology/Director *Tim Bohan*, Academic Development *Kim Nickell*, Student Success lab *Kimberly Arbolante*, Writing Center *Anna Agenjo*, Library *Todd Coston*, Information Services/Director *Victor Diaz,* Manuel Rosas - Counseling *Elizabeth Elms*, Tutoring Center

Table 10: Bakersfield College CDP Goals and Measurable Objectives Related to the proposed Title V Project	
1.a. Institutional Goals related to Title V Project	**1.b. Five-year Measurable Objectives* to be Accomplished by September 30, 2019:**
Academic Programs Goal: To develop an exemplary, holistic pre-collegiate Degree Completion Pathway for underprepared students with a clear mission to significantly improve learning and success from entry to degree completion. The quality of BC's academic program depends on the preparedness of our students to participate and succeed at all levels.	1. 50% of all first-time, degree-seeking, underprepared students are participating in BC's Completion Program and have signed a success contract for "*Making It Happen!*" 2. 20% decrease in student enrollment in courses three and four levels below transfer, with concurrent increases in levels one and two levels below transfer. 3. 80% of basic skills faculty (N=approx. 80) are trained through the *Making it Happen! Academy* in best practice pedagogy and methods including effective use of instructional technology.
Institutional Management Goal: To significantly increase underprepared student learning and success rates while closing the equity gap at identified *momentum points* through development of an engaging, integrated, and supported degree pathway. When students are unable to persist to completion, institutional resources are wasted and BC's mission is unrealized.	4. 15% increase in the successful completion of developmental instruction within two years. 5. 15% increase in successful completion of the initial college level/gateway courses in English and math. 6. 8% increase in students who successfully complete at least 30 college level units within six-years of enrollment.
Fiscal Stability Goal: To significantly increase BC's overall six-year *completion* rate by addressing the needs of our underprepared students. With state funding tied more and more to performance, BC's fiscal stability will depend on increasing outcomes of our underprepared students.	7. 10% increase in the underprepared student six-year completion rate. 8. 5% increase in BC's overall six-year completion rate. 9. 10% improvement in CA Scorecard efficiency metric (currently being developed, with baseline expected by Summer 2015).
* All increases will be measured against the baselines established by a combined average rate of three first-time, degree-seeking underprepared student cohorts (2009-10, 2010-11, 2011-12) tracked over three years ending in 2014-2015.	

1.c. INSTITUTIONALIZATION OF PRACTICES AND IMPROVEMENTS:

The Title V development project proposed in this application is planned with capacity building as a primary focus and sustainability as a key consideration. Failing students by failing to address their needs is not a sustainable position for BC. Multiple measures in assessment and placement and integrated support services are proven to result in more accurate and equitable student outcomes. Likewise, acceleration and contextualization of basic skills instruction with integrated support can dramatically increase basic skills advancement and completion rates. Development of a much improved basic skills program that coordinates high impact practices in a holistic approach, rather than piecemeal changes and add-on services that impact few students, will be permanently built into the structure of the college.

Math Basic Skills Curriculum Redesign plus Alternative Math Pathways =
Improved Degree Completion Rates. This project is carefully planned to increase completion rates for all students (most of whom are Hispanics) through careful redesign of the existing math remedial courses and the creation of a new Statistics Pathway that satisfies the college graduation requirement. This alternative and innovative approach to satisfy the math requirement for graduation is promoted by the Policy Analysis for California Education (PACE) research group (a collaborative between Stanford University, UC Davis, and USC) and the LearningWorks initiative in an April 2015 report titled *"Degrees of Freedom: Diversifying Math Requirements for College Readiness and Graduation"*[8]. The report examines the success of alternative math pathways in CA community colleges and universities showing a significant increase in transition rates from developmental to college courses, resulting in increased graduation rates. The most common pathway is a statistics pathway for non-majors by accelerating the intermediate algebra requirement that has been proven the biggest bottleneck towards degree completion for most

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[8] *"Degrees of Freedom: Diversifying Math Requirements for College Readiness and Graduation"*, Pamela Burdman, PACE and LearningWorks, April 2015.

non-STEM majors. As California community colleges move towards a performance-based funding, improved graduation rates will secure the financial strength of BC in the years to come and provide the necessary funds to continue this project beyond the life of the grant.

Table 11: Institutionalization Plan Overview	
Practices/Improvements through Project	**Methods and Resources for Sustainability**
Major Personnel Positions	
The Project Director, Dr. Kimberly Bligh, Chair of Academic Development department, who helped plan this project will lead all project personnel and supervise all strategies. She will also coordinate the "**Set!**" phase of this project.	The Director is critical to institutionalization of effective practices. At the end of the project, she will return to her previous position with major responsibility on the BC basic skills improvement efforts.
BC Strategy Leaders will oversee the implementation strategies for the main project threads: **"Ready!" Phase -New Hire**: Increase high school and parental outreach, establish pre-assessment methods, coordinate pre-college interventions. "**Go!" Phase** -**The Math Leader**: Supervise the Math Lab were the new accelerated and hybrid versions of existing math courses will be administered; coordinate SI, and assist in professional development delivery for faculty.	The BC staff who will coordinate the strategies selected to achieve the Institutional Goals which are essential to the long-term success of this project. The math leader (Ms. Hukill) will return to her previous role when the project ends, with additional responsibilities to help sustain improvements. The person hired for the Ready! Phase will continue to be supported by institutional funds and join the college's outreach department.
Faculty Release: Faculty will work closely with the Project Director to implement the planned strategies addressing basic skills program weaknesses.	These are temporary developmental support positions that are not expected to continue when the grant ends, but faculty who fill leadership roles will continue to sustain project impact.
SI/Tutors: Funding is requested to train qualified students as Peer Leaders in the SI program to improve the effectiveness of the basic skills program. SI leaders will be trained to use technology to increase effectiveness so more students can benefit from these services than traditional, face to face model.	The savings from improved student outcomes will cover the cost of tutors and paraprofessionals. A study of Foothill College's successful SI program, conducted by the Center for Student Success, indicates that increases in success and persistence rates, resulting in increased downstream FTES, offset program costs significantly.
Pre-collegiate interventions: Funding is requested to develop and pilot test the *MIH!* summer intensive academy for pathway participants including activities intended to increase academic success and build community in the critical first year.	BC will develop a summer intensive academy for underprepared students that is integrated seamlessly into the first year MIH! pathway. The impact of the academy will be evaluated and institutionalized based on positive results.
Equipment/Supplies: Development of Learning Labs: Technology development has a central role in achieving objectives in a sustainable way. All technology to be purchased is integral to development of a more scalable, efficient and effective program.	Technology and supplies are requested to strengthen BC's learning infrastructure in order to improve access to information, create accelerated learning opportunities and provide personal and timely support. Once installed, technology will be maintained and upgraded as needed by BC.

Table 12: 1.d. FIVE-YEAR PLAN FOR IMPROVING SERVICES TO HISPANIC AND OTHER LOW-INCOME STUDENTS	
5-Year HSI Objectives to Improve Student Outcomes	**Improved Services to Hispanic/Low-Income Students**
Note that all objectives directly address identified BC weaknesses that impede efficient remediation and degree/transfer completion of Hispanic and low-income students who are disproportionately affected by weaknesses in the pathway. **All increases will require significant improvement of Hispanic student outcomes as they are the majority of BC's first-time enrollment**. Hispanic students will be equitably represented in participation rates as compared to overall enrollment. **5 Year CDP Objectives -** by September 30, 2019: **1.** 50% of all first-time, degree-seeking, underprepared students are participating in BC's Completion Program and have signed a success contract for "*Making It Happen!*" **2.** 20% decrease in student enrollment in courses three and four levels below transfer, with concurrent increases in levels one and two levels below transfer. **3.** 80% of basic skills faculty (N=approx.80) are trained through the *Making it Happen! Academy* in best practice pedagogy and methods including effective use of instructional technology. **4.** 15% increase in the successful completion of developmental instruction within two years. **5.** 15% increase in successful completion of the initial college level/gateway courses in English and math. **6.** 8% increase in students who successfully complete at least 30 college level units within six-years of enrollment. **7.** 10% increase in the underprepared student six-year completion rate. **8.** 5% increase in BC's overall six-year completion rate. **9.** 10% improvement in CA Scorecard efficiency metric (currently being developed, with baseline expected by Summer 2015).	All Activity strategies were selected based on research about what is **most important to Hispanic and low-income student success**. • **Improving Basic Skills:** Hispanic and low-income students are almost all basic skills students when they enroll in college. They are the most likely victims of the "Bermuda Triangle" that BC plans to address through this project. • **Emphasizing Hispanic Student "Success":** The Making It Happen! Completion Program will include success strategies now known to effectively move Hispanic and high need students through pathway momentum points through high levels of integration, intrusive support, and contextualizing and accelerating coursework. • **Building a Culture of Evidence:** The national Achieving the Dream reform network heavily influenced BC's Making It Happen! project design and provided an evaluation framework that focuses on using data-informed decision-making to close achievement gaps and improve student outcomes. • **Focus on Hispanic-serving** to improve productivity, performance, and degree completion, rather than revolving door enrollment. All strategies are selected to increase retention and completion of our students. Neither enrollment nor cost-cutting are key measures of Hispanic-serving effectiveness: Success and graduation are! • **Closing the Equity Gap at All Momentum Points:** Hispanic enrollment is increasing, but the success rate for Hispanics is much lower than that of other BC students. Meeting project objectives will require addressing the needs of our majority Hispanic enrollment to close the gap at each pathway momentum point (as well as improve BC transfer/achievement rates overall).

2. ACTIVITY OBJECTIVES.

The CDP identified the most serious problem facing Bakersfield College – too many underprepared students do not succeed, which has a significant and negative impact on BC's academic quality, institutional management and fiscal stability. Specific weaknesses contributing to this problem to be addressed by the Activity are identified below along with related CDP goals and 5-Year Activity Objectives. Incremental progress toward each five-year objective, along with defined results, will be achieved annually as detailed below.

Table 13: Summary of identified problems, goals, and annualized objectives		
CDP Problems	**Goals Related to CDP**	**Five Year Activity Objectives**
BC's stated commitment to success is not reflected in an institution-wide approach to developmental education, and the success of underprepared students, who make up the vast majority of first-time enrollment, is hampered by lack of coordination and integration. Small-scale innovations have been limited to serving small numbers of students.	**Academic Goal:** To develop an exemplary, holistic pre-collegiate Degree Completion Pathway for underprepared students with a clear mission to significantly improve learning and success from entry to degree completion.	**1.** 50% of all first-time, degree-seeking, underprepared students are participating in BC's Completion Program and have signed a success contract for "*Making It Happen!*" **2.** 20% decrease in student enrollment in courses three and four levels below transfer, with concurrent increases in levels one and two levels below transfer. **3.** 80% of basic skills faculty (N=approx. 80) are trained through the *Making it Happen! Academy* in best practice pedagogy and methods including effective use of instructional technology.
Underprepared students, particularly first-time, Hispanic students, are not utilizing academic support services as currently offered. Passive models of academic support are not effective with high need students. When students do not succeed, resources are wasted and our mission is at stake.	**Institutional Goal:** To significantly increase underprepared student learning and success rates while closing the equity gap at identified *momentum points* through development of an engaging, integrated, and supported degree pathway.	**4.** 15% increase in the successful completion of developmental instruction within two years. **5.** 15% increase in successful completion of the initial college level/gateway courses in English and math. **6.** 8% increase in students who successfully complete at least 30 college level units within six-years of enrollment.
The current developmental education program is not designed to move students efficiently and effectively through to timely degree completion.	**Fiscal Stability Goal**: To significantly increase BC's overall six-year *completion* rate by addressing the needs of our needy students.	**7.** 10% increase in the underprepared student six-year completion rate. **8.** 5% increase in BC's overall six-year completion rate. **9.** 10% improvement in CA Scorecard efficiency metric)

Annual Measurable Objectives/Defined Results
(Baselines for all objectives will be the 3 year combined average rates for fall cohorts from 2009-2012 and tracked through to 2014-2015)

YEAR ONE - By September 30, 2016 a cohort of 400 first-time students

1.1   400 first-time, degree-seeking, underprepared students are participating in BC's Making It Happen to degree completion program with a signed a success contract.
1.2   Initial technology/equipment is purchased and installed.
1.3   Initial phase of Multiple Measures Assessment Placement completed – ready for pilot
1.4   Computer-assisted Learning lab is 100% designed - ready for pilot.
1.5   Initial phase of Accelerated Math courses and Statistics Pathway is designed and ready for pilot.
1.6   Initial phase of Contextualized Pathways are ready for initial pilot.
1.7   Initial phase of summer intensive interventions are designed and integrated.
1.8   First pilot of statistics pathway Math B65 begins Spring term 2016.
1.9   First pilot of professional development Making It Happen! Academy begins summer '16.
1.10 Pathway development will be improved and expanded based on evaluation results each year.

YEAR TWO - By September 30, 2017 a cohort of 800 first-time students

2.1. 800 first-time, degree-seeking, underprepared students are participating in BC's Making It Happen to degree completion program with a signed a success contract.

2.2. 5% decrease in student enrollment in courses three and four levels below transfer, with concurrent increases in levels one and two levels below transfer, over baseline.

2.3. 20% of basic skills faculty are trained through the *Making it Happen! Academy* in best practice pedagogy and methods including effective use of instructional technology.

2.4. 2% increase in the successful completion of developmental instruction within two years, over baseline.

2.5. 5% increase in successful completion of the initial college level/gateway courses in English and math, over baseline.

YEAR THREE - By September 30, 2018 a cohort of 1200 students

3.1. 1200 first-time, degree-seeking, underprepared students are participating in BC's Making It Happen to degree completion program with a signed a success contract.

3.2. 10% decrease in student enrollment in courses three and four levels below transfer, with concurrent increases in levels one and two levels below transfer, over baseline.

3.3. 40% of basic skills faculty are trained through the *Making it Happen! Academy* in best practice pedagogy and methods including effective use of instructional technology.

3.4. 10% increase in the successful completion of developmental instruction within two years, over baseline.

3.5. 6% increase in successful completion of the initial college level/gateway courses in English and math, over baseline.

3.6. 6% increase in students who successfully complete at least 30 college level units within six-years of enrollment.

3.7. 4% increase in the underprepared student six-year completion rate.

3.8. 1% increase in BC's overall six-year completion rate.

3.9. 3% improvement in CA Scorecard efficiency metric.

YEAR FOUR - By September 30, 2019 a cohort of 2000 students

4.1. 2000 first-time, degree-seeking, underprepared students are participating in BC's Making It Happen to degree completion program with a signed a success contract.

4.2. 15% decrease in student enrollment in courses three and four levels below transfer, with concurrent increases in levels one and two levels below transfer, over baseline.

4.3. 60% of basic skills faculty are trained through the *Making it Happen! Academy* in best practice

pedagogy and methods including effective use of instructional technology.

4.4. 12% increase in the successful completion of developmental instruction within two years, over baseline.

4.5. 10% increase in successful completion of the initial college level/gateway courses in English and math, over baseline.

4.6. 10% increase in students who successfully complete at least 30 college level units within six-years of enrollment.

4.7. 8% increase in the underprepared student six-year completion rate.

4.8. 3% increase in BC's overall six-year completion rate.

4.9. 6% improvement in CA Scorecard efficiency metric.

YEAR FIVE - By September 30, 2020 a cohort of 3000 students

5.1. 50% of all first-time, degree-seeking, underprepared students are participating in BC's Making It Happen to degree completion program with a signed a success contract.

5.2. 20% decrease in student enrollment in courses three and four levels below transfer, with concurrent increases in levels one and two levels below transfer, over baseline.

5.3. 100% of basic skills faculty (N=approx. 50) are trained through the *Making it Happen! Academy* in best practice pedagogy and methods including effective use of instructional technology.

5.4. 15% increase in the successful completion of developmental instruction within two years

5.5. 15% increase in successful completion of the initial college level/gateway courses in English and math, over baseline.

5.6. 12% increase in students who successfully complete at least 30 college level units within six-years of enrollment.

5.7. 10% increase in the underprepared student six-year completion rate.

5.8. 5% increase in BC's overall six-year completion rate.

5.9. 10% improvement in CA Scorecard efficiency metric.

3. IMPLEMENTATION STRATEGY RATIONALE AND TIMETABLE:

Table 14: *Making It Happen!* –<u>Ready, Set, Go!</u> to Degree Completion		
Phases of Intervention and Development		
Phase 1: READY!	*Phase 2:* SET!	*Phase 3:* GO!
1. High School Outreach 2. Pre-assessment 3. Pre-college intensive summer academy 4. Parental Outreach	5. Multiple Measures Assessment and Placement (MMAP) 6. Intrusive Student Support 7. Degree Completion Plan 8. College Freshman Seminar	9. Accelerated Basic Skills courses 10. Hybrid and fully online basic skills curriculum 11. Online Supplemental Instruction 12. Contextualized learning in basic skills
13. Making It Happen! Faculty Professional Development Academy		

Making it Happen! BC's current "Making it Happen!" initiative was recently named a 2015 Exemplary Program by the Board of Governors for California Community Colleges recognizing outstanding community college programs that place importance on assisting students as they transition from high school to college. BC's current "Making it Happen" program

identifies and implements effective interventions through mentorship and classroom designed interventions that include Habits of the Mind tools to improve success. Data-driven design and a holistic approach to serving first-generation, economically disadvantage students transitioning from rural high schools to college is the foundation for the proposed project that will improve and scale up efforts with additional development resources.

Making it Happen - Ready, Set, Go! will actualize a new, well-defined institution-wide commitment to the success of underprepared, degree-seeking students. The proposed project – meant to catalyze Bakersfield College towards excellence as an evidence-driven, Hispanic-serving institution – includes several interrelated strategies that are designed to build on BC strengths while developing new institutional capacity. Capacity building will include professional development through the *Making it Happen! Academy,* along with carefully planned process and infrastructure improvements. All strategies are designed to work in concert to develop a newly improved learning environment that integrates interactive 21st century technologies (high-tech) with personalized support services (high-touch) in order to provide underprepared students a customized and efficient pathway toward completion.

MIH! Degree Completion Pathway: Stages of Intervention and Development
Phase I – Get Ready!

High School Outreach and Early Assessment: 92% of community colleges use standardized tests to place students into remedial or college-level courses.[9] Every year thousands of students pass through the BC Assessment Center – a massive institutional undertaking with significant consequences for students many of whom are placed inaccurately. Over 84% of first-time BC students place into pre-collegiate math or English based primarily on COMPASS test results. Most of those students are guaranteed to fail. BC's *Making It Happen!* **Get Ready!** is

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[9] Parsad, Lewis, and Greene qtd. in Hughes, Katherine and Judith Scott-Clayton, "Assessing Developmental Assessment in Community Colleges*," Community College Review*, vol. 39, 2011.

designed to remedy this situation. A full time Outreach and Assessment specialist will work year round with local high schools and administer early assessment for high schools seniors along with parental outreach activities. Students identified as underprepared will receive pre-college counseling services and will be recommended to participate in the Summer Intensive Academy.

Summer Intensive Preparation Academy: According to a 2012 study by the National Center for Postsecondary Research at Columbia University of developmental summer bridge programs (DSB) at 8 universities in Texas, DSBs are highly effective interventions in improving college outcomes for underprepared students. The study found that student participants exhibited the following positive outcomes: 1) Increased college enrollment rates; 2) Reduced need for developmental courses; 3) Higher persistence rates; 4) Higher credit accumulation; and 5) Higher grades earned in college courses.[10] The BC summer academy will be a highly structured two-week program that will include targeted academic preparation in math, reading and writing with the sole purpose of preparing students for the official placement test. In addition students will receive information about: general "college knowledge", study skills, time management, information about learning styles, strategies for studying, information about expectations, career counseling or computer literacy. During the two-week intervention, students will have the opportunity to make connections with faculty, mentors, tutors, counselors and librarians. The BC summer academy will be modeled after the highly successful Academy for College Excellence established at Cabrillo College in northern California by Diego Navarro. [11]

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[10] *Bridging the Gap: An Impact Study of Eight Developmental Summer Bridge Programs in Texas. By: Elisabeth A. Barnett, Rachel Hare Bork, Alexander K. Mayer, Joshua Pretlow, Heather D. Wathington, and Madeline Joy Weiss, with Evan Weissman, Jedediah Teres, and Matthew Zeidenberg (June 2012).*

[11] Navarro, D. Academy for College Excellence. www.academyforcollegeexcellence.org/

From Matriculation to Student Success: The Opportunity for Improvement at BC's Front Door. Matriculation is defined by the California Community College system as the "process of admitting, assessing and orienting students." The 2012 Student Success Act (SB1456) renamed the process of matriculation to "Student Success and Support Programs" signaling a shift in priorities and strategies. Lack of a more robust, success-centered matriculation program at BC's front door hinders student achievement and institutional effectiveness. Though strongly encouraged, assessment/placement and orientation at BC is voluntary and depends primarily on standardized placement testing and voluntary participation. BC's experience with traditional assessment mirrors statewide trends: students are incorrectly placed in courses, leading to poor student outcomes, wasted resources and lost opportunities for first-time success.

- **Predictive Analytics and Multiple Measures to Improve the Assessment and Placement Process.** The California Community College Chancellor's Office (CCCCO) has partnered with the RP Group and the Cal-PASS Plus statewide educational data system to specifically analyze issues surrounding placement issues in the California Community College system. The Student Transcript Enhanced Placement Project (STEPS) and Multiple Measures Assessment and Placement (MMAP) are statewide initiatives to develop predictive models using extensive predictive data to inform usage of a student's high school transcript, including their GPA, math and English grades, California Standardized Test (CST) scores, and scores in the CSU English Assessment Program (EAP) test, to more effectively place recent high school graduates entering college. At the appropriate level so they can progress quickly.

  Long Beach Community College (LBCC) Lays the STEPS Foundation. Similar to BC, 90% of LBCC's students begin college after having been told "you are not ready for college" due to their assessment test results. LBCC's research team wanted to see if their students were really

as underprepared as the standardized assessment indicated. Influenced by Cal-PASS research, in 2011 LBCC piloted a multiple-measures, evidence-based, holistic assessment of students' preparation and capabilities to support data-driven, equitable placement in developmental or college courses. **The more accurate placement saved LBCC students an average of 5 semesters of remedial coursework and time, considerably shortening the students' road to completion.** As with the original study, LBCC found a significant association between high school performance and college performance.

Table 15: Long Beach City College (LBCC): Groundbreaking Research on Assessment and Placement leading to CCCCO STEPS and MMAP initiatives
Partners sought answers to 3 questions using 5-year cohort of ~7000 students and Cal-PASS data from a large local unified school district (LUSD):   1. What predicts how students assess and place into our developmental courses?   2. What predicts how students perform (likelihood of successful completion) in those courses?   3. How well are placement and performance aligned?
Results: Placement was strongly predicted by high school CST results. College success in English and math were strongly predicted by high school grades.
The *Promise Pathways* initiative (Fall 2012) was to reduce the time students spend in developmental courses through better placement. Promise Pathways Outcomes were remarkable: • They quadrupled the number of freshmen placed into college English rather than remedial based on multiple measures, especially high school GPA. (56% vs. 14% baseline)   ✓ They quintupled the number of students passing the course (350 successful vs. 70 baseline)   • They tripled the number of freshmen placed in college Math (31% vs. 9% baseline).   ✓ They doubled the number of students passing the course (100+ successful vs. 50).
Sources: Fuenmayor, A. and J. Hetts, *Promising Pathways: Placement, Performance, and Progress in Basic Skills and Transfer Level Courses in English and Mathematics*, April 6, 2012.

Catalyzed by LBCC's findings, 11 CCCs participated in a statewide pilot (2012-2013) using statistical scripts and an MS access module to further study the relationship between high school and college performance. The STEPS project found that several elements of high school transcripts were more accurate predictors of course placement and success trends at community college than placement testing. Further, the STEPS project has illuminated strategies on using multiple measures so colleges can shape more equitable assessment and placement and dramatically increase rate of advancement from basic skills to degree completion. Use of transcript data requires reaching between segments and silos that typically exist. Increased

communication and data sharing is key to successful implementation of multiple measures placement process, and the STEPS project has recognized the following areas of opportunity to improve the placement process in addition to transcript and GPA analysis:

Table 16: Development Needed to Improve the Placement Process
Breaking down the silos between K-12 and college systems will improve access to and usage of transcripts as well as the overall trajectory of curricular alignment across the K-16 spectrum.
Greater curricular alignment will make transcript data more meaningful and useful in the college placement process. The state's adoption of the Common Core curricular standards signal the need and opportunity possible for alignment, as colleges must understand how the standards and testing of the Common Core will shape their incoming students.
Professional development for faculty and support professionals at all levels of education to understand how transcript data can be better used to inform the college placement process.

Improvement of BC's assessment and placement process – based on STEPS project findings and recommendations - is a key strategy for increasing timely remediation of first-time students.

- **Intrusive Support Services:** BC's guided pathway model will include **intrusive support services** as another strategy to increase underprepared student success.[12] Research on intrusive support models, as opposed to passive non-integrated support, confirms that it can play a vital role in improving retention and completion rates at colleges like BC. High need students "don't do voluntary." Studies have found that early and periodic intervention increases the retention and persistence of these students who are identified as highly likely to drop out.[13] A review of the literature and case studies shows time and again that intrusive support is highly effective in terms of supporting Hispanic student success.[14] The major outcome of this intervention is that every student in the pathway will develop a **Degree Completion Plan** tailored on their needs and career interests. Support specialists will work

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[12] The seminal/influential CSS research states that effective basic skills programs include counseling support that is substantial, accessible, and integrated with academic courses/programs. (Boylan & Saxon, "What Works in Remediation." *Innovation in the Community College*. 2002.)

[13] M.D Summners, "ERIC Review: Attrition research at community colleges." *Community College Review, 30(4), 64-84*. 2003.

[14] E. Melendez & C. Suarez, "Opening doors for Hispanics: An assessment of the HACU-ETA demonstration project." NYU. Community Development Research Center. 2001.

closely with faculty and counselors so they know and can communicate the content-area goals and expectations to students and help them navigate the developmental sequence appropriately. They will also serve to support faculty by helping them understand and deal with student motivational and behavioral problems.[15]

- **<u>Freshman Seminar:</u>** BC will redesign the existing **First Year Seminar Course** for students into a new course that emphasizes the research-based AVID WICOR[16] skills (writing, inquiry, collaboration, organization, and reading) presented as a one-semester course in the fall of a student's first year.

- **<u>Integration of comprehensive student support services into the instructional program</u>** is consistently identified in research as an essential ingredient to improving basic skills student success.[17] Support systems have been described as existing at four "levels" of integration, representing increasing potential to produce positive program outcomes for students (Basic Skills Report). At level one, basic skills courses exist in isolation, with no additional outside support provided. Level two programs offer some additional learning assistance, such as generalized tutoring, but it is not connected to individual courses. Course-related learning assistance is provided at level three, in which trained personnel who have specific information about course content, assignments, and expectations engage with students either inside or outside of class. This would include support services such as Supplemental Instruction and course-embedded counseling models (both of which will be developed under this strategy.) Level four is characterized by the presence of comprehensive learning systems in which all

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[15] M. Maxwell, "The Role of Counseling in a Comprehensive Developmental Program for Postsecondary Students." *ERIC ED 415 932*. 1997b.

[16] AVID Higher Education, Student Success Initiative, Retrieved from http://www.avid.org/_documents/Funding/AHE_ssi_overview2013.pdf, 2013

[17] Research documented by Roueche and Roueche in *High Stakes, High Performance: Making Remedial Education Work* (1999) was expanded upon by Raftery in his work on Developmental Learning Communities at Metropolitan Community College, released in 2005.

participants share the responsibility for providing monitoring, advisement, and instructional support.

The four levels of integration present a very real developmental trajectory for this Activity, and increasing integration and connectivity will permeate every development step. BC currently resides at level two: BC offers a smattering of programs and services that integrate support services, but these are limited in scale, do not affect enough students, and cannot be scaled up easily.[18] Intended as a transformational project, *Making it Happen!* will move BC's basic skills program to level three by redesigning the basic skills program to integrate *Making it Happen!* objectives, supplemental learning, and intrusive support mechanisms. Throughout this process, cross-functional professional development will be ongoing, thereby developing a strong foundation for moving BC level-four: fully-learning and student-success-centered college.

Phase III - Go!

- **Alternative Degree Completion Pathways-Acceleration:** The longer BC students spend in remediation, the less likely they are to finish the sequence and continue into college-level work: only 4% of those placed in the lowest level of basic skills math will finish the sequence. Similarly grim results occur in English, with only 16% of students passing the college-level course. Notably, Hispanics, who make up at least half of BC's developmental students, fare the worst. Of the 2010-13 cohort of 250 Hispanic students who took Math 50 (3 levels below college), only 6 made it to the transfer-level math class.

Achieving the Dream's (ATD) extensive analysis of evidence-based reforms in institutions increasing outcomes for low-income, minority and other underprepared students **consistently points to acceleration**, without compromising educational standards, as a true

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[18] Kiemig, R., *Raising Academic Standards: A Guide to Learning Improvement*, ASHE, 1983. Kiemig was the first researcher to identify these levels of integration as they apply to integration.

game-changer for students to achieve success. Compression, technology-assisted learning and contextualization all allow developmental students to move through remediation, achieve course success and enter college-level classes sooner.[19]

The Community College Resource Center (CCRC) at Columbia University consistently recommends that community colleges consider a variety of approaches that would accelerate students more quickly into gatekeeper courses.[20] Acceleration's reduced exit points and reduced time in remediation yielded these results, published by CCRC in March 2014, based on a multi-year study of four college programs. [21] While the programs varied in the student supports, pedagogies and curricula, they had two common traits: **eliminating one exit point from the development sequence (compression) and shortening the time spent on remediation (acceleration**.)

The California Basic Skills Initiative research also indicates that acceleration is needed. Part of the BSI, California Community College's Success Network (3CSN) focuses on improving student outcomes for the main demographic of CCCs: underprepared, underrepresented students. Their evidence-based initiatives encourage the State's community college's persistence and degree completion goals through continual improvement processes and communities of practice for faculty, administrators and student support professionals. A main focus of their research has been acceleration through the California Acceleration Project (CAP). Of 12 CCCs offering accelerated courses, completion of college-level courses was 1.5x higher among accelerated English students and 3.3x higher among accelerated math students than in the

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[19] *Right from the Start: An Institutional Perspective on Developmental Education Reform*, Achieving the Dream, 2014.

[20] Scott Jaschik, "Long Road to 'Gatekeeper' Courses." *Inside Higher Ed*. December 3, 2009. http://www.insidehighered.com/news/2009/12/03/remedial

[21] "What We Know about Accelerated Developmental Education," CCRC, Columbia University Teachers College, March 2014.

traditional curriculum.[22] 3CSN thus advocates reducing time in remediation to increase completion. Moreover, they argue that acceleration alone is not enough to deeply impact students' success long-term. Instead, instructional strategy in developmental classes must change: rather than rehashing decontextualized high school sub-skills in math or English, faculty must integrate college-level thinking and tasks into remedial classes to pave the way for their students to move into collegiate classes.

Table 17: 3CSN's Design Principles to Support Effective Acceleration
1. **Backward design from college-level classes**: In English, backward design holds that a developmental course should look and feel like a good, standard college English course, only with more support and guidance. In math, it asks which type of math students need for their chosen pathway, then aligns remediation to those specific college-level requirements – more extensive algebra for students heading toward calculus, and accelerated pre-requisite or co-requisite support for students taking statistics or liberal arts math.
2. **Relevant, curriculum-oriented thinking:** An alternative to remediation focused predominantly on correctness in written form or mathematical procedure, this kind of curriculum asks students to engage with issues that matter, wrestle with open-ended problems, and use resources from the class to reach and defend their own conclusions.
3. **Just in-time remediation:** An alternative to separating out and teaching discrete sub-skills in advance, this approach provides only the support students specifically need to grapple with challenging college-level tasks. It includes individualized grammar guidance on students' writing and as-needed review of the arithmetic or algebra required to answer intellectually engaging questions with data.
4. **Low stakes collaborative practice**: In-class activities are designed to give students practice with the most high-priority skills and content needed for later, graded assessments.
5. **Intentional support for students' affective needs**: Pedagogical practices are employed to reduce students' fear, increase their willingness to engage with challenging tasks, and make them less likely to sabotage their own classroom success.
Source: Hern, Katie and Myra Snell, *Toward a Vision of Accelerated Curriculum & Pedagogy: High Challenge, High Support Classrooms for Underprepared,* Learning Works, Dec. 2013.

Consistent with CCCR, ATD, and 3CSN research, BC has early evidence that acceleration and compression works in terms of success and productivity. Recent pilots have shown dramatic increases in success rates. BC wishes to greatly expand and improve upon its accelerated pilot to reflect best practice recommendations and 3CSN principles more fully.

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[22] 3CSN, December 2013. *http://cap.3csn.org/2013/12/03/new-publication-on-teaching-accelerated-classes/*

Table 18: BC Acceleration Pilot – Preliminary Evidence of Increased Success*		
	Accelerated Success	**Standard Course Success**
Reading, Reasoning, & Writing - ENG B53 - (12 sections in 2014)	50.1%	30%
Reading/ACDV B61 (4 sections in 2014)	48.6%	32%
Basic Arithmetic and Pre-Algebra - ACDV B72 (first pilot Sp 2015)	36%	34%
Compressed Math B60 (Math B70) Fall 2014	84.1% (48.1%)	71% (44.4%)
*BC will track and compare the success of students in the next level course in 2015-16.		

In order to move more students quickly into college level coursework, BC will build on existing resources to scale up current acceleration efforts while developing new capacity to bring in a highly-interactive 21st century technologies to customize accelerated instruction with support.

New Accelerated Algebra for Statistics Pathway Pilot Proposal: Math B65 Intermediate Algebra

The purpose of this new course is to streamline the pathway to statistics. Students must be eligible to take Math B60 (Beginning Algebra), and be non-STEM, non-education, or non-business majors. This is an accelerated algebra course that covers algebra topics to prepare students for Math B22 (statistics). This course will be taught with a lab component, with 3 units of lecture and one unit of lab for the
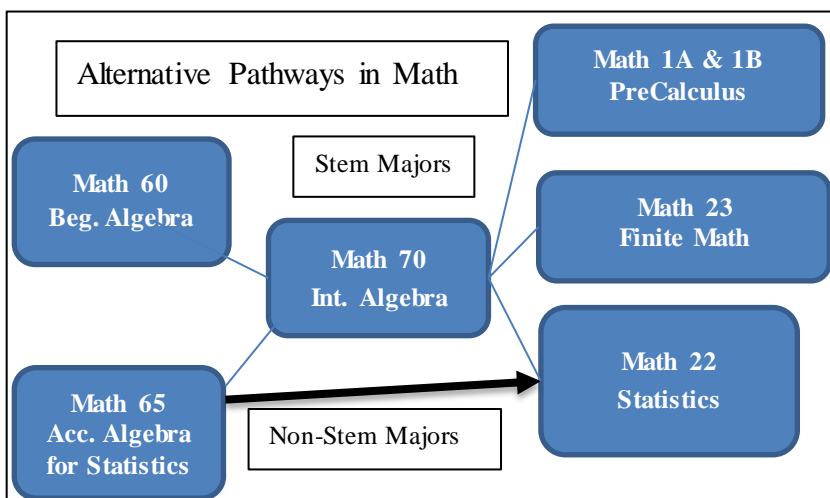
students. There will be an emphasis on developing critical thinking skills and problem solving skills through lab activities and doing application problems. A lab book will be developed by the Math Department to use in this course's labs. Students that earn a C or better in Math B65 would be eligible to take Math B22. If students choose to get back on the STEM pathway after

taking this course and passing it with a C or better, they would be able to take our Math B70 (Intermediate Algebra) before proceeding to the pre-calculus sequence. **The new pathway (4 units) saves general transfer (non-STEM majors) students -6 units** (a full semester) as compared to the current pathway that requires two courses (10 units) before taking statistics.

- **<u>Curriculum Enhancement Through Hybrid and Online Delivery:</u>**

Reading and Writing Developmental Courses: All reading and writing developmental courses will be restructured for online delivery using the college's Blackboard course management system. Math Developmental Courses: Faculty will pilot a hybrid format for all developmental math courses using the "Flipped Classroom" model. (*See* Competitive Priority 2 for details on the flipped classroom model).

- **<u>Contextualized Basic Skills Math and English</u>** – Despite the allocation of considerable resources to providing developmental education courses that intend to bring the reading, writing, and math skills of underprepared students to the college level, many students in college-credit courses display continuing difficulties in applying these foundational skills to the learning of subject matter. A growing body of literature suggests that bringing basic skills and subject-area instruction closer together may be a solution to this problem.[23] One way to create this relationship is through *contextualization,* or the teaching of basic skills in the context of disciplinary topic areas. Connecting developmental reading, writing, and math instruction directly to the content courses improves intrinsic motivation to learn the skills. The assumption, based on descriptive evidence, is that students are more engaged in the learning process if they perceive it to be useful and meaningful to their career interests (National Council for Workforce Education & Jobs for the Future, 2010.)

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[23] Dolores Perin, *Facilitating Student Learning Through Contextualization*, Community College Resource Center (CCRC), Columbia University, Working Paper No. 29, February 2011.

The Research and Planning Group for CCC echoes national research identifying contextualized teaching and learning (CTL) as a promising approach for basic skills instruction.[24] The RP Group reviewed eleven effective practices across the CCC system that varied in scale, intensity, and content then designed a primer for college faculty identifying core elements that characterize effective CTL practice. Faculty collaboration, curriculum development, relevant context, interactive teaching, and professional development are identified as cornerstones to CTL. Institutional support and a mechanism for continuous improvement are also key factors in the effectiveness of CTL in improving outcomes. Each of these core elements will be an essential feature of BC's CTL development in the new *Making it Happen – Ready, Set, Go!* pathway to degree completion.

- **<u>Supplemental Instruction/Learning and Online Supplemental Instruction (e-SI).</u>** The SL model developed at BC is based on the highly respected Supplemental Instruction (SI) model which was created by Deanna Martin at the University of Missouri-Kansas City in 1973 and has since become a common practice at many colleges and universities. SI focuses on both content issues, as well as learning process habits, contributing to the students' overall learning improvement while also decreasing a sense of isolation, commonly viewed as a cause of attrition among first-year college students. SI differs from tutoring in many ways, including the way SI leaders are trained to work closely with faculty to understand assignments and learning objectives. SI has been proven over many years at many colleges to be highly effective.[25]

With the majority of BC's SI occurring in transfer-level STEM courses, little has been done to expand this model to developmental courses. Some promising though isolated pilots in

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[24] National Council for Workforce Education & Jobs for the Future, 2010.

23 Elaine Baker, Laura Hope, and Kelly Karandjeff, The RP Group, Center for Student Success, *Contextualized Teaching and Learning Handout*, www.rpgroup.org.css/CTL.html, October 2009.

[25] "The International Center for Supplemental Instruction." University of Missouri – Kansas City. http://www.umkc.edu/cad/SI/

SI/SL occurred in pre-college English classes, but there is much more work to be done in this area. For SI/SL to be an effective method to increase student success at BC, it must be adapted and integrated into developmental courses where high enrollment and failure rates are common. Faculty and peer leader training are both essential to provide consistent deployment across basic skills disciplines so more students can benefit from this well-designed academic support.

As the number of student enrollment in online and hybrid courses increases, BC has to offer alternative modes of student support for these students. One particularly successful effort, as evidence by research done at the University of Wyoming, is the new Online Supplemental Instruction model. The development of the BC e-SI will be modeled after the highly successful program developed at the University of Wyoming[26]. At the UoW e-SI program, participants indicate that the synchronicity of the activity is one of the things that is most appealing to them.

Table 19: Description of the BC e-SI program
What is e-SI?: e-SI is a series of out-of-class sessions led by a student who has taken the course e-SI is offered in successfully. The program targets courses, not students. While all students might not take advantage of the voluntary opportunity, it is expected to attract an equal proportion of students from differing ability and cultural groups. E-SI does not segregate students based on prior academic performance or predictions of academic success. In fact, e-SI works best with heterogeneous groupings of students.
The Role of e-SI Leaders: The e-SI leader functions as "model student" of the discipline rather than authority figure. E-SI leaders help students formulate and answer their own questions. This process helps students develop a more sophisticated approach to learning while maintaining the focus on content mastery. The e-SI sessions integrate the review of lecture notes, textbook readings, outside supplemental readings along with appropriate modeling of learning strategies. "How to learn" is embedded into e-SI sessions along with "what to learn." Through practice and mastery of effective learning strategies, students can adopt and transfer these strategies to other subjects and content areas. Collaborative learning strategies are used in e-SI sessions as a means of creating a more active learning environment for student participants.
How e-SI is done online: The BC e-SI sessions will be conducted in real-time via a web-conferencing program. Nothing is installed on the student computer and there are capabilities of audio, video, screen-sharing, white board and other tools.

- **<u>Effective use of technology to improve learning</u>** will be the foundation for all activities proposed in this project. *Making it Happen!* will use technology to transform how BC engages

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[26] University of Wyoming, Online Supplemental Instruction, http://www.uwyo.edu/learn/si/.

with students in three areas: academically/ intellectually; socially (in the sense of building a campus learning community); and information delivery. Research finds that technology can be an effective tool for providing students with accelerated options/alternative modalities which best suits their particular needs, but that technology should be used as a supplement to, rather than a replacement for, regular classroom instruction.[27] The technology development strategies will utilize: (See full description in Activity Budget Detail Form for the conceptual development rationale of technology integration):

- o 1) Mobile computer labs with wireless internet and projection capabilities that will be used for academic development math and English courses;
- o 2) iPADS loaded with Statistics Apps for the new Statistics accelerated pathway.

The new computer labs are also expected to be used heavily for the online supplemental instruction and to support activities for the contextualized learning activities. The technology implementation in the new course will be seamless and faculty driven based on research-pedagogies and will have in common the goal of using technology to its fullest potential as a *means* to cost-effectively engage BC basic skills students, faculty, and staff in the process of learning.

- **Making It Happen! Professional Development Academy (PDA).** Basic skills programs with a strong professional development component have long been shown to yield better student retention rates and better student performance than those without such an emphasis.[28] Furthermore, analysis has demonstrated that staff training is one of the leading variables contributing to the success of a variety of components of developmental education,

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[27] US Department of Education. "Strengthening Mathematics Skills at the Postsecondary Level: Literature Review." Washington, DC: Office of Vocational and Adult Education. 2005.

[28] H. Boylan, B. Bonham, C. Claxton, & L. Bliss, "The State of the Art in Developmental Education: Report of a National Study." Conference on Research in Developmental Ed. 1992.

including tutoring, advising, and instruction. Boylan goes so far as to state that, "no matter what component of developmental education was being studied, an emphasis on training and professional development improved its outcomes."[29]   It is obvious that professional staff members are most likely to benefit from developmental activities that they feel they have created to meet their own needs. The BC PDA will include the following components:

Table 20: BC Professional Development Academy Overview
1. Faculty participation in the annual conference hosted by the NCDE.[30]
2. On campus workshops on developmental math learning methodologies presented by expert math educators from the American Mathematical Association of Two Year Colleges (AMATYC)[31].
3. Formation of a Developmental Education Faculty Interest Group that meets monthly to discuss issues, interventions and best practices.
4. Annual Developmental Education Forum: Developmental education faculty will have an opportunity to present results, improvements, lessons learned, and solicit feedback. The forum will also provide opportunities for developmental faculty to interact with other faculty and exchange ideas of how to better align the developmental curricula to meet the needs of the college level curricula.

Putting it All Together - Evidence of increased success through a Holistic, Pathway

Approach. Through a collaborative and cross-functional process, initial development activities will focus on breaking down segment, functional and disciplinary silos and building the needed technology infrastructure. Systematic alignment of high school to college expectations and readiness, defining multiple measures including transcript data and GPA to improvement assessment, and developing a cohort tracking system to assess learning and outcomes. Professional development and training will begin immediately to support design and implementation of improved instruction. The second strand of development activities will focus on curricular redesign including supplemental learning, contextualization, and accelerated and alternative delivery options.

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[29] H. Boylan, "What Works: Research-Based Best Practices in Developmental Education." 2002.

[30] National Center for Developmental Education, http://ncde.appstate.edu.

[31] American Mathematical Association of Two Year Colleges, Traveling Workshops, http://www.amatyc.org/?TravelingWorkshops

Table 21: Making it Happen! (MIH) – An Equitable Degree Completion Pathway – Implementation Timetable		
Grant Year 1 (10/01/2015 – 9/30/2016)		
General Grant Start-up:	**Timeframe, by:**	**Outputs**
Reassign BC project personnel and hire replacements as needed	Nov. 1, 2015	• 400 MIH students participating, assessed using multiple measures for placement, contracts signed with faculty mentors
Evaluate previous bridge work and design MIH Summer Intensive Academy (SIA).	Nov.1, 2015	
Secure and develop space on campus for expansion of the Math Lab	Nov. 30, 2015	• 110 students participating in SIA
Assign project personnel	Dec. 1, 2015	• Analysis of BC student early degree pathway work identifying exit points and barriers
Secure services of external evaluator and other consultants as planned	Dec. 1, 2015	
Develop data collecting/tracking procedures for pilot, faculty and student participants and establish baseline data	Dec. 1, 2015	• Weekly management team mtgs
Phase I Development -		• Bi-monthly project team mtgs
Identify 15 faculty mentors for cohort, design faculty and student contracts.	Dec.1, 2015	• 11 high schools outreached, counselors trained, parental outreach activities conducted
Redesign, approve and put in place the new policies and practices for placement using multiple measures	Jan. 1, 2015	
Develop _MIH Academy_ professional development training for faculty, counselors, and advisors to collaboratively accelerate pre-college pathway, and close leaks.	Feb 1, 2016	• SI and e-SI leaders chosen and trained
Scale up accelerated classes in English and ACDV math, pilot accelerated algebra for statistics	Jan. 1, 2016	• Professional Development certificates & evaluation
Assign math, English, ESL, and Counseling leads, SI (Supplemental Instruction) and support specialists; assemble the individuals above into inquiry teams to research and develop technology	Jan. 1, 2016	• Baselines established and control group identified for evaluation
High School Counselor Training – Early Educational Planning	Feb.1, 2016	• 2 cohort social events developed and offered
Purchase/install technology for Phase I (Dev Math Laboratory)	Feb.1, 2016	• Pilot accelerated algebra for statistics
Analyze BC-specific student pathways, identifying areas of trouble, exit points and issues that could be treated with an intervention as well as predictive analytics regarding messaging for successful behaviors.	March 15, 2016	• Evaluation process initiated for Project/BC management feedback loop, scaling up of effective strategies and activities
Develop curriculum for 2 contextualized pre-collegiate pathways	March 1, 2016	
Develop project plan for MIH summer intensive academy (SIA)	April 1, 2016	• 10-15 selected faculty are trained in embedded basic skills through the _Making it Happen Academy_
Identify cohort of incoming Fall 2016 MIH students	May 1, 2016	
Analyze pathways data from previous MIH cohorts for baseline	July 1, 2016	
Research and initial development of new accelerated algebra pathway for Statistics model, improve accelerated options	March 1, 2016	• Technology Plan – Phase I complete

Phase I Pilot Begins (Sept 2016) – 400 MIH students		
Identify/contact students for *Making it Happen* summer intensive academy	May 15, 2016	
Conduct *Making it Happen* SIA and assessments	August 2016	
Pair counselors with faculty to encourage collaborative advisement embedded in instruction – utilizing technology	September 2016	
Cohort begins improved pathway – first pilot	September 2016	
Grant Year 2 (10/01/2016 – 9/30/2017)		
Pair counselors with faculty to encourage collaborative advisement embedded in instruction – utilizing technology	Fall 2016	• 800 MIH students participating, assessed using multiple measures for placement, contracts signed with faculty mentors
Implement first contextualized cohorts	Fall 2016	• 300 students participating in SIA
Scale up accelerated, compressed and hybrid/online courses	Fall 2016	• Analysis of BC student early degree pathway work identifying exit points and barriers
Purchase/install technology for Phase II (ACDV Learning Lab)	Fall 2016	
Complete development of accelerated algebra curriculum, improve compressed options and scale up if data shows increased success	December, 2016	• Weekly management team mtgs
Continue to redesign contextualized curriculum, develop 2 additional contextualized cohort	March 15, 2017	• Bi-monthly project team mtgs
Identify faculty for *Making it Happen 2017* summer bridges	March 30, 2017	• 15 high schools outreached, counselors trained, parental outreach conducted
Identify classes and faculty for Supplemental Instruction (SI) and e-SI	April 1,2017	
Identify and train peer tutors for SI and e-SI	April 1, 2017	• New SI and e-SI leaders selected and trained
Evaluate past cohort work to institute change and improvements	June 1, 2017	
Develop alerts that are indicative of trouble to alert mentors. Develop intrusive student service response to identified needs.	Summer 2017	• Professional Development certificates & evaluation
Professional Development (PD) to redesign curriculum and integrate *MIH* content/materials into curriculum, pairing with *MIH Academy*	Continuous	• All outputs continued consistent with development based on evaluation results and re-piloted with improvements on expanded cohort
Phase II Pilot Begins (Sept 2017) – 800 MIH students		
Continue all prior cohort activities *plus*:	Fall Term 2017	
Implement new accelerated algebra pathway including two contextualized content online/hybrid math courses	Fall Term 2017	
Pair trained faculty mentors with pathway students	Fall Term 2017	
Conduct *Making it Happen* welcome ceremony	Fall Term 2017	
Incorporate SI and e-SI strategies into accelerated math course	Fall Term 2017	
Grant Year 3 (10/01/2017-9/30/2018)		**Outputs**

Activity	Timeframe	Outputs
Scale up accelerated and compressed math options based on results of improved outcomes, and expand to additional courses	December, 2017	• 1200 MIH students participating, assessed using multiple measures for placement, contracts signed with faculty mentors • 400 students participating in SIA • All outputs continued consistent with continued development based on evaluation results and re-piloted with improvements on expanded cohort
Identify courses, faculty and peer tutors for SI	April, 2018	
Identify/contact students for *Making it Happen* summer bridge	May, 2018	
Train SI and e-SI peer tutors	June, 2018	
Continue to redesign contextualized curriculum, develop 2 additional contextualized cohort	July, 2018	
Purchase/install technology Phase III (Expand Math Lab Capacity)	July, 2018	
Create customized hi-tech/hi-touch messaging for students	August, 2018	
All interventions/ strategies evaluated for effectiveness and refined as needed based on evaluation results	August, 2018	
Conduct Professional Development (PD) to refine and integrate *MIH* content and materials into curriculum	Continuous	
Phase III Pilot Begins (Sept 2018)		
Continue all prior cohort activities *plus*:		
Integrate high tech/hi touch messaging attached to online/hybrid coursework and registration update forms	Fall 2018	
Grant Year 4 (10/01/2018 – 9/30/2019)	**Timeframe:**	**Outputs:**
Scale up accelerated and compressed math options based on results of improved outcomes, and expand to additional courses	Spring 2019	• 200 MIH students participating, assessed using multiple measures for placement, contracts signed with faculty mentors • 500 students participating in SIA • All outputs continued consistent with development plan based on evaluation results and re-piloted with improvements on expanded cohort
Scale up sections of contextualized coursework – identify additional linkages for contextualized opportunities	Spring 2019	
Implementation of high-tech, open computer assisted learning environment to support math/statistics pathway– tech install Phase IV	Summer 2019	
Contact, train and provide supplemental instruction/learning	May, 2019	
Evaluate data (including student surveys) from accelerated algebra course to the traditional sequence (including compressed classes.)	July, 2019	
Continue professional development to improve pedagogy/integrate support	Continuous	
Phase IV Pilot Begins (Sept 2019)		
Continue all prior cohort activities with expanded cohort	Fall 2019	
Grant Year 5 (10/01/2019--9/30/2020)	**Timeframe, by:**	**Outputs**
All Pilots Continue and are scaled up as planned.	Fall/Spring	• 3000 MIH students participating,

Smart classroom development to extend high tech/high touch learning environment - tech install Phase V	Fall 2019	assessed using multiple measures for placement, contracts signed with faculty mentors
Institutionalization of successful MIH activities and plans for further improvements based on evaluation results.	Summer 2020	• 600 students participating in SIA
Improved matriculation process using multiple measures for assessment and placement with detailed Degree Completion Plans completed	Summer 2020	• All outputs continued consistent with Phase V development, expanded cohort
Remedial pathway exit points and deficiencies addressed	Summer 2020	• Institutionalization of successful strategies based on evaluation results with intent to expand MIH to all cohort
Accelerated, compressed, online, hybrid and contextualized courses are scaled up for highly efficient remedial pathway meeting individual need	Summer 2020	
Trained cadre of faculty/mentors and intrusive student services and effective pedagogical methods.	Summer 2020	• Increased use of evidence in development and planning

Continuous over grant period:

- Foundation starts fundraising planning Fall 2015. Each year fundraising activities raise at least $60,000 per year from local industry, private donors, and other sources. Local funds are matched by grant funds and are invested in a new Title V endowment fund. In subsequent years, 50% of the profit raised by investments will be spend on institutional strengthening projects as per federal guidelines.
- Collaboration across functions and areas of BC that affect student outcomes
- Strengthening BC faculty through professional development, with minimal hiring of new personnel
- Smart use of technology to improve student outcomes cost effectively
- Modify and utilize existing databases to track impact of interventions on student outcomes
- State of the art evaluation in terms of student learning outcomes and success.
- **Data-driven evaluation will inform decision-making and improvement of pilots throughout development phase**
- Grant oversight: Follow project management plan including monthly Advisory Group meetings to stay on track

4. KEY PERSONNEL.

Project Director and "Get Set!" Leader: Dr. Kimberly Bligh, a BC faculty member for 10 years with well-established relationships with BC faculty (instruction and student support professionals) and administrators, has a key leadership role in this Title V project as Project Director and Get Set Leader (100%).

Table 22: Why Dr. Bligh was selected as Full-Time Project Director - Qualifications:
EDUCATION:
• 2009 Doctorate in Education, Leadership/Curriculum and Instruction: University of Phoenix
• 1989 Master of Arts in Education, Curriculum and Instruction: California State University, Bakersfield
• 1984 Bachelor of Arts in Psychology: California State University, Bakersfield
• 2003-Current: CA Department of Education Clear Cross-cultural, Language, and Academic Development Credential
• 1996-Current: CA Department of Education Bilingual Teacher Training Certificate
• 1986-Current: CA Department of Education Clear Multiple-Subjects Teaching Credential
TEACHING EXPERIENCE:
• **2004-Present   Bakersfield College   Professor**
Full-time professor basic skills education: reading, writing, math, study skills: Academic Development Department.
• **2009 2005?-Present Bakersfield College   Department Chair**
Supervise staff and faculty; Oversee department budget; Facilitate department meetings; Evaluate staff and faculty; Lead Program Review; Administrative liaison; Coordinate ACDV learning communities; Lead Basic Skills redesign and assessment; Faculty mentor; Staff development; Conference presenter.
• **20014-Present   Bakersfield College   Summer Bridge Coordinator**
Develop curriculum for bridge program designed to acculturate students to college and promote student success. Recruit, coordinate, and supervise bridge sessions. Report program outcomes to administration. Oversee budget.
• **2006-2013   Bakersfield College   Academic Skills Workshop Coordinator**
Develop curriculum for student workshops designed to improve basic academic skills in reading, English, math, study skills, and student success. Coordinate and supervise workshop program. Evaluate faculty, gather success and retention data; Report program outcomes to administration. Oversee budget.
RELATED EXPERIENCE:
• 2008: Supplemental Instruction Training Certificate
• 2009: Expository Reading and Writing Curriculum Certificate
• 2011: Kern Community College District Leadership Academy
• 2012: Introduction to Online Teaching Certificate
• 2012: Creating Accessible Online Courses Certificate
• 2012: Introduction to Teaching with Blackboard 9.1 Certificate
• 2012: Creating Accessible Online Courses Certificate
• 2012: Habits of the Mind-: Student Self-knowledge & Self-assessment Training
• 2010-current: Building Bridges collaboration with CSU Bakersfield, Local High Schools and nearby community colleges on writing and reading curriculum.

Dr. Bligh's responsibilities will include:

Project Director:
- Oversee all project implementation strategies working closely with Project Staff
- Provide leadership for and direct all aspects of the Title V project, working closely with project staff to develop and implement all planned strategies
- Oversee hiring of new project staff, replacement of released faculty
- Supervise and collaborate with Title V staff, Advisory Board, faculty participants, and internal and external evaluators of the project
- Serve as project liaison to all affected BC administrators to ensure smooth and timely integration of grant activities with new and existing faculty development opportunities
- Supervise fiscal management of the project, ensuring that all established Federal and BC fiscal policies and procedures are followed
- Communicate the progress of the project to campus administrators, college faculty, and all stakeholders on a regular basis
- Oversee formative and summative evaluation according to the Evaluation Plan
- Disseminate all relevant Title V evaluation results and findings on and off-campus
- Coordinate meetings and prepare agenda for Advisory Board
- Submit periodic reports to the college's Board of Trustees, Executive Committee, and Academic Senate on the project as it addresses BC strategic planning goals/needs
- Submit satisfactory Interim, Annual and Final Performance Reports to the funding agency
- Oversee and advocate for institutionalization of all effective project innovations

"Get Set!" – Phase II Leader:
- Coordinate the application of multiple measures assessment to all students in the Making It Happen cohort each year.
- Work with counseling faculty to develop a holistic Intrusive Student Support Services program, including intrusive counseling, early alert, and student degree completion plan.
- Lead the planning team of academic faculty and counselors to reform the college freshman seminar.
- Collaborate with the Stage 1 "Ready!" leader to develop the Pre-college Summer Intensive Academy.

"Go!" – Phase III Leader: Ms. Regina Hukill, mathematics professor and chair of the BC mathematics department was chosen to lead this important stage of BC's Making It Happen! Degree Completion Pathway. Ms. Hukill has more than 22 years experience teaching developmental mathematics at BC and at the local high school district. She is the most qualified math instructor at BC to lead this important effort not only because her expertise in teaching mathematics, but also because of her vast experience and interaction with Hispanics and other underrepresented students. Ms. Hukill is currently leading BC's effort to join the California

Accelerated Pathway Project and holds a certificate for technology integration in mathematics instruction. Ms. Hukill has had extensive experience in working with Hispanics and other underrepresented students and she holds a certificate in Cross Cultural, Language and Academic Development for ESL students.

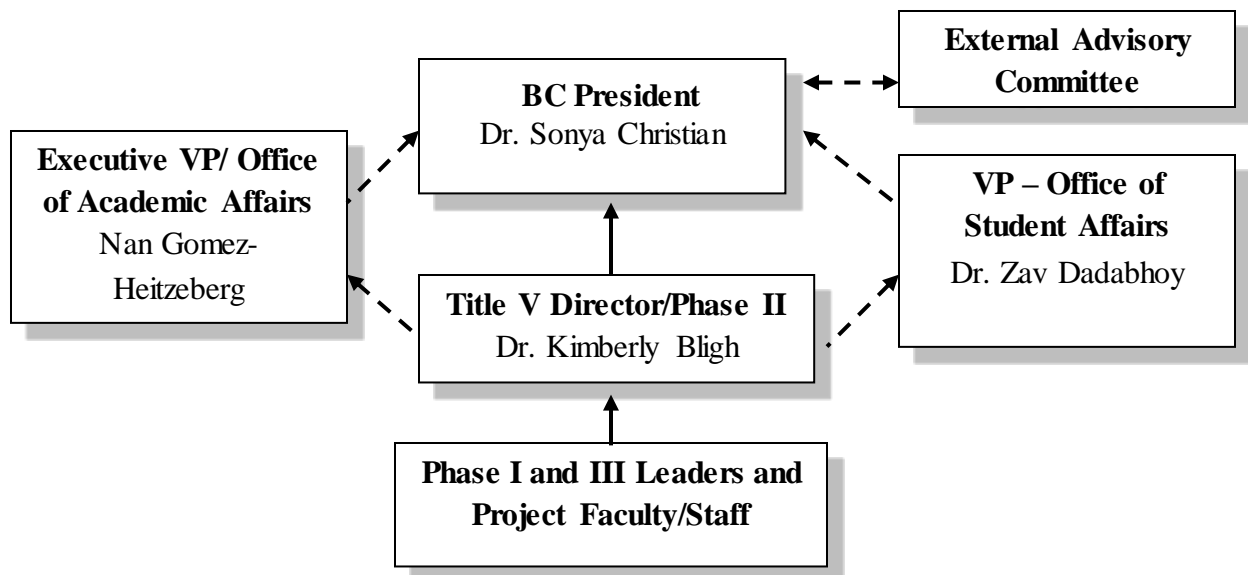| Table 23: Why Ms. Hukill was selected as "Go!" Phase III Leader (Math) - Qualifications: |
|---|
| **EDUCATION:**
• AA in Liberal Studies received 5/90 from Bakersfield College
• BS in Mathematics received 8/92 from CSU Bakersfield
• MST in Mathematics received 8/97 from University of Wyoming

TEACHING EXPERIENCE:
• **2005-Present   Bakersfield College   Professor**
Full-time mathematics professor specializing in basic skills education. Led mathematics curriculum development and currently serves a the math lead for BC Acceleration Project.
• **1993-2005 Kern High School District   Mathematics Teacher**
Served as the mathematics department chair in charge of math curriculum redesign using technology infused methods.
• **1992-1993 Bakersfield College   Adjunct Math Faculty**
Taught a variety of math developmental and college level courses

RELATED EXPERIENCE:
• Held a Secondary Clear Credential in Mathematics for 15 years
• Math Department Chair at Foothill High School for 3 years
• Holds a Cross-cultural, Language, and Academic Development Certificate for teaching ESL students
• Certified by the California Technology Assistance Project and the Kern County Council as being a Level II technology proficient teacher
• Organized and served as chairperson for the Math Department High School Outreach Team for the last 8 years
• Math Faculty Lead for Basic Skills project to do Math Focus Groups 2008 to 2010
• Worked with other Math faculty to write a new lab book for Math B4A(Math for Elementary Teachers)
• Served on the Math A/D Redo committee to revise curriculum for new courses Math 60 & Math B70
• Currently collaborating with CSU Bakersfield and high school on math curriculum through a CAP grant . |
| **Ms. Hukill's responsibilities will include:** |
| • Oversee all project stage 3 implementation strategies working closely with Project Director and staff
• Provide leadership for and direct all aspects of the math acceleration project and the redesign of existing courses into online or hybrid versions.
• Oversee the curriculum development of the Statistics accelerated pathway.
• Supervise and collaborate with Title V staff, Advisory Board, faculty participants, and internal and external evaluators of the project.
• Serve as project liaison to all affected math faculty to ensure smooth and timely integration of grant activities with new and existing faculty development opportunities. |

- Oversee formative and summative evaluation of stage 3 progress according to the Evaluation Plan.
- Work with Stage 1 "Ready" Leader to develop customized curriculum for the BC Summer Intensive Academy.
- Coordinate the development of the student math lab book for the accelerated courses.

5. PROJECT MANAGEMENT PLAN.

Bakersfield College (BC) has selected highly qualified and experienced individuals to form a strong management team for the proposed Title V project. The Project Director, Dr. Kimberly Bligh, will have the support of a newly hired project assistant and leaders for Phase I ("Get Ready!") and Phase III ("Go!). The management team will work closely with faculty, staff, and students to implement the project so it remains consistent with the scope and objectives, as well as budget plan. Dr. Bligh will be **directly responsible to the BC president**, Dr. Sonya Christian, for meeting the objectives of this Title V Project and for ensuring that all activities are consistent with college goals and objectives and will have **full authority and autonomy to administer the project** according to the federally approved plan of operations. The qualification and job description of the Project Director can be found in the Key Personnel Section.

BC Organization Chart for Title V Project Management

External Advisory Committee

| BC President Dr. Sonya Christian |

| Executive VP/ Office of Academic Affairs Nan Gomez-Heitzeberg |

| VP – Office of Student Affairs Dr. Zav Dadabhoy |

| Title V Director/Phase II Dr. Kimberly Bligh |

| Phase I and III Leaders and Project Faculty/Staff |

Authority to conduct the project effectively. The President of Bakersfield College (BC) is fully supportive of the proposed Title V project and will provide overall supervision of the project. The President will delegate day-to-day management of the project to the Project Director. The Project Director will communicate and coordinate grant management efforts with the Executive Vice President of Academic Affairs, Nan Gomez, to ensure integration and alignment of existing and newly developed activities. The Project Director will have ongoing access to the President and will provide **monthly progress reports to the President**, as well as **annual presentations to the Board of Trustees**. In addition, the project will benefit from the establishment of an External Advisory Committee of key leaders from the CCC Student Success Initiative who will meet quarterly via CCC Confer who will provide guidance to this work and ensure the project remains on task and focused on equitable student success.

The Project Director and project leaders will meet weekly to review implementation activities and make adjustments as necessary to achieve objectives on schedule. The Project Management Team will work closely with all staff including faculty leaders (instructional and student support professionals) in all aspects of project implementation, including development of training programs that are meaningful, collaborative and flexible for all participants. Project staff meetings will occur bi-monthly, including key participants related to scheduled tasks. The Project Management Team will also interface with key college offices and programs, such as: Academic division offices (particularly Academic Development, English, Mathematics, and Languages, all of which have substantial Basic Skills course offerings) and non-BC stakeholders including service area high schools.

Table 24: External Advisory Committee Members
Ken Sorey – Project Director, Cal Pass Plus
Tim Calhoon – Dir. of the CCC Tech. Center and State-wide Project Lead for the Student Portal
Joe Moreau – Vice Chancellor of Technology, Foothill DeAnza Community College District

Peter Riley Bahr – Associate Professor, University of Michigan
Kathy Booth – Associate Researcher, WestEd
Myra Snell – Math Professor Los Medanos Community College, California Acceleration Pathways,
John Hetts –Researcher, Ed Results

6. EVALUATION PLAN.

The project is intentionally designed to move BC forward toward a culture of evidence with a goal to increase underprepared student success. The evaluation plan's overarching model is participatory with a utilization-focused approach. While it is participatory in that key stakeholders will be actively engaged in the evaluation (e.g., defining key evaluation questions, and identifying pilots to be observed and data sets to be analyzed), it is practical in that stakeholders will use their participation in defining evaluation efforts to inform practice and improvement efforts[32]. This approach is known in the evaluation literature as *practical-participatory[33]* and is encouraged and supported by the Achieve the Dream movement.

Table 25: Data elements and collection procedures are appropriate to CDP	
CDP Goals	Data Elements/Expected Results in Addition to Measurable Activity Objectives that Relate to Student Momentum
Goal 1: To develop an exemplary, holistic pre-collegiate pathway for underprepared students with a clear mission to significantly improve learning and success from entry to degree completion. **Goal 2:** To significantly increase underprepared student learning and success rates while closing the equity gap at identified *momentum points* through development of an engaging, integrated, and supported degree pathway that uses technology to improve the	i. Pre-college outreach, high school counseling training ii. Multiple Assessment and Placement process results in higher accuracy iii. Student success plans are completed and mentors assigned iv. Pathway cohort activities are developed and piloted v. Faculty redesign curricula for online and hybrid delivery vi. Faculty mentors are trained in pedagogy, developmental advising, integrating learning support, and instructional technology vii. Faculty actively participate in redesign of curriculum including connections with counseling and academic services viii. Faculty actively assess course effectiveness. e.g., acceleration, contextualization, learning ix. Faculty and SI leaders actively coordinate learning objectives x. Faculty work across divisions for integrated experience vii. Students see how contextualized/pre-college courses contribute to their academic and career goals and success viii. Student services faculty participate in redesign process with instructors and help assess results/make improvements

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[32] Patton, M. Q. (2009). *Utilization-Focused Evaluation* 3rd Ed. Thousand Oaks, CA: Sage.
[33] Cousins, J. B. & Whitmore, E. (1998). Framing participatory evaluation. In E. Whitmore (Ed.), *Understanding and practicing participatory evaluation. New Directions for Evaluation, No. 80* (3-23), San Francisco, CA: Jossey Bass.

| | xi. 30 unit milestone and completion rate increases for all participants, with impact on overall rates by year 5. |
| delivery of instruction and services. **Goal 3:** To significantly increase BC's overall six-year *completion* rate by addressing the needs of our students. | xii. Technology is used effectively to improve delivery of instruction and services. xiii. Increase in productivity per statewide metrics. |

Table 26: EVALUATION DESIGN AND ACTIVITIES

EVALUATION DESIGN is generally focused on five areas of activity.
1. Observing, interviewing, and supporting the cohorts and the faculty (from instructional and student services divisions) working with them throughout the grant.
2. Ongoing analysis of the pathway from a broader perspective independent of any one cohort.
3. Surveying and interviewing faculty, counselors, students, and project staff to provide formative and summative evidence.
4. Summative analysis of quantitative student success data at baseline and at various times throughout the grant.
5. Sharing results in interactive presentations and hard-copy reports.

FORMATIVE EVALUATION ACTIVITIES will include the following:
- Observe workshops for participation and effort.
- Advise on, or provide workshops on evaluation methods, mixed methods research, qualitative data analysis, and research question development.
- Observe classroom pilots to see the pedagogy at work.
- Collect and analyze curriculum products (e.g., lesson plans, pilot results) to identify and describe assessment techniques.
- Interview faculty and counselors during each phase (e.g., design, pilot, assess, disseminate, at large) to understand the process from their perspective.
- Interview students to understand their perspective on pathway activities, services, & learning.
- Collect cohort demographic data to clarify disciplinary variety.
- Observe activities to confirm collaboration and the research-to-classroom feedback loop.
- Survey faculty on their readiness to embed new methods in their curriculum.
- Collect and analyze course curriculum documents before, during, and after curriculum redesign for embedded assessment and student involvement in evaluation.
- Interview project leads annually and faculty periodically to gather evidence of promotive, collaborative, and mentoring activities.
- Monitor lab activity to gather evidence of use by students
- Develop baseline data on Student Success Scorecard metrics, and traditional success metrics relevant to precollege success (course success, time to remediation, success in gateway course.) Use various data sets for this, including data from the college's Institutional Research Office's student database, the CCC Chancellor's Office data mart.

Analysis Procedures to Measure Project Success

To accomplish valuable formative and summative insight, an academically situated evaluation lab will be used to manage the work of this evaluation. The evaluation lab is a concept that is in place at Claremont Graduate University's (CGU) Claremont Evaluation Center (CEC). In the CEC lab, the grant's external evaluator Dr. Harnar, will partner with the lab's faculty research lead, an evaluator with 13 years of experience in education reform and literacy, and the *MIH* grant evaluation becomes a lab project. As a lab project, the lab leadership team manages the design and implementation of each element of the evaluation plan and students participate in activities as their skills match the element's needs. Trainings are developed in the lab to address upcoming project elements and, when appropriate, on-the-job supervised training is used.

Dr. Harnar will work with data set providers (e.g., the college's IR office) to obtain baseline and ongoing data and CEC students who are particularly quantitatively inclined will be engaged in analyzing and developing reports on that data. Dr. Harnar will also engage some students in presenting results to faculty in capacity building-focused opportunities. Dr. Harnar, the lab leader will mentor students and review all products that come from the lab.

SUMMATIVE EVALUATION ACTIVITIES: Summative results will identify specific interventions with specific long-term impacts on student success and institutional improvement goals. Key stakeholders will be asked to review summative findings. Recommendations will be made for further institutionalization of key indicators of success for underprepared Hispanic students. The evaluation team will prepare and disseminate an annual summative analysis and at the end of the project will coalesce all obtained understanding and provide a report describing the pathway model holistic impact on CDP goals and activity objectives.

Table 24: Dr. Harnar's Qualifications and Role as External Research/Evaluation Partner
• **Education**: Master's degree in Psychology with an emphasis in Program Evaluation and completed his Ph.D. in Psychology with an emphasis in Evaluation and Applied Research Methods from Claremont Graduate University in 2012. • **Expertise:** Dr. Harnar has extensive knowledge and expertise in evaluation and research related to program development, improvement, and end of cycle questions of impact, affecting student outcomes. Dr. Harnar is experienced in managing longitudinal evaluations for programs focused on underprepared community college minority students.
• **Outstanding Evaluation Award from the American Evaluation Association**, 2011. • **3CSN External Evaluation Consultant,** 2009 – Present. Providing evaluation services for a grant aimed at developing a statewide network of community college basic skills faculty and administrators. Dr. Harnar's work has focused on building capacity for regional network coordinators, tracking the participant population, GIS mapping of activities, and developing outcome indicators. • **Title V Project Evaluation Consultant,** 2006-2012. Managed ongoing evaluation services for activities at Pasadena City College focused on underprepared community college minority students, including STEM programs. Designed survey in support of faculty development evaluation. Evaluated multiple program-level initiatives requiring focus groups, surveys, faculty/student interviews, and report writing. *Designed and built student tracking database, including interaction with College-level remote database.*
Dr. Harnar's Project Evaluation Role
• Dr. Harnar will make site visits to evaluate progress of project meeting with key personnel. • Dr. Harnar will provide extensive consultation and information to help implement the evaluation plan including: methodology; and recommend alternative research design and procedures if improvement is needed. • He will analyze progress and make usable recommendations based on close review of all written records from outside perspective. • He will report on project status with recommendations for improvement at least annually. • Dr. Harnar will submit written reports on an annual basis to the Project Director.

7. BUDGET NARRATIVE.

All budget requests were carefully considered to build off of and strengthen existing institutional capacities, and all requested funds are reasonable and necessary to achieve project objectives. *See table next page for relationship of costs to project.* A complete detailed breakdown of costs and description for each budget category can be found in the **Activity Budget Detail Form** as required by the application instructions**.**

Main Budget Costs	How Costs Are Related to *Making it Possible* Project
Personnel & Fringe Benefits (approx. 69% of total budget)	The most significant piece of the overall budget is intentionally dedicated to people costs, i.e., project management, professional development, and outreach focused on increasing basic skills student success through improvements assessment, curriculum design, and instructional methods/practices in and out of the classroom.
Travel (approx. 1% of total budget)	A minor portion of the overall budget is requested for local travel for outreach and targeted training opportunities. In addition, funds are requested for the PD to attend annual Title V workshop held in D.C.
Technology (Supplies) (approx. 11% of total budget)	Improving technology capabilities at BC to improve student access and learning is a major strategy of *Making it Happen!*. Developing labs that facilitate modularized, accelerated, and supplemental learning as well as online interventions and messaging will also be completed.
Endowment (approx.13% of total budget)	Funds are requested each year for Endowment. This reflects an institutional commitment to improving long-term fiscal stability. BC intends on using 50% of income, per guidelines, to institutionalize programs and services that support basic skills students.
Supplemental Instruction/Peer Leaders/Summer Intensive Academy (approx. 5% of total budget)	Funds are requested to develop a supplemental learning program at BC. After careful analysis of external research and internal analysis, BC believes that the SI model could be adapted to improve BC's precollege program for high impact on student success. Funding is requested to hire qualified students for pilot tests to improve the effectiveness of the basic skills program. SI leaders will be trained to use newly developed technology to increase access and effectiveness so more students can benefit from these services.
Contractual (Evaluation) (approx. 2% of total budget)	Improving basic skills student success is an institutional priority. Evaluating effectiveness of newly developed programs/services will be critical in order for BC administrators to institutionalize programs with limited operational funds. Project staff are committed to the evaluation process and will work closely with an external evaluator.

8. QUALITY OF THE PROJECT DESIGN

BC's *Making It Happen – Ready, Set, Go!* project is the culmination of years of planning to address the perennial problems facing underprepared students and especially Hispanics who are the largest demographic group at the college. The planning team did an extensive literature

search and visited many other colleges to be informed of best practices. The heart of the project

design is based on substantial evidence from the CCSSE (the Community College Survey of

Student Engagement) that "no matter what program or practice a college implements, it is likely

to have a greater impact if its design following [specific] principles." The following table

summarizes the recommended design principles recommended by CCSSE research and how the

project reflects these evidence-based principles.

Table 27: CCSE Design Principles	
Evidence-Based Design Principles	**Project Design**
• **A strong start with adequate early preparation.** Make sure that at risk students are identified early trough pre-assessment, are prepared adequately before entering college, and are supported continuously until they are on track to completion.	• The project's "Get Ready!" stage identifies students at need early (before high school graduation) and prepares them through the Summer Intensive Academy (SIA) with the intent to raise their performance in the placement test. Parental involvement is critical especially for Hispanics. Thus parents are encouraged to attend a special session during the SIA.
• **Integrated Student Support Services.** Student services must be direct, frequent, and intrusive. The traditional model of matriculation where students take a placement test, usually unprepared, and then make a voluntary counseling appointment to develop a first year education plan is no longer efficient.	• Stage 2 "Get Set!" of BC's project necessitates that each student is assigned to a counselor that will work with them to develop a two or three-year long Degree Completion Plan (depending on their major and preparation). The intrusive counseling model promotes regular contact between counselors and students (at least three meetings per semester) to follow progress, identify deficiencies early, and recommend appropriate interventions for correction (Early Alert). The mandatory Freshman Seminar will provide students with tools to successfully complete all courses.
• **Clear, coherent pathways.** The many choices and options students face as they endeavor to navigate through college systems can create unnecessary confusion. Colleges can improve student success (and minimize ill-used time) by creating coherent pathways.	• Student's entering Stage 3 "Go!" of BC's project will have the option to follow one of two separate math pathways according to their majors: Non-STEM students will follow the Statistics pathway towards degree completion, while STEM majors will follow the more traditional pathway. Both pathways are accelerated, use technology, and alternative delivery methods such as hybrid and online courses.
• **High expectations and high support.** Students do their best when the bar is high but within reach because of support services.	• Success is a right not an expectation at BC. Research-based pedagogies that use technology, and emphasis on critical thinking and collaboration are the tenets of the new curricula.
• **Intensive student engagement.** Promoting student engagement is the overarching feature of successful program design, and all other features support it.	• The BC Degree Completion Program will increase student engagement activities and all features support engagement. Online and hybrid courses will also intensify engagement.

• **Design for scale.** Bringing practices to scale requires a long-term commitment of time and money.	• The project implementation strategy accelerates scaling up using proven approaches. Leaders are committed to scale up.
• **Professional development.** Improving student success rates and meeting college completion goals require individuals not only to re-conceptualize their roles but also to work differently.	• There will be extensive faculty and staff development including project-based learning. The BC Making Happen! PD Academy will set the foundation for faculty transformation and curricular change. Participating BC faculty and staff have already begun to transform roles.
Source: Center for Community College Student Engagement. (2012). *A Matter of Degrees: Promising Practices for Community College Student Success (A First Look).* Austin, TX: The University of Texas at Austin, Community College Leadership Program, p. 5.	

ABSOLUTE PRIORITY: The proposed project clearly is designed to address the absolute priority to provide services that increase academic preparation for completion. Almost all BC students are high need underprepared students, and the project specifically addresses weaknesses which impede their preparation and completion. Since Hispanic students are our highest need students – the most likely to be underprepared and least likely to succeed – the project was designed using an equity-minded framework. The project responds to evidence that BC high need students continue to need a structured pathway to prepare for transfer.

ASSUMPTIONS	INPUTS	OUTPUTS	OUTCOMES - IMPACT		
	Strength	Activities	Short Term	Mid-Term	Long-term
1. Inadequate completion rates, particularly among Hispanics who are underpresented in all degree pathway measures. 2. Hispanic students are the majority in BC's student enrollment. 3. All recent research indicates need to increase support and integrate services beyond first year into a coherent pathway. 4. Completion gaps and weaknesses disproportionately impact Hispanic high need students. 5. Online and hybrid courses increase access but do not use high impact best practices/do not help students to stay on track.	1. Experienced, knowledgeable Title V Project Director and Project Team. 2. Successful acceleration and multiple assessment pilots are foundation for development. 3. Administrative support and commitment to student equity and success, and proven commitment to technology integration. 4. Student participation in peer mentoring/ tutoring/training for sustainability and personal development. 5. Well equipped and staffed Learning Center. 6. Experienced external evaluator to facilitate plan, analysis & continuous improvement.	**Stage 1 "Ready!":** -High School Outreach -Pre-assessment -Pre-college intensive summer academy -Parental Outreach **Stage 2 "Set!":** -Multiple Measures Assessment and Placement (MMAP) -Intrusive Student Support -Degree Completion Plan -College Freshman Seminar **Stage 3 "Go!":** -Accelerated Basic Skills courses -Hybrid and fully online basic skills curriculum with integrated online and hi-touch support -Online Supplemental Instruction -Contextualized learning in basic skills **Develop and utilize technology** to improve teaching methods, provide support, and engage students in pathway activities.	1. Targeted # students enrolled in MIH! 2. Targeted # of students attend Summer Intensive Academy 3. Targeted # students are assessed by MMAP. 4. Targeted # of students enroll in Freshman Seminar 5. Degree completion planning supports and increases student engagement. 6. Accelerated course curriculum is in place 7. Hybrid/online courses are scheduled 8. Professional development established in first year. 9. Peer mentoring/ SI/e-SI tutoring increases	1.Course success and retention rates increase. 2. Time to complete 30-unit decreases. 3. Number of students completing developmental sequence increases. 4. Number of students enrolled in college courses increases. 5. Targeted support increases overall completion rates. 6. Evidence of closing equity gap.	1. Degree Completion Program aligns with the BC's master plan goals, Strategic Plan, and Equity Plan. 2. Completion and transfer rates increased, equity gap closed. 3. Strengthen institutional climate for diversity and equity. 4. Decreased costs to students and public resources related to completion (increased degree productivity and BC fiscal stability.) 5. Supports Title V and ED Goals to increase access and expand opportunities for Hispanic and low-income students.
DESIGN PLAN			**EXPECTED RESULTS**		

COMPETITIVE PRIORITIES

PRIORITY 1: The proposed Degree Completion Pathway, *"Making It Happen!"* at BC is the result of extensive research, which provides strong evidence that structured high-intensity services make a big difference in student success, progression and completion. The MIH! project includes a suite of integrated services specifically designed for high need students that start before they begin their college career and continues until completion. One can conceptualize the pathway as a pipeline with three stages: **1) "Get Ready!"- Filling the pipeline; 2) "Get Set!"- Maintaining the pipeline; and 3) "Go!"- Completing and exiting the pipeline.**

California Community Colleges are not equipped to remediate that vast numbers of underprepared students that enroll in them every fall semester. Interventions must start at the high school level in order to reduce the amount of remediation required. Parental involvement is critical at this junction. BC's project will then support students through the degree pathway and integrate needed services so students can move successfully through each momentum point.

Table 28: Integrated Support Services to Guide Students Towards Degree Completion
Stage 1 "Get Ready!":
• Pre-assessment while still at high school
• Constant communication with high school counselors
• Summer Intensive Academy to improve academic preparation prior to enrollment
• Parental engagement to promote family support
Stage 2 "Get Set!":
• Multiple Measures Assessment and Placement to improve accurate placement of students using their strengths instead of their deficiencies (student get credit based on their GPA, grades in English and Math courses, and their overall transcript evaluation).
• Intrusive constant counseling to ensure progress towards degree completion
• Complete two or three-year Degree Completion Plan
• College Freshman Seminar offered every fall using the AVID WICOR strategies (Writing, Inquiry, Collaboration, Organization, and Reading).
Stage 3 "Go!":
• Accelerated math pathways. BC recognizes that one size does not fit all when it comes to mathematics literacy. Students will be able to choose the path that best fits their degree goals.
• Alternative methods of teaching and learning and course delivery. Developmental math courses will be offered both in a fully online or hybrid form to increase access for all students.
• Innovative learning support using face-to-face Supplemental Instruction and online Supplemental Instruction (e-SI).
• "Real life" related course delivery through contextualization of curriculum in developmental math.

It takes a complete, well-designed pathway to improve the academic success of high need students adequately. The Center for Community College Student Engagement posits that a coherent, structured pathway is necessary to improve completion. To move the needle on college completion rates, community colleges must develop these pathways using the specific framework gleaned from all the best evidence from research so far. BC's own research, supported and enlightened by extensive state and national research, has found that disconnected services and isolated course modifications are not enough to reverse the tide of failure for developmental students.

Table 29: References and Annotated Bibliography of Sources for Assumption That a Structured Pathway towards Degree Completion is Required for BC Student Success
CCCSE: Center for Community College Student Engagement, Pathways Resource Brief **Dadgar, M., Venezia, A., Nodine, T., & Bracco, K.R. (2013).** *Providing structured pathways to guide students toward completion.* **San Francisco: WestEd.** Best practices for pathways includes mandating prescribed intake processes, balancing flexibility and prescription, defining clear instructional programs, providing proactive "intrusive" advising, and increasing program alignment. While structured pathways are too new to have produced empirical evidence of effectiveness, the authors provide examples of current institutional efforts and online major issues being discussed by participating colleges. They also provide implementation suggestions helpful to institutions desiring to develop structured pathways. **Jenkins, D., & Cho, S. (2014).** *Get with the program…and finish it: Building guided pathways to accelerate student completion.* **(CCRC Working Paper No. 66). Retrieved from Community College Research Center website: http://ccrc.tc.columbia.edu/publications/get-with-the-program-finish-it.html** This paper stresses the need for clearer pathways that not only inform students of the many opportunities that are available to them, but create a clearer picture of the specific steps students need to take to achieve their end goals. Such programs should offer embedded advising and track students' progress, but there should also be structured ways of providing students feedback and support as they progress. The authors point out that clear, structured pathways decrease colleges' reliance on advisors and increase the coherence of student learning. **Jobs for the Future. (2013, October).** *Cornerstones of completion: State policy support for accelerated structured pathways to college credentials and transfer.* **Retrieved from http://www.jff.org/sites/default/files/publications/CBD_CornerstonesOfCompletion_111612.pdf** This report provides policy recommendations for structured pathways formed through the partnership of Completion by Design, a project funded by the Gates Foundation in an effort to provide insight regarding how to design, support, scale up, and strengthen pathways programs since there is so much evidence now of their effectiveness. Jobs for the Future supports strong college advising, orientation, and student success courses; investing in professional development to prepare faculty for changes and reform; leveraging technology to support individualized student planning and tracking **Design Principles to Support Effective Acceleration.** 3CSN, December 2013.

http://cap.3csn.org/2013/12/03/new-publication-on-teaching-accelerated-classes/

Hern, Katie and Myra Snell, *Toward a Vision of Accelerated Curriculum & Pedagogy: High Challenge, High Support Classrooms for Underprepared,* Learning Works, Dec. 2013.
3CSN and LearningWorks identified five essential principles to ensure successful acceleration: 1) Backward design from college-level classes; 2) Relevant, curriculum-oriented thinking; 3) Just in-time remediation; 4) Low stakes collaborative practice; and 5) Intentional support for students' affective needs.

Dolores Perin, *Facilitating Student Learning Through Contextualization*, Community College Resource Center (CCRC), Columbia University, Working Paper No. 29, February 2011.

Elaine Baker, Laura Hope, and Kelly Karandjeff, The RP Group, Center for Student Success, *Contextualized Teaching and Learning Handout*, www.rpgroup.org.css/CTL.html, October 2009.

University of Wyoming, Online Supplemental Instruction, http://www.uwyo.edu/learn/si/. The University of Wyoming piloted a synchronous online Supplemental Instruction program that has increased student participation and increased success and retention rates.

PRIORITY 2: Financial and physical limitation prevent BC from offering all the necessary face-to-face courses to meet the needs of developmental students. Alternative methods of course delivery must be found. Multiple research studies have shown that online and hybrid instruction, ***when done correctly***, are acceptable alternatives to traditional classroom instruction. In 2010, the Center for Technology in Learning published a study led by Barbara Means[34] who performed a meta-analysis on the results of a large number of online programs. She concluded that: *"In recent experimental and quasi-experimental studies contrasting blends of online and face-to-face instruction with conventional face-to-face classes, blended instruction has been more effective, providing a rationale for the effort required to design and implement blended approaches. When used by itself, online learning appears to be as effective as conventional classroom instruction...*

However, several caveats are in order: Despite what appears to be strong support for blended learning applications, the studies in this meta-analysis do not demonstrate that online learning is superior as a medium. In many of the studies showing an advantage for blended learning, the

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[34] Means, Barbara, et. al., Center for Technology in Learning. *Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies.* U.S. Department of Education Office of Planning, Evaluation, and Policy Development Policy and Program Studies Service, Revised Sept. 2010.

online and classroom conditions differed in terms of time spent, curriculum and pedagogy. It was

the combination of elements in the treatment conditions (which was likely to have included

additional learning time and materials as well as additional opportunities for collaboration) that

produced the observed learning advantages. At the same time, one should note that online

learning is much more conducive to the expansion of learning time than is face-to-face

instruction."

A hybrid mode of instruction – referred to as a "flipped classroom" - has gained support because of encouraging results. In 2007, Jeremy Strayer published his dissertation research conducted at The Ohio State University entitled *"The effects of the classroom flip on the learning environment: a comparison of learning activity in a traditional classroom and a flip classroom that used an intelligent tutoring system."* Strayer states: "*students in the inverted classroom were less satisfied with how the classroom structure oriented them to the learning tasks in the course, but they became more open to cooperative learning and innovative teaching methods.*" [35] These studies highlight the importance of attending to the ways the coordination of out-of-class and in-class activities can positively and negatively influence how students engage in course tasks.

After careful review, BC faculty have made the decision that the prospect of increasing access is compelling enough to pilot online developmental courses but have resolved that best method to address student needs for success and adequate progression is to adopt a hybrid mode of instruction based on the "flipped classroom" models that currently are offered widely and have been proven to be very successful.

Table 29: Models of Successful "Flipped Classroom" Approaches
• **Peer Instruction:** In the early 1990s, Harvard professor Eric Mazur began the development of an instructional strategy he called peer instruction. He published a book in 1997 outlining the strategy entitled, Peer Instruction: A User's Manual. He found that his approach, which moved information

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[35] Jeremy F. Strayer (2007), The effects of the classroom flip on the learning environment: a comparison of learning activity in a traditional classroom and a flip classroom that used an intelligent tutoring system.

transfer out of the classroom and information assimilation into the classroom, allowed him to coach students in their learning instead of lecture.

The Peer Instruction Approach:
1) Students are assigned reading material before coming to classroom.
2) At the beginning of each class students take a short quiz (3 to 5 questions) to test their understanding of the day's lesson.
3) Based on the responses, the rest of the lesson is focused on areas of students' lack of understanding through collaborative activities.

-Eric Mazur (1997). Peer Instruction: A User's Manual Series in Educational Innovation. Prentice Hall, Upper Saddle River, NJ
-Jump up   ^ C. Crouch & E. Mazur (2001). Peer Instruction: Ten Years of Experience and Results, Am. J. Phys., v69, 970-977)

- **Pre-recorded Short Lectures:** In 2000 Lage, Platt and Treglia published the paper "Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment". In their research focusing on two college economics courses, Lage, Platt, and Treglia assert that one can leverage the class time that becomes available from the inversion of the classroom (moving information presentation via lecture out of the classroom to media such as computers) to meet the needs of students with a wide variety of learning styles.
  -Maureen Lage, Glenn Platt, Michael Treglia (2000), Inverting the Classroom: A gateway to Creating an Inclusive Learning Environment, Journal of Economic Education

- **Instructional Material is Required as Online Homework:** J. Wesley Baker (2000) presented "The classroom flip: using web course management tools to become the guide by the side" at the 11th International Conference on College Teaching and Learning. Baker's article advocates for the use of online programs to present instructional material online as homework, while allowing students to spend class time engaging in active learning activities and collaboration with peers.
  -J. Wesley Baker (2000), The classroom flip: using web course management tools to become the guide by the side.

- **Khan Academy Videos**: In 2004, Salman Khan began recording videos at the request a younger cousin he was tutoring because she felt that recorded lessons would let her skip segments she had mastered and replay parts that were troubling her. Salman Kahn founded Kahn Academy where free online videos in this style continue to be added in a variety of subjects. Khan's TED Talk in Feb 2011 and his book "The one world schoolhouse: Education reimagined" (2012) brought the concept to the broader public, and Khan Academy videos are now used as part of some educators' flipped teaching strategy.

-Clive Thompson (15 Jul 2011), "How Khan Academy is Changing the Rules of Education", Wired
-Sarah D. Sparks (28 Sep 2011), Lectures Are Homework in Schools Following Khan Academy Lead)
-Khan, Salman. The one world schoolhouse: Education reimagined. Twelve, 2012.