

Baltimore City Community College at the Crossroads

*How Remedial Education and Other Impediments to Graduation
Are Affecting the Mission of the College*

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Introduction



Baltimore City Community College (BCCC) is now in its sixth decade serving the people of Baltimore and Maryland. Located on two campuses in northwest Baltimore and at the Inner Harbor, plus five off-campus sites, the college had a Fall 2001 enrollment of 6,300 credit students and more than 12,000 non-credit students. The college has been the launching pad for thousands of students moving either directly into the working world or on to a four-year college. Topping its list of successes is BCCC's nursing program, graduates of which achieve an almost perfect passing rate on professional exams every year – rates often exceeding those of other community colleges in Maryland and across the country. Among all BCCC career graduates, 97 percent are currently employed or continuing their education. Because 87 percent of them choose to work in Baltimore, the City is clearly the beneficiary of the community college's efforts.

The number of graduates at BCCC, however, is far too low to fulfill its mission of providing Baltimore with a “world-class workforce.” There are clear signs that BCCC has reached a crossroads in its diminishing ability to provide adequate access to a college education. Until the Fall 2001 semester, for-credit enrollments had been decreasing in recent years; graduation rates have fallen significantly. Of 1,350 first-time students who entered BCCC in the fall of 1997, only 12 had graduated four years later.

At the same time, an increasing number of incoming BCCC students are not ready for college academics as defined by Maryland's higher education officials. Although placement and academic decisions made by campus and state officials have exacerbated this situation, the fact is that a stunning 95 percent of BCCC's first-time students will require remedial education before undertaking a full college-level curriculum. Indeed, the college's most heavily subscribed academic offerings in English and mathematics are, by far, remedial courses in English, reading and mathematics. Not surprisingly, students who begin their college careers with large remedial needs tend to graduate at even lower rates than the rest of BCCC's student body.

These phenomena are not unique to BCCC. Remediation is an issue for every Maryland, and indeed national, community college. Yet BCCC serves the state's neediest students: the largest share of its entering student body comes from the Baltimore City Public School System (BCPSS). Nearly a third of the first-time students enrolling each fall proceed directly from BCPSS high school graduation. Data show consistently that BCPSS graduates are not prepared for college-level work. BCPSS officials must accept a large share of responsibility for BCCC's remedial education problem and work collegially to address it.

Furthermore, with 56 percent of BCCC students working full-time and another 30 percent working part-time, most students require three to five years or more to earn a degree or complete a program.

As an “open enrollment” college which admits all holders of a high school diploma or a GED, BCCC has long dealt with educating students who are ill-prepared for college. Over the years, as the numbers of students needing remediation grew and retention rates foundered, BCCC has conscientiously wrestled with the problem and has made changes.

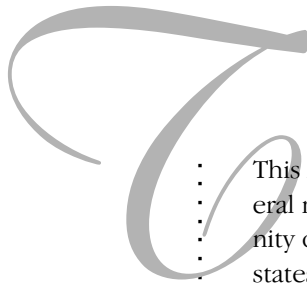
This study finds, though, that the college has not adequately addressed the situation of hundreds of students for whom the BCCC experience begins and ends with a heavy dose of remediation, effectively narrowing the pipeline to graduation. BCCC must reinvent its approach to helping these students complete their basic education quickly and effectively. Compared to other Maryland community colleges, fewer of its students are majoring in programs designed to help them transfer to a four-year institution. Rather, more BCCC students are earning Associate’s degrees in professional programs that lead directly to careers, and substantial numbers are enrolled in programs that lead to a career certificate and a job, not a college degree. This is a strength of the college. Research summarized in this report shows that students earning such degrees and certificates at BCCC often see their incomes increase substantially over those BCCC students who transfer to another two- or four-year school.

Based on the needs of its students and community, BCCC has recognized that its mission must be geared more toward career-minded than transfer students, and has enacted policies to support that mission. But given the low graduation rates, soaring need for remedial education, and the shift by students away from transfer programs, BCCC must ensure that its academic policies – particularly its mathematics requirements – and student support programs consistently support its mission at all levels of the institution.

In addition, BCCC should make a major effort to improve the outcomes of its remedial offerings. In any given semester, more than 65 percent of students fail remedial math courses. This report also finds that while BCCC has collected much data about the effectiveness of remedial programs, more targeted information could be gathered and better analyzed to guide decision-makers.

Finally, this report includes recommendations not only for officials at BCCC but for those at the BCPSS, the Maryland State Department of Education and the Maryland Higher Education Commission (MHEC) to consider in an effort to increase student retention rate. Some, like ensuring that all incoming students receive an orientation before placement testing, will be relatively simple to accomplish. Others will require more money, more energy, and a willingness to explore new ideas for serving under-prepared students.

Methodology



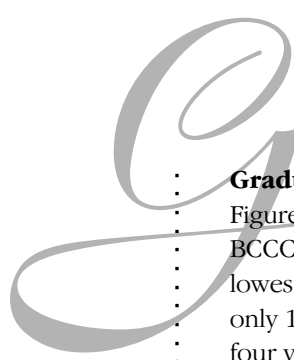
This Abell Foundation report was prepared by researchers and writers who spent several months interviewing and working in collaboration with officials at BCCC, community colleges in Howard, Baltimore, Carroll and Anne Arundel counties, and in other states. Researchers also consulted recent studies on community colleges' remedial education efforts. This report relies on statistics and information generated by BCCC, the MHEC, the Maryland Association of Community Colleges, Maryland State Department of Education, and other sources.

Some ideas for reform that were developed in concert with BCCC officials as this report was being prepared are incorporated.

The Abell Foundation thanks BCCC President James D. Tschechtelin and others at BCCC, particularly Barbara Hopkins, vice president for external affairs. Special thanks go to Leonard Giambra, Director of Institutional Research at BCCC, for data analysis of heroic proportions.

Much has been attempted and much accomplished at BCCC in the last decade under the leadership of Dr. Tschechtelin. His support of this study reflects his commitment to and continuing interest in improving the institution, even as he prepares to depart.

A Changing Focus



Graduation Numbers Fall

Figures compiled by the Maryland Higher Education Commission (MHEC) show that BCCC holds an unwanted distinction among the state's 16 community colleges: the lowest graduation rate, by far. Of the class of new students who entered BCCC in 1996, only 13.3 percent had graduated or transferred to a bachelor's degree-granting college four years later. Prince George's Community College had the second lowest figure in this area; 28.8 percent of its 1996 entering cohort graduate or transfer within four years. Statewide, the community colleges saw, on average, one-third of their students graduate or transfer to a four-year school, according to MHEC. That means BCCC's graduation rate is less than half of that for the state's community colleges as a whole.

Looking at raw numbers, rather than percentages, is similarly discouraging. In 1996, BCCC awarded 432 degrees. Four years later, only 259 BCCC students earned degrees, a 40-percent decline in just four years. In that time, credit enrollment also declined at BCCC, but by only 2 percent, making that only a small factor in the drop in graduation numbers.

The pipeline narrows further as BCCC students transfer to four-year colleges: of the 249 students who transferred in 1999, three-quarters chose Coppin State College, Morgan State University or the University of Baltimore. Historically, only one in three of these transfer students will graduate from these undergraduate institutions.¹

Four-Year Community College Graduation and Transfer Rates, 1996 Cohort

Institution	Still Enrolled	Graduated	Transferred*
BCCC	11.9%	1.4%	11.9%
MD State CCs	9.7%	8.2%	23.9%

Source: MHEC Data Book, 2001

* Transferred to a four-year institution either without graduating from BCCC or after obtaining a BCCC degree.

NOTE: Total graduation rate for BCCC Class of 1996 was slightly higher with the inclusion of students who transferred after graduation.

¹ Data Book, Maryland Higher Education Commission, 2001.

Degrees versus Certificates

Most credit students at BCCC fall into one of two groups: those who hope to earn an Associate’s degree and transfer to a four-year institution, and those whose college careers will end with the attainment of either a career-oriented Associate’s degree or a certificate in a chosen vocation. (This does not include the large number of students attending non-credit, continuing education courses at BCCC.) BCCC has 39 career programs and eight transfer programs.

More than half of BCCC’s students work full-time, and almost two-thirds of those who work full-time have incomes of less than \$20,000 a year. As a result, it may not be a surprise that a growing number of BCCC students are choosing career-oriented programs.

Compared to Maryland’s other community colleges, a far greater number of BCCC students are enrolled in career programs than in transfer programs. Overall, three times as many BCCC students are enrolled in career-based studies as are in transfer programs – a finding that has clear implications for strategic planning.

Community College Enrollments by Focus

Institution	Transfer	%	Career	%	Undeclared	%	Total Enrollment
BCCC	1,263	22%	3,779	64%	841	14%	5,883
All MD State CCs	45,637	44%	35,220	34%	22,503	22%	103,360

Source: Maryland Association of Community Colleges, 2001 Databook

In the past five years, the number of certificates awarded at BCCC and at other Maryland community colleges has remained stable.

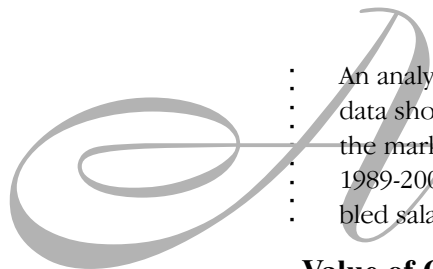
Certificates Conferred by Maryland Community Colleges, 1996-2000

Institution	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000
BCCC	79	83	73	85	84
All MD State CCs	1,495	1,412	1,707	1,421	1,472

Source: Maryland Association of Community Colleges, 2001 Databook

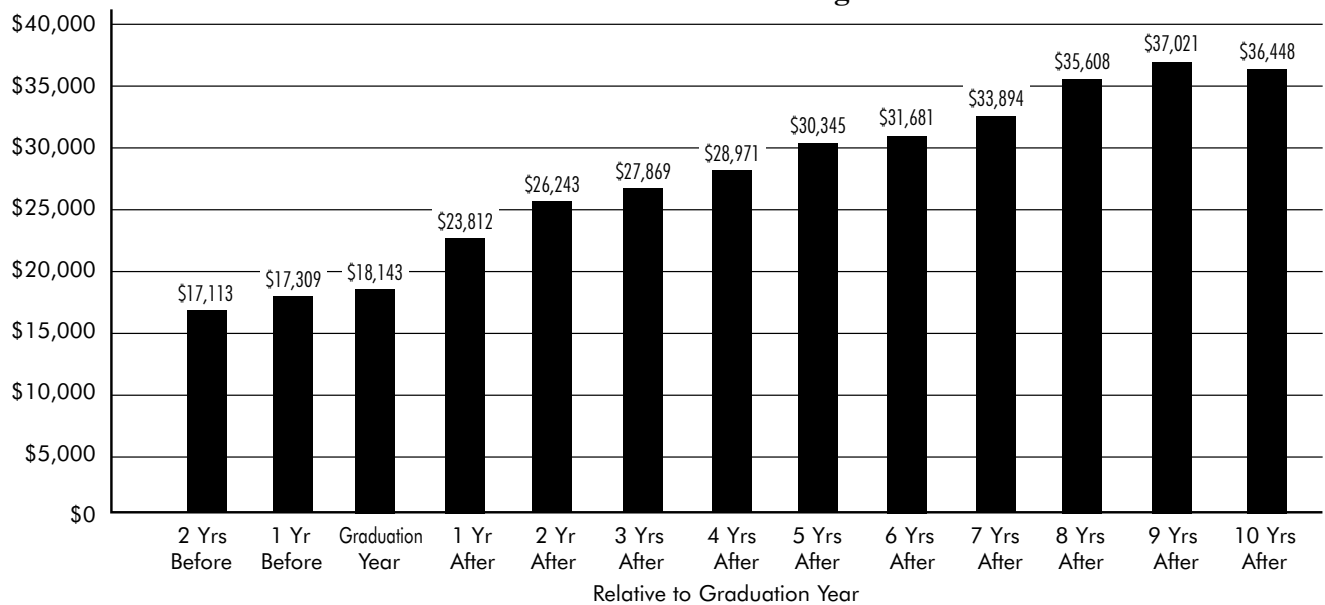
At the same time, the number of Associate’s degrees awarded at Maryland community colleges has declined statewide by 15 percent. At BCCC, in that same time, the number of Associate’s degrees earned – both transfer and career — has decreased by 40 percent.

Is It Worth It? Gauging the Value of a BCCC Degree or Certificate



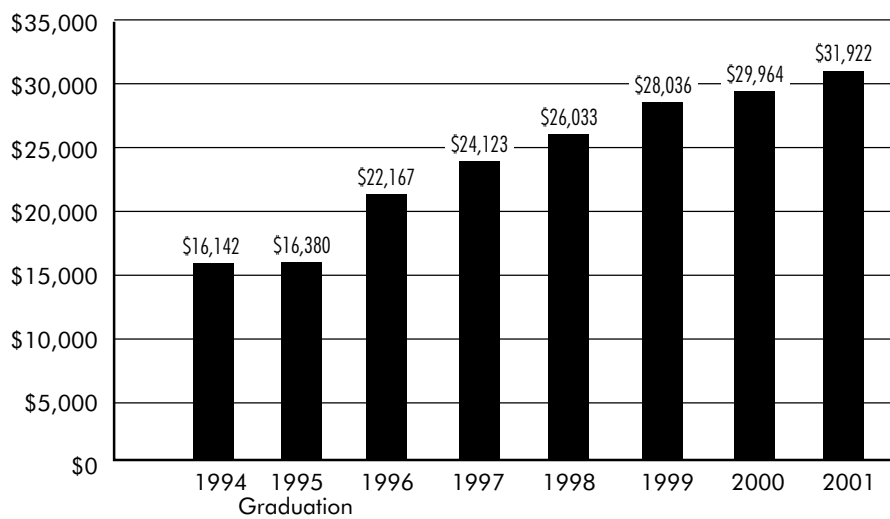
: An analysis by the Jacob France Center at the University of Baltimore provides hard
 : data showing that earning a certificate or degree from BCCC has substantial value in
 : the marketplace. The following chart regarding BCCC students graduating in the years
 : 1989-2001 indicates an increase of \$6,000 in the year following graduation and a dou-
 : bled salary within eight years of graduation.

Value of Certificates and Associate's Degrees at BCCC



: The economic value of this education is reiterated when considering a specific cohort
 : of 1995 BCCC graduates

Average Annual Earnings for 1995 BCCC Graduates, 1994-2001



Source: Jacob France Center, University of Baltimore, 2001

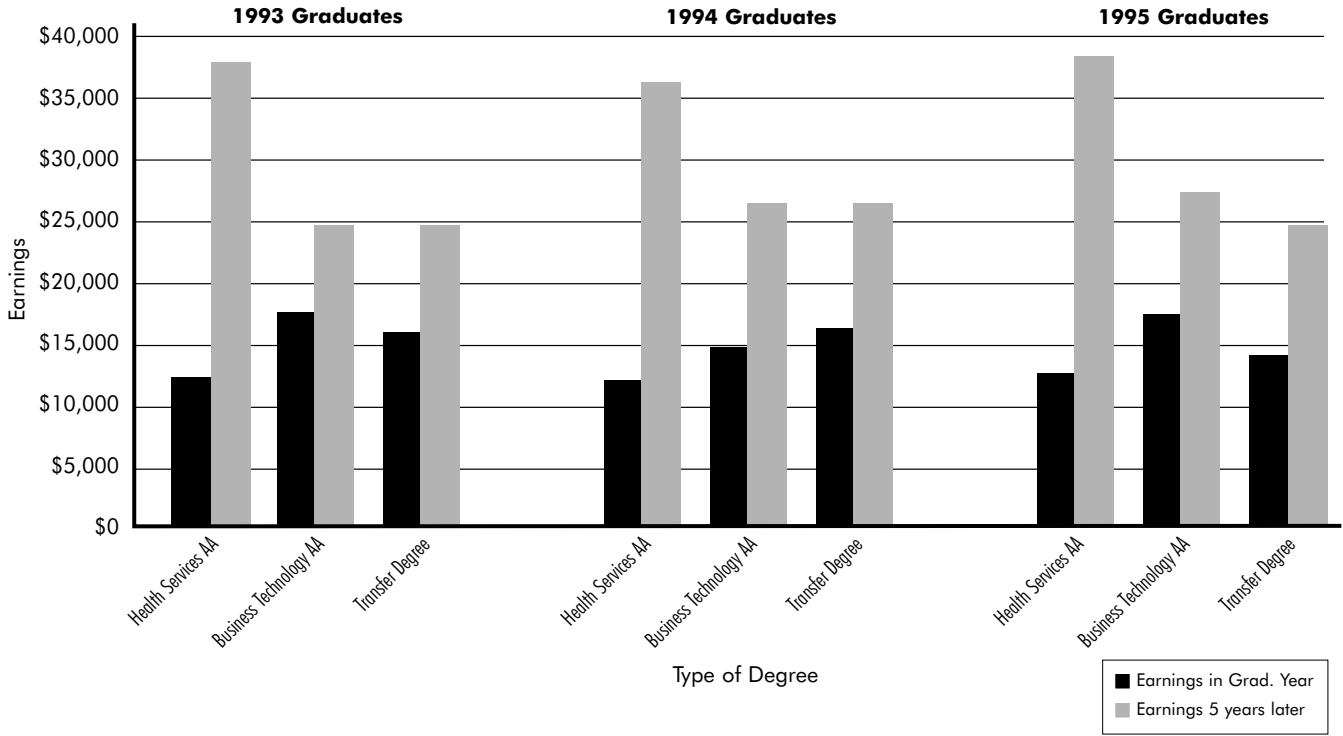
Value of specific career programs

BCCC students who opt to complete a two-year degree and head straight into the working world, rather than transfer to a four-year college, often reap significant financial benefits. In fact, those who complete Associate’s degrees and certificates at BCCC earn higher wages than those who transfer from BCCC. The study compiled wage data for BCCC graduates in a variety of disciplines who were employed year-round in the private sector. In some disciplines in particular, the financial benefits are impressive. For example, people who graduated from BCCC in 1995 in health-services fields – nursing, surgical technician, physical therapy assistant, health information technology, respiratory therapy technology and emergency medical services – saw their incomes almost triple in six years. On average, those students were earning \$14,413 before leaving college. By the year 2001, they were earning, on average, \$40,168, the study found. For the small number of students who complete a Mechanical Engineering program (drafting technology, CADD, electronics technology, and construction technology), the reward is typically a salary over \$40,000 within five years.

Similarly, students who graduated that year from BCCC’s business-technology programs (accounting, banking and finance, business, secretarial and offices sciences, hospitality management and fashion design) saw their average incomes increase from \$19,415 in 1995 to \$30,949 in 2001.

The study also collected data on students who graduated in 1995 from BCCC with a degree in transfer programs. By 2001, those students were earning, on average, \$29,985 – less than their counterparts with degrees in business technology or health services fields.

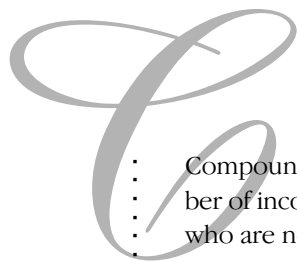
Average Earnings for BCCC graduates in professional vs. transfer programs, 1993-1995



. This research shows that BCCC students who enter the work force after obtaining a two-
 . year degree or a certificate often improve their earnings significantly. In some cases, the
 . certificate has an economic value equal to the aligned degree. The data also show that stu-
 . dents who transfer from BCCC to four-year institutions do not, in general, go on to earn
 . more than their counterparts who go straight from BCCC into the working world.

. Roughly three times as many BCCC students are enrolled in career-track programs as
 . in transfer programs. The Jacob France Center data show that there may be sound
 . financial reasons for students to follow career tracks, and may prove useful in a rec-
 . ommended evaluation of effective career certificate and degree programs at BCCC.

Increasing Need for Remediation



Compounding the challenge presented by this changing focus is the increase in the number of incoming BCCC students (largely those educated in Baltimore City public schools) who are not deemed ready for college-level academic work and require remediation.

Currently, a high school diploma is not, by itself, evidence of readiness for college-level work in a community college setting. A 1996 report by MHEC delivered the dismal news: 60 percent of first-time students enrolled in Maryland community colleges directly from high school required remediation in math, English and/or reading.

At BCCC, the numbers are even starker. Virtually every new student who enrolled at BCCC last year needed remediation in at least one subject. Specifically, 95 percent of enrollees needed pre-college help in mathematics, three out of four needed help in English, and 70 percent in reading. A full 65 percent were deemed in need of remediation in all three areas. By comparison, in 1993, 84 percent of BCCC's entering freshman class needed remediation in at least one subject.

In the fall of 2000, a total of 2,264 students were taking remedial math, 1,394 were taking remedial English, and 1,229 were enrolled in remedial reading.

BCCC is not alone among Maryland colleges in accepting large numbers of students who need remedial assistance. More than one-quarter of the new Maryland high school graduates who took a college preparatory curriculum in high school (which includes three years of math) were required to take math remediation in Maryland public colleges. Of these "core curriculum" students at Maryland community colleges, 43 percent required remedial help in math, 29 percent in English and 27 percent in reading.²

Remediation needs of BCCC Fall 2000 Enrollees	
Need Remediation In:	2000 Enrollees
English + Math + Reading65%
Math only13%
Math + English9%
Math + Reading7%
English + Reading1%
Reading only1%
English only0%
Total requiring remediation in one or more areas96%
No remediation4%

Source: BCCC, Institutional Research and Planning, 2000

² *College Performance of New Maryland High School Graduates*, Maryland Higher Education Commission, September 2000.

As the chart below shows, over half of the BCCC students needing remediation in Fall 2000 were placed in the two lowest levels of remediation classes in all three subjects. In math, nearly four out of five students were in the lowest two levels. It should be stressed that the lowest-level remedial classes (designated at BCCC by the course number 80 in each of the three subjects) cover basic material such as arithmetic, basic reading skills and sentence construction, all skills normally taught before high school.

**Percentage of BCCC Remedial Students Enrolled at Each Level
Fall 2000 Remedial Class Enrollments**

Level	Math	Reading	English
80 (arithmetic skills – elementary/middle school skills)	45.2%	18.6%	17.9%
81 (elementary Algebra – early high school skills)	34.5%	44.1%	32.3%
82 (intermediate Algebra – high school/college skills)	20.2%	37.2%	49.7%
Total number of remedial students	2,264	1,229	1,394

Source: BCCC, Institutional Research and Planning, 2000

Students who are placed in the 80 level must pass three remedial courses (80, 81 and 82) before they can take a course for college credit in that discipline. This amounts to nine non-credit courses, or 27 credits, that must be completed before the student can begin legitimate college English and math courses. In math, 1,023 students, nearly half of all remedial math students, were assigned to the lowest level of remediation.

One BCCC English faculty member noted that incoming students have a huge range of reading skills. Some can master reading on a high school level; others need instruction in phonics. The most common problem is a lack of good comprehension skills. Overarching those problems, she noted, is that few students enter BCCC with a love of reading. “They read because they have to,” she said.

Do BCCC’s older, returning students need the most remediation? An analysis prepared for this report shows that a student’s age does not appear to be a major factor in his or her readiness for college-level work. The average age of students needing remediation in all three subject areas in Fall 2000, for example, was 26.1 years. The average age of students not needing any remediation was only slightly higher, 26.7 years.

Effectiveness of Remediation at BCCC



Remediation, sometimes called developmental instruction, has become a dominating part of BCCC's instructional offerings, as it has at many community colleges around the state and country. The college offers three levels of remediation in English, reading and mathematics, and nearly all BCCC students take one or more remedial courses. Before 1996, the college offered two levels of remediation in the three subject areas. That year, BCCC added a third level, an acknowledgement of the wide disparity in academic preparedness of its incoming students and of the impact of a statewide agreement to increase expectations for college-level math.

In math alone, the college offered no fewer than 113 sections of remedial instruction in the Fall 2001 semester, when it also offered 73 sections of remedial English and 61 of pre-college reading. By comparison, BCCC offered only 26 sections of college-level math courses and only 68 college English courses.

Students assigned to the lowest-level math course, Math 80, begin with functional arithmetic operations, including multiplication, division, fractions and decimals. The top-level remedial math course requires students to demonstrate Algebra skills, solving linear equations and absolute value equations.

Although some students come to BCCC after having passed three years of high school math, including Algebra I, Geometry and Algebra II, as well as the state's functional mathematics test, they still perform poorly on BCCC's computerized placement tests and are assigned to remedial math courses. This math gap is discussed at more length below.

Within the Math Department, students have an option of taking a remedial course using the traditional lecture format or a self-paced computer instruction course overseen by an instructor. Prentice Hall's Interactive Math (Basic, Elementary, and Intermediate Algebra) textbook and CD-ROM have recently been purchased for these courses. Most students select the lecture course, and although students are encouraged to use the computer lab for practice, it is not required. Similarly, a math learning center with individual tutorial support is available, but is not used extensively except by the most motivated students.

The average class size in remedial math tends to be about 20 students. Sections of English 80, the lowest-level remedial course, are supposed to be limited to 15 students, and sections of English 81 and 82 to 20 students. Most of these courses are taught by an instructor using a traditional lecture format. In addition, the 81 and 82 levels of English and reading require students to take part in 1 hour and 50 minutes of laboratory work each week. Some English classes are taught in the college's "smart classroom" with heavy use of computer-based instruction.

The remedial English and reading courses use a standard curriculum, but instructors are given leeway in devising all tests except the final exam.

Remedial Outcomes

The success rate for students in BCCC’s remedial courses has been discouraging. On average, only three out of 10 students will pass a remedial mathematics course. In English and reading, the averages are somewhat better, with pass rates reaching 50 to 60 percent.

**Percentage of BCCC students who passed
Remedial Courses by Level, Fall 1996 and Fall 2000
Five-year Trend, Fall 1996 – Fall 2000**

Semester	Mathematics			English			Reading		
	80	81	82	80	81	82	80	81	82
Fall 1996	33%	31%	24%	56%	52%	50%	64%	49%	46%
Fall 2000	30%	27%	34%	54%	54%	52%	65%	55%	58%
5-Year Trend	31%	29%	36%	51%	51%	49%	60%	50%	52%

Source: BCCC, Institutional Research and Planning, 2000

It is not uncommon for BCCC students to fail a remedial class twice. (There are reports of students failing a class as many as six times.) Students must receive permission from a college vice president to take a class a third time; and faculty report that college officials are sometimes overwhelmed with the number of such requests that pour in at the beginning of each semester.

Not surprisingly, the more remedial courses a student takes, the less likely he or she is to graduate, according to figures prepared by the college. Among students enrolled in three remedial courses in Fall 1997, only 2.1 percent graduated four years later. Among students who took only one remedial course in the Fall 1997, 5.2 percent had graduated four years later.

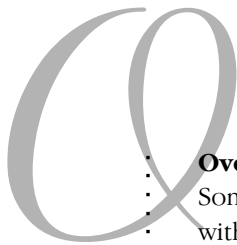
The results are even more discouraging when the analysis considers a specific cohort of first-time students. Of the 1,350 first-time students who began college in Fall 1997, only 12 had graduated by the summer of 2001. Similarly, of the 1,575 students who began their college education at BCCC the following fall, only 14 had graduated three years later.

: A BCCC analysis of remedial mathematics courses performed for this report showed
: that on average, slightly more students pass remedial courses in sections that use a
: nontraditional pedagogical approach (i.e., something other than lecture format). The
: results, however, were not consistent from year to year. The analysis compared con-
: ventionally taught courses to self-paced computer courses and an “intensive” program
: that combines increased instructional time, tutoring, and computer use.

: In academic year 1998-99, 33 percent of students in both the computer and intensive
: sections passed Math 80, the lowest-level remedial course, compared with a pass rate
: of 27 percent for students in conventional sections. In Math 81 that year, 42 percent
: of students in the computerized courses passed, compared to 29 percent in conven-
: tional sections.

: However, the following year, pass rates for the two Math courses showed little varia-
: tion between sections using different teaching approaches.

Issues in Remediation



Overall Departmental Structure

Some community colleges group their developmental education offerings and faculty within a distinct department. BCCC currently configures reading and English remediation within its English Department and math remediation within the Mathematics Department. While there are clearly advantages and disadvantages to both structures, the difficulty in communicating across rigid departmental lines can be an additional barrier for a remedial student already at risk.

Placement Exams

The defining moment for many of BCCC's new students occurs when they take the college's placement exam in math, reading and English. Since 1996, BCCC has used the Accuplacer test, a product developed by the Educational Testing Service (ETS). Six other Maryland community colleges also use Accuplacer; four others administer the Compass Entrance Examination, developed by ACT, Inc.

Accuplacer is a computerized, adaptive placement test that uses both multiple-choice and open-ended questions to assess a student's abilities in reading comprehension, English, arithmetic, basic Algebra and college-level mathematics. In 1998 the academic deans from two- and four-year public colleges in Maryland agreed upon established cutoff scores for remediation (that, for example, an incoming student must reach a Math score of 45 on a scale comparable to Accuplacer before beginning college-level math courses). Presumably, this was done to ensure that those students transferring from BCCC and other community colleges to the state's four-year institutions would have an adequate background in college-level mathematics. As a result, BCCC stopped using its own placement test and adopted Accuplacer. Since that time, all public community colleges in Maryland have adopted either the Accuplacer or comparable Compass test, though some, like Anne Arundel Community College, waited until Fall 2000 to implement this agreement.

Each campus, including BCCC, sets its own standards for placing students into various levels of remedial instruction based on the test. Thus, students at different colleges with the same score on the math placement test may have to complete different numbers of remedial classes before taking college-level math.

It is not clear that Accuplacer is BCCC's best option for a placement test. Based on pilot studies, ETS recommends that colleges with large numbers of remedial students should not be using adaptive exams such as Accuplacer, which its studies found are targeted at students with "B" averages and above. The average "C" student will struggle with adaptive exams, ETS found.

Unlike a traditional written exam, the Accuplacer does not allow a student to revisit a question after answering it. Rather, as an adaptive test, the Accuplacer will offer three questions on a particular concept. If the student answers the first question incorrectly,

the test will then pose an easier question on the same concept to try to gauge the student's level of understanding. But for most of BCCC's incoming students, used to taking pencil-and-paper tests, the inability to revisit their answers on the Accuplacer test is unfamiliar and could lead to lower scores.

There are also questions about the appropriateness of the mathematics concepts tested by Accuplacer. Dr. Jerome Dancis of the University of Maryland College Park, a mathematics professor who compared the Accuplacer test and Maryland's public school math standards, found wide discrepancies between what is taught (and how it is taught) in Maryland high schools and what is tested at BCCC.

The Accuplacer test, for example, stresses symbolic manipulation (e.g., solving equations), a skill not heavily emphasized in Maryland's public schools. Much of the instruction in Maryland's high schools involves "authentic problem solving" (e.g., word problems with application to real life scenarios), but Accuplacer uses relatively few math word problems. Furthermore, some of the skills tested by the Accuplacer exam and required for a student to "test out of" remedial math are generally taught in high school pre-Calculus and trigonometry courses, not in Algebra II. The state of Maryland requires students to complete three high school math courses to graduate, but currently stipulates only two of them, Algebra I and Geometry. Although many Maryland high schoolers take Algebra II as their third course, few BCPSS students take more than the required three years of math and consequently do not study the trigonometry and pre-Calculus content tested by Accuplacer.

Test Preparation

Interviews with faculty make it clear that many students do not realize how important the test is before they take it. Many are shocked when they see their scores and realize that they will be required to take remedial courses.

Students have complained to some departments at BCCC that they did not adequately understand the computerized instructions for the test. Officials at several other community colleges in Maryland said it is standard practice to give students extensive verbal instruction before the Accuplacer. BCCC should consider a more thorough verbal instruction session to familiarize students with the test. In addition, the State allows colleges to readminister the placement test once. At Anne Arundel Community College, for example, students can retake the Accuplacer provided they have not begun the related class. According to Lois Burton, director of instructional support at Anne Arundel, there are often significant improvements in students' reading and English scores upon retesting.³

³ Anne Arundel registrants are required to take a math review course before they are permitted to retake the Accuplacer mathematics test.

Another area that demands more attention from BCCC involves the review courses offered before a student takes the placement test. These can provide a crucial chance for students to brush up on their skills before taking the Accuplacer test. For students returning to college after an extended hiatus, such a review would seem particularly important.

According to officials at other Maryland community colleges, a thorough review course can often help a student test out of at least one level of remediation. Anne Arundel Community College offers an eight-hour math review course for a \$30 fee that typically advances the student to the next level of remedial course, or out of remedial courses altogether.

At BCCC, the two-hour review courses are neither required nor well attended. They are not scheduled in convenient blocks of time to allow students to attend all three sessions in a single day, which may be one reason they are not more popular. College officials say a lack of communication between departments has hampered efforts to coordinate the sessions. The English Department, for example, scheduled its review courses before the Fall 2001 semester without having any information about when the Math Department's sessions would be held.

The college requires students to register for review courses 24 hours in advance. BCCC should reconsider this requirement, which may discourage some students from attending.

It is also up to the student to know when, where and how to register for review sessions at BCCC. Printed fliers with the information are not clearly designed, and the sessions have not been well advertised.

Finally, many students take the Accuplacer test during a whirlwind day of orientation activities. The schedule makes it hard, if not impossible, for students to take the review courses during the orientation.

Responsibility for scheduling and advertising these courses should be placed in the hands of the centralized advising office, which is best suited to oversee the needs of incoming students. The college should consider expanding the review courses, and making attendance mandatory, and encouraging students to retake the English and reading placement tests if they are unhappy with their scores.

Math as a Gatekeeper

To earn a degree or to complete a majority of the certificate programs from BCCC, a student must pass a three-credit college-level mathematics course. This requirement applies to all students, whether or not their disciplines involve mathematics. Though the requirement seems rather modest, there is much evidence that mathematics has become a key obstacle for students seeking to graduate. Mathematics standards for

graduation, agreed to with the best of intentions by academic officials around the state, are a factor in the reduced success rates at BCCC.

In 1996, the chief academic officers from Maryland colleges determined that all “general education mathematics” courses would require students to show mathematical abilities beyond what they termed “intermediate Algebra.” This determination is included as an appendix to the regulations covering college student transfers in the state’s Code of Maryland Regulations, and state higher education officials consider it a binding rule. Subsequently, a committee made up of mathematics faculty from both two- and four-year institutions worked to define introductory and intermediate Algebra as prerequisites. Today, the definition of “college-level” math remains unclear to many community college educators.

Before this decision was adopted, BCCC and other colleges had offered a general education mathematics course that taught intermediate Algebra for college credit. The 1996 decision gave BCCC little choice but to increase its mathematics requirement for graduation and to reclassify Intermediate Algebra as a remedial, non-college-level course. BCCC officials rightly feared that under the new rule, four-year institutions would stop giving transfer credit to BCCC graduates who took the Intermediate Algebra course for college credit. (Other Maryland community colleges agreed to make similar changes in determining what was college-level math, although Community College of Baltimore County at Dundalk waited to implement this practice until Fall 2001.)

With the 1996 decision, the state’s colleges set a new, higher standard for what constitutes college-level mathematics. Unfortunately, the state’s high schools did not take corresponding action to prepare their graduates for the tougher math content awaiting them at college. Many students in Baltimore City and elsewhere take and pass Algebra II in high school, but the subject matter they are learning is not comprehensive enough to allow them to test into college-level math once they reach BCCC or other state colleges.

This makes for a cruel day of reckoning for the state’s high school graduates, many of whom arrive at BCCC and are startled to find that their math skills do not equip them to handle the college-level math course needed to earn an Associate’s degree. Instead, they are placed in remedial courses that can dramatically slow their college progress. Faculty members said they have watched heartbreaking scenes as students who had achieved solid grades in high school, including some who earned honors, are told they need to take remedial classes at BCCC based on their placement exam scores.

There remains a particularly large gap between the math skills needed to earn a diploma from Baltimore City Public School System (BCPSS) and the knowledge needed to pass math placement testing at BCCC. Though the onus rests on the

public schools to prepare their students to begin college-level work, BCCC contributed to this gap by agreeing to a standard that has proved detrimental to its students and its mission.

Officials from BCCC, the BCPSS, and other academic officials from around the state must act quickly to bridge this mathematics learning gap, by increasing high school graduation requirements, revisiting the math requirement for the community college degree, or both. This gap affects all Maryland K-12 students, and the Maryland State Department of Education should investigate the relationship and the fit between its new high school assessments and Maryland's college placement tests in mathematics.

Revisiting Mathematics Requirements

Mastering intermediate algebra, including trigonometry and pre-Calculus, may be a worthy goal for some students. For many others, acquiring such skills will not affect their future education or career plans. For that reason, BCCC must press officials at other state colleges to re-examine the issue of what constitutes a meaningful college general education math requirement. Such a move should not be seen as an attempt to cheapen the value of a BCCC education. Rather, it would represent a realistic reappraisal of the college's role in turning out qualified graduates prepared for the workforce. No one would argue that community college graduates should be mathematically illiterate. Yet having a solid knowledge of Algebra and Geometry, without moving on to linear equations and intricate pre-Calculus, would suffice in a vast number of careers.

BCCC should examine its eight transfer and 39 career programs to determine what, if any, math prerequisites are necessary in each program. For example, is college-level math, as currently configured, truly a necessary requirement for a student earning an A.A.S. degree in word and information processing? To that end, BCCC officials should lobby to allow a number of mathematics course options to satisfy the college-level course requirements in nontechnical fields. In particular, this new requirement would suffice for students who have no intention of transferring to a four-year college after obtaining a degree or certificate at BCCC.

Similarly, BCCC now offers Statistics (Math 107). Before taking this college-level course, students must either pass or test out of Math 82, the highest level remedial course. While Math 82 requires students to learn intermediate algebra, Math 107 does not. The college should pursue its stated plans to re-examine requiring Math 82 as a prerequisite for Math 107.

BCCC also recently began offering Contemporary Mathematics (Math 111), a course that examines mathematical concepts and their role in society. This course satisfies the general mathematics requirement for graduation. College officials should carefully assess whether it may be an appropriate required math course for students majoring in nontechnical fields.

BCCC should re-examine its math prerequisites for individual degree and certificate completion. Even if some educators consider it heresy, it may be appropriate for some BCCC programs to have no math requirement at the college level. Many highly selective colleges throughout the nation do not require any college-level math for graduation.

Faculty

As mentioned earlier, remedial education is the joint responsibility of both the English and Math departments. As a result, none of BCCC’s full-time faculty teaches a full load of remedial classes, in part because professors are unwilling to shoulder such a demanding and often unstimulating course load. In the English Department, 17 of about 25 full-time faculty members teach remedial courses, usually one or two sections each. In the Math Department, every full-time faculty member teaches at least one remedial course. In some cases, full-time faculty members are paid extra money to teach more than the standard five-course load in a given semester.

It thus falls to part-time adjunct faculty to teach most remedial courses. The English Department had 60 adjunct faculty members in Fall 2001, with each generally teaching one or two classes a semester. In the Math Department, three-quarters of the remedial courses are taught by adjunct faculty.

In Fall 1999, adjunct faculty taught 78 percent of the remedial math sections, 48 percent of the remedial English sections, and 57 percent of the remedial reading sections. Unlike full-time faculty, adjunct professors have no obligation (nor are they paid) to hold office hours and be available to students outside of class time.

The college struggles every semester to find enough qualified instructors. “With the large number of developmental courses, sometimes you need to hire a teacher on Friday to begin teaching on Monday,” acknowledged one BCCC professional.

There are many reasons why the college struggles to find enough instructors to teach its remedial courses. At the top of the list is the relatively low pay the school has traditionally offered, although the college is seeking to change this. Adjunct instructors at BCCC are currently paid between \$1,372 and \$1,721 for a three-credit course, depending on their experience. An instructor at the Community College of Baltimore County would make either \$1,950 or \$2,100 for the same course. To its credit, BCCC has recognized this disparity and its FY03 budget proposes to increase the salaries of adjunct faculty to a rate comparable with Baltimore County’s. The college also struggles to staff classes offered in the morning hours, which are popular with many students, because many adjunct instructors also work full-time during the day.

The departments have established basic minimum standards for their adjunct faculty. In general, they require adjunct instructors to hold a Bachelor’s degree and to have

completed a certain amount of coursework in the subject matter they teach. The departments have had to overlook those requirements in certain cases in the rush to hire instructors for all the needed remedial sections. Questions remain about the quality of instruction provided by some adjunct instructors. Students have complained, for example, about the poor English of some foreign-born instructors, particularly in the Math Department.

BCCC has hired many retired public school teachers as adjunct faculty, but it should redouble its efforts to find and recruit competent retired teachers and other professionals from throughout the Baltimore region with proven success teaching ill-prepared students.

Because remedial education at the college level is still a fledgling field, ongoing professional development of faculty is critical. Once remedial instructors are hired, BCCC does not require them to attend any type of professional development in instructing students with academic deficits. The English Department offers a voluntary, two-hour evening session for new adjunct faculty. The Math Department offers its own voluntary session during the day, and officials report that it is not well attended. The college should offer a more thorough, mandatory, paid orientation session, particularly for first-time instructors, as well as exemplary mentors available for adjuncts to consult throughout the semester.

The college has no rigorous program for evaluating instructors' performance. With so many instructors, department heads are hard-pressed to do thorough evaluations of their performance, leaving it up to other faculty. In general, a full-time faculty member may sit in and observe one class of each adjunct instructor each semester. Administrators also rely on evaluations and/or complaints by students to signal a problem with an instructor.

Interestingly, a preliminary analysis done by BCCC for this report showed that the status (full-time or part-time) of the remedial instructor had little impact on student outcomes. For Fall 2000, for example, slightly more students passed remedial English courses taught by full-time faculty, but the reverse was true in remedial reading sections. It appears, from limited available statistics, that more students tended to withdraw from remedial courses taught by part-time faculty than from those taught by full-time faculty. At the same time, the amount of teaching experience possessed by an instructor did not appear to affect the success rate of students in his or her remedial courses, nor did any other teacher characteristic studied. Instructional data should continue to be compiled and analyzed by BCCC over time, in order to identify the characteristics of remedial learning success.

Student Support

Consider the case of Shawndra, described by her instructor:

“Shawndra attended CSS 110 (College Success Seminar) and RDG 81 (Reading 81) sporadically during the first two weeks. In two conversations I encouraged her to come to class. In the second conversation, over the phone, she shared with me that her warehouse job in Aberdeen required her to work from 8 p.m. to 6:30 a.m. most school nights and that she was too tired afterwards to come to class. She said that she had bills to pay and that was more important than attending college. I was not able to persuade her to change her mind. I ascertained that she had never attended the Math 80 class in which she had enrolled, and pointed out to her that by never attending she would be required to reimburse the college for it despite receiving financial aid. She never returned to class. I left a message on her answering machine encouraging her to formally withdraw from all her classes.”⁴

Such stories are commonplace at BCCC. It is no secret to faculty and administrators at BCCC that many of their students must overcome overwhelming obstacles to be successful in college. Like Shawndra, many are holding down full-time jobs. Many have transportation problems or struggle to find affordable, quality day care for their children while they attend classes.

There are often more vexing concerns for students, ranging from dysfunctional families to depression. One 19-year-old man who showed promise in his English class started struggling academically. The young man confided to a faculty member concerned about his progress that he was involved in a gang in his neighborhood. The gang, needless to say, was highly critical of his attending college, and he eventually dropped out.

It takes a well-motivated student to persevere in the face of such problems and continue in college. When students find themselves in remedial classes that seem only to be delaying their “real” college careers, their motivation can be sorely tested.

BCCC has tried to address the overwhelming social, emotional, academic and economic needs of its student body, particularly in its remedial education program. For example, the college now requires all students pursuing a degree or certificate to complete either a one- or three-credit course to improve their study, time-management and related skills.

Some of these efforts have been piloted for a small group of students but not replicated; others have been implemented in an isolated manner that never impacts large-scale student support and advising. One exception is the Positive People Learning

⁴ “Report on the Success and Retention in Positive People Learning Community,” BCCC, Fall 2000-Spring 2001.

Community initiative, a student support program successfully piloted in Fall 1999 and recently expanded to include more than 100 students.

BCCC officials have assessed these programs for results, but much more can be done to change student services practices campus-wide. For example, BCCC students, as they enter and progress through school, do not receive formal counseling about their college paths or any outside difficulties they may be experiencing. Rather, the college assigns a faculty member to be each student's academic adviser, which is problematic, since full-time faculty members are hard-pressed to find time to offer advice and help to students. In theory, a student's faculty adviser must approve his or her course selection before registration. In practice, according to BCCC officials, many students simply find any faculty member or administrator to sign off on their course selections, receiving little if any advice in the process.

BCCC moved recently to establish a "Goal Attainment Plan" for each student, a computer-generated suggested schedule to ensure that the student takes the needed remedial courses in the right sequence and satisfies state graduation requirements. However, most BCCC students do not declare majors when they enter college and thus cannot formulate a realistic course schedule. It is BCCC's policy that students declare a major by the time they complete 15 credits. Those who do not are carried on the college's rolls as General Studies majors. Figures from FY2000 show that almost half of the 1,263 students enrolled in transfer programs were listed as General Studies majors. In addition, 321 students in transfer programs had no chosen or assigned major.

Many BCCC students encounter their first adviser when they are failing courses and are referred to Student Support Services. The college reports that at any one time about 1,500 students, out of a total of about 6,000, are in academic difficulty. But with fewer than 10 counselors, BCCC struggles to provide meaningful assistance to students who need it.

In a recent effort to improve campus advising, the college recently hired a counselor and assigned her to the English Department. She is charged with working with 75 students to help them progress academically and deal with outside problems. No counselor has been hired for the Math Department.

Administrators and faculty report that students facing off-campus difficulties often respond with a knee-jerk conclusion that they must drop out of BCCC to cope. A safety-net support process with more trained counselors could well help such students find other alternatives or solutions to overcome such problems and stay in college.

Key points for supportive intervention with BCCC students include the registration for Accuplacer tests, program selection, course registration, financial aid, and mid-semester and final grades. BCCC must develop an integrated package of advising and counseling services that can increase every student's ability to remain in college.

The Baltimore City Public School Feeder System



No study of BCCC's effectiveness can be complete without an examination of the college's relationship with the Baltimore City Public School System (BCPSS).

In the fall of 1998, 34 percent of the college's new students were recent BCPSS graduates. Many of the remaining two-thirds of that class had also attended BCPSS but had taken time off before entering college. Of the 1,565 students who graduated from BCPSS in the spring of 1998 and went on to college that fall, 606 (39 percent) enrolled at BCCC.

A 1999 study funded by the U.S. Department of Education found that a demanding high school curriculum is, overwhelmingly, the most significant factor in a student's success in earning a Bachelor's degree, particularly for African-Americans.⁵ The depth of high school courses is, in fact, a more important factor than the student's family income or mother's level of education. In other words, the more rigorous a disadvantaged student's high school academic experience, the more likely he or she is to finish college. The same study found that the best indicator of a student's success in college is the final mathematics course the student took in high school. In other words, a student who completed trigonometry or pre-Calculus in high school had a far greater probability of completing a Bachelor's degree than a student whose final high school math course was Geometry or business math.

Recent findings at the state level bolster what would seem to be another common-sense observation: there is a correlation between how much remediation a student needs and the student's performance in college. MHEC's 1996 "Study of Remedial Education at Maryland Public Campuses" found that, at both community colleges and four-year institutions statewide, students who received remedial help trailed other students in grade-point averages and performance in their first English and math courses. The study also found four-year success rates, as measured by retention, graduation and transfer, were lower for community college students who needed more remediation.

Against the backdrop of these findings, it is especially discouraging to report the lack of academic preparation given to many of the students graduating from the BCPSS. After a decade of reforms and increased standards in Maryland, BCPSS graduates should be achieving at steadily higher levels at BCCC. Sadly, they are not. Roughly 95 percent of all Baltimore public high school graduates required remediation upon arrival at BCCC in the fall of 1998.

Looking at the numbers by high school is even more discouraging (see chart on following page). In Fall 2000, for example, of the 23 Frederick Douglass High School graduates entering BCCC, *all* required remedial instruction in math, and all but two tested into remedial English. Of the Douglass graduates, 20 (87 percent) required

⁵ Adleman, Clifford. "Answers in the Tool Box: Academic Intensity, Attendance Patterns and Bachelor's Degree Attainment. U.S. Department of Education, June 1999.

remedial reading help; of those 13 (57 percent) were placed in the lowest-level reading class.

The numbers are no better for graduates of Paul L. Dunbar High School, a citywide high school with selective admission. Of the 120 Dunbar graduates who enrolled between 1996 and 2000, 112 required remedial math help. Of those 112, all but two tested into the lowest two remedial math courses (80 level).

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**Placement of BCPSS 2000 High Schools Graduates in BCCC Remedial Classes
Fall 2000**

High School	# of students tested	English			Mathematics			Reading		
		80	81	82	80	81	82	80	81	82
Carver Vo.-Tech.	38	26%	29%	32%	79%	18%	3%	29%	45%	16%
Edmondson	35	24%	31%	34%	49%	31%	3%	41%	28%	24%
Northern	33	31%	44%	19%	67%	27%	0%	13%	38%	34%
Lake Clifton	28	32%	24%	32%	61%	25%	4%	32%	40%	20%
Dunbar	28	11%	33%	37%	54%	43%	4%	26%	26%	22%
Walbrook	26	38%	25%	29%	81%	4%	8%	56%	32%	8%
Forest Park	25	36%	36%	28%	68%	32%	0%	56%	20%	8%
Douglass	23	48%	30%	13%	87%	9%	4%	57%	26%	4%
Northwestern	23	41%	36%	14%	65%	30%	0%	45%	32%	14%
Southern	21	24%	29%	38%	76%	14%	10%	38%	33%	5%
Mergenthaler Voc.	21	33%	38%	10%	52%	43%	5%	38%	24%	19%
Balt. City College	15	0%	8%	38%	20%	27%	33%	0%	0%	38%
Patterson	15	53%	40%	0%	87%	13%	0%	67%	13%	20%
Southwestern	14	43%	36%	14%	79%	21%	0%	71%	7%	14%
Western	11	0%	18%	18%	0%	27%	64%	9%	18%	18%
Harbor City LC	10	40%	50%	10%	80%	20%	0%	30%	60%	10%
Fairmount-Harford	10	10%	40%	20%	70%	20%	10%	70%	20%	10%
Wood	5	25%	50%	25%	60%	20%	0%	25%	50%	0%
Waverly Career Center	2	100%	0%	0%	100%	0%	0%	100%	0%	0%
Paquin	2	50%	50%	0%	100%	0%	0%	50%	0%	0%
Balt. Polytechnic	1	0%	0%	0%	0%	100%	0%	0%	0%	100%

Source: BCCC, Institutional Research and Planning, 2001

Note: Not all students took all three placement tests.

BCPSS graduates who opted to attend the Community College of Baltimore County (CCBC) were slightly better prepared. In the fall of 2000, 63 percent of BCPSS students enrolling at Community College of Baltimore required remediation in Math, 69 percent in English, and 70 percent in reading. As a point of comparison, 48 percent of graduates from Baltimore County Public Schools attending CCBC needed remediation in math, 54 percent in English and 43 percent in reading.

Despite MSPAP reforms and increased high school graduation standards, BCCC is receiving graduates from Baltimore City public schools who are poorly prepared for college work, and the problem appears to be worsening. In the past four years alone, the percentage of BCPSS graduates requiring math remediation has risen from 88 percent to 95 percent. No community college can be expected to combat these deficiencies without corresponding responsibilities assumed and actions taken by BCPSS.

PASS Program

Recognizing this, BCCC initiated a promising pilot program in 1999, working with randomly selected 10th- and 11th-grade students at three Baltimore City high schools, Frederick Douglass, Edmondson-Westside, and Southwestern. Under the program, known as PASS for Placement Articulation Software Service, students took the Accuplacer placement exams in English, reading and mathematics that are given to incoming students at BCCC. The goal is to identify students who are not on pace to graduate from high school with the necessary skills to begin college-level work immediately upon reaching BCCC. In each of the three subject areas, the test identifies students as “college ready,” “on track” but requiring continued support, or “on alert,” indicating that intensive academic support is needed.

College Readiness of BCPSS seniors tested in PASS program, 1999

	College Ready	On Track	On Alert
Mathematics	0	2	38
Reading	8	8	24
English	10	10	20

(Total Tested: Douglass H.S.: 8; Edmondson H.S.: 15; Southwestern H.S.: 17)

Source: BCCC, Student Affairs Division

Following these tests, BCCC and BCPSS established a state-funded pilot program that began in February 2001 in which BCCC offered remedial courses to a small group of 11th- and 12th- grade students at Douglass and Southwestern high schools. At Douglass, 14 students took Math 80, the lowest level developmental course offered at BCCC, as an elective at the nearby BCCC Liberty campus twice a week.

Using a different approach, a BCCC faculty member taught English 80, the lowest remedial English course, to 19 students at Southwestern five days a week. Students who pass the course would earn high school credit and would be waived to the next level of remedial class (English or Math 81) when they enroll in community college.

Results? Only three of 14 Douglass students (21 percent) passed Math 80, five failed, and six dropped out. Southwestern posted higher pass rates, with 13 of 19 students (68 percent) passing English 80 and five failing. With a budget of \$9,000 per course, this program cost \$1,125 per student who passed the course.

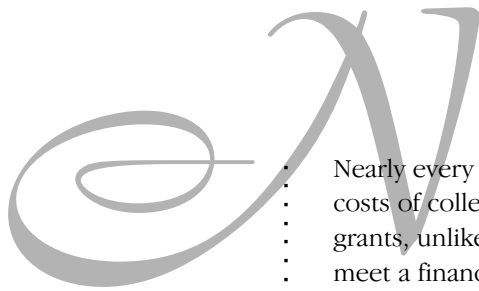
The PASS program resumed in Fall 2001 at Douglass, Southwestern and Edmondson, with 136 high school juniors designated for remedial instruction.

The data and interviews suggest that the PASS initiative will work more effectively if the instruction takes place regularly, five days a week, at the students' home high school. Anecdotal evidence suggested that some Douglass students had difficulty finding their way to BCCC for the supplemental instruction.

On another front, BCPSS has embarked on a \$250,000 audit of its entire K-12 curriculum by Phi Delta Kappa, an international association of professional educators. While the value of this study has yet to be seen, BCCC officials should use this opportunity to help the public school system revamp its curriculum to ensure that students with new high school degrees are ready to move directly into college-level work. In particular, BCPSS officials must look carefully at its mathematics curriculum and take steps to ensure that a substantially larger number of its graduates are mastering content in Algebra II that will prepare them for college-level math as defined by the state's academic officers.

In addition, BCCC has allocated \$460,000 for high school partnerships designed to build students' skills before they formally enter college. While the funding is currently being used to provide teachers with necessary reading course credits, there is an opportunity to expand both the PASS program and dual college enrollment programs to all City public schools. A further incentive is the General Assembly's 2001 decision to provide tuition funding for dual-enrollment courses for high school students.

Financial Aid



Nearly every student at BCCC receives some type of financial aid to help meet the costs of college, with federal Pell grants providing the bulk of the assistance. Pell grants, unlike federal loans, do not have to be repaid and are given to students who meet a financial need test.

In the fall of 2000, 3,547 students – about 60 percent of the BCCC student body – received Pell grants. Under federal guidelines, a full-time student may receive up to \$3,750 in Pell grants during the 2001-02 academic year to cover tuition, fees and books, as well as incidental costs for transportation, child care, or the purchase of a computer.

A typical full load of five courses at BCCC during the 2001-02 academic year costs \$1,800 over two semesters. It should be noted that remedial courses have the same tuition as college-level courses at BCCC, \$60 per credit. After book costs, many students are eligible to receive the remaining amount of their Pell grants as payments issued by BCCC. Those checks are delivered in the second month of the semester. Over the eight semesters since the Fall 1997, the payments to students have averaged between \$410 and \$551 per semester, according to BCCC's student accounting office. Those payments are primarily made from Pell grant proceeds, but include some funds through the federal Supplemental Educational Opportunity Grant and other sources of financial assistance.

Faculty and administrators in both the Mathematics and English departments report that a significant number of students stop attending classes around the time the financial aid payments are distributed to students each semester. Some faculty have speculated that many of these students are manipulating the system by enrolling at BCCC and attending classes only long enough to receive their checks. However, officials in the financial aid office and elsewhere in the college discount that theory as improbable. BCCC should investigate this further.

Newly enacted federal regulations require students under some circumstances to repay Pell grants if they drop out of classes before completing three-fifths of the semester. Because such funding returns to the state or federal government, there is little incentive for colleges such as BCCC to focus limited resources on this collection.

Remedial Students

As noted elsewhere in this report, some BCCC students must take and pass as many as nine remedial courses before beginning their actual college-level study. It is not unusual for many students to have to repeat some of the remedial courses two or three times; a few return five or six times to the same course. Naturally, this extends the students' need for financial assistance.

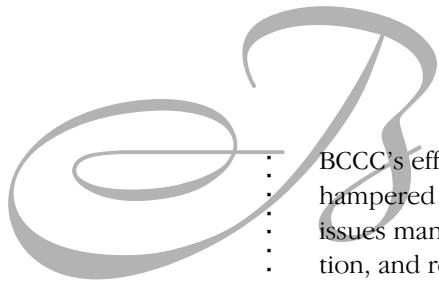
Under federal rules, a student with financial need may generally receive Pell grants while making progress toward an undergraduate degree. Pell grants will pay for students to take up to 150 percent of the courses necessary for a Bachelor's degree. That is, if a Bachelor's degree requires 120 credit hours, a student may receive Pell grants to pay for as many as 180 credits of instruction.

Congress has established limits on the number of Pell grants available to remedial students. In particular, a student may apply Pell grants to cover up to one year, or 30 credit hours, of remedial classes. Students who are placed in the lowest level of remedial courses in all three subject areas — English, reading and math — will need to take nine remedial courses, for a total of 27 credit hours, before entering college-level courses. A student who fails and has to retake only one of those courses, a common occurrence, will use up his or her Pell grant eligibility for remedial instruction.

It is not clear how many BCCC students are exhausting their share of Pell grants before finishing remedial work, or before they complete a degree or certificate program at BCCC, and this in itself is a problem. If so, the college must examine other funding mechanisms for students who are making academic progress but struggling to find financial assistance.

Finally, federal rules prohibit the use of Pell grants to pay for remedial classes that cover pre-secondary academic material, in other words, class work normally covered in elementary or middle school. The U.S. Department of Education, which oversees Pell grants, does not generally scrutinize the curriculum offerings at colleges, as long as the college meets general eligibility guidelines for taking part in federal financial-aid programs. Discussions with faculty make clear that some of the work being covered in BCCC's remedial classes is at a pre-secondary level, e.g., phonics and basic arithmetic. The college may be putting itself at risk with federal financial aid officials with such practices.

Further Evaluation Needed



BCCC's efforts to improve its remedial education and overall graduation rates are hampered by insufficient evaluation. Although the college generates much data and issues many reports, much of the information regarding student achievement, instruction, and remedial education required for this report had to be specially requested, as it is not routinely collected and analyzed.

In addition, the college does not use the data collection opportunity provided by its Accuplacer placement test. According to the ETS, which produces the test, colleges are free to add a questionnaire at the beginning of the test at no extra cost to the college. Many campuses use such Accuplacer surveys to collect important information that may help advisers, teachers and administrators plan a student's educational program. This data could be easily integrated into the college's other databases to round out its analysis capabilities.

For example, the Accuplacer survey could delve into a student's high school course work, giving instructors a better feel for a student's academic history. The college could have a ready database identifying, for example, a student's last high school math course. Demographic questions (how many children do you have? are you caring for an ailing relative?) could also prove helpful to BCCC officials trying to identify students at high risk of failing.

Officials at ETS add that seemingly innocuous questions can provide a good indicator of a student's prospects. "What grade point average do you expect to receive?" has proven to be a good indicator of a student's motivation and ultimate achievement, according to the ETS.

Much of BCCC's grading is now done manually. The grading system could be modernized, giving faculty, administrators and counselors another source of information about students, particularly those who are not struggling academically.

BCCC should also strive to have wide-ranging statistics and qualitative studies on the success of remedial students and, more importantly, college graduates readily available for thoughtful analysis. Without such analyses, college officials will be hard pressed to make sound decisions about changes that are needed in areas such as program offerings, instruction and advising.

BCCC's Response



Over the past decade, BCCC has acknowledged that its students' extensive need for remediation, among other factors, is significantly hurting retention and graduation rates. The college has responded with a series of initiatives:

1. A Retention Task Force convened in 1993 developed a plan for "reorganizing, redeveloping and enhancing developmental courses" and a "center that supports and nurtures faculty in achieving levels of excellence in teaching and advising developmental students."
2. A federal Title III initiative provided BCCC with \$1.7 million between 1994 and 1999, with a goal of fundamentally restructuring the college's remedial program, including testing, placement and instruction.
3. College officials determined in 1998 that the following factors, in order of importance, contribute to low student retention at BCCC:
 - Students' lack of habits and attitudes necessary for academic success
 - Personal obstacles such as medical and financial problems, family demands, and transportation problems
 - Instructional problems involving staffing, teaching, curriculum that lead to lowered academic expectations
 - Improper placement of students into courses
 - Inadequate personal attention by BCCC staff and faculty
 - The negative impact of extended remediation on motivation

Those findings led to a number of policy changes. Late registration was eliminated so that students were not missing critical early classes. Curriculum and textbook choices were reassessed. At one time, the college limited students to repeating the same course two times (a policy that remains in place but is widely overlooked).

New Programs

One of BCCC's most promising efforts is the Positive People Learning Community initiative, begun in the fall of 1999 and modeled on the Puente Project at Chabot College in Hayward, California. In this program, a group of 15 students enroll in both remedial courses and a College Success Seminar, a three-credit freshman orientation course. A mentor teaches the College Success Seminar and works with each group of 30 students. The mentor must be part counselor, part instructor, and ready to provide intensive personal assistance to the students in his or her group.

Lengthy reports filed by instructors in the Learning Community program suggest that many of them go the extra mile to help students cope with their outside problems. Instructors have made repeated follow-up calls to encourage students to return to class, and, in some cases, have visited the student's home. Other instructors have helped with bus fare or given advice on day care and employment, serving as both social worker and faculty member.

The results of the Learning Community project are encouraging. In the fall of 1999, 55.1 percent of BCCC students taking English 81 passed; in the Learning Community, 78 percent of those students passed. In Math 81, for the fall of 2000, 35 percent of Learning Community enrollees passed, compared to 27 percent of those in other sections of Math 81.

Pass/Fail Rates for Remedial Courses in Learning Community Compared to Other Classes, Fall 2000

	English 81				Reading 81				Math 81			
	No.	Pass	Fail	W/D	No.	Pass	Fail	W/D	No.	Pass	Fail	W/D
Learning	33	64%	30%	6%	29	69%	24%	7%	31	35%	58%	7%
All others	411	54%	34%	11%	400	54%	31%	15%	763	27%	57%	16%

Source: BCCC

Notes: No., number of students enrolled. W/D, percentage of students who withdrew.

It appears that Learning Community students have better pass rates in part because fewer students in the program are withdrawing from their remedial classes. For example, only 5.8 percent of the students enrolled in Learning Community sections of English 82 in Spring 2000 withdrew, compared to 15 percent of the rest of English 82 students in other sections. The significantly smaller number of withdrawals may well be due to the increased attention each Learning Community student is supposed to receive from a mentor.

The college also reports that significantly more Learning Community enrollees continue in school from semester to semester, compared to the entire student body. (These successes may be due in part to the fact that the college interviews and selects students for the Learning Community.) BCCC has strategically expanded the Learning Community program to enroll over 100 students as of Fall 2001.

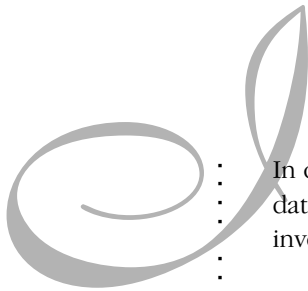
A second promising initiative is the Summer Academic Institute, launched in the summer of 1998. The SAI is a six-week program offered to the first 45 eligible applicants who have tested into the 82, or highest-level remedial level course in math, English or reading. Along with the remedial course, the students are enrolled in a one-credit freshman orientation course and a two-credit computer literacy course. Each student is in a section with no more than 15 students.

. The college assumes the cost of tuition, books, transportation, lunch and child care
. for the sessions at \$1,500 per student. The remedial courses are taught in smaller-
. than-average sections and have produced better-than-average pass rates, according to
. BCCC officials. In the summers of 2000 and 2001, 87 percent of students passed the
. English course, 96 percent passed reading and 56 percent passed math.

. Several colleges, including the University of Maryland College Park, have integrated
. the top level of remediation with the first college level course in an accelerated for-
. mat. Based on results from the Summer Academic Institute, this approach may be
. effective with other section 82 students, allowing them to complete remedial work
. quickly and earn college credit simultaneously.

. While the Positive People Learning Community program shows promise, other BCCC
. initiatives have proven to be less effective. For instance, BCCC has abandoned an
. effort in the 1990s that combined its curriculum with teaching techniques advanced
. by Sylvan Learning, a for-profit company. Despite significant expenditures by the col-
. lege, the program showed poor results.

Next Steps



In conjunction with officials from BCCC, this report makes the following recommendations and highlights some programs now in place at other colleges that are worth investigating further.

Mission

- Looking ahead, analyze graduation rates, enrollment, college credit earned and other more qualitative data regarding student experiences to evaluate the successful integration of its workforce mission consistently throughout the institution. Every area should be reconfigured to align with this mission, most importantly the traditional academic departments and student support. Continued work is needed to meet the challenge of bringing poorly prepared students up to and through college-level work.
- Encourage students to pursue certificates and career-related degrees that will translate into increased earning power immediately after graduation.

New Student Center/Developmental (Remedial) Division

- Reassess the decision to administer remedial education from within the Math and English departments. Create a new independent division for remedial education that includes placement testing, new student orientation and advisement, with staff specifically trained in developmental curriculum and instruction, and interactive with key academic and support functions within the college. This department could function as the one-stop center for all new BCCC students and would allow the college to better coordinate its course offerings, review sessions, lab hours and counseling, and to better evaluate progress.
- Re-examine the need for three levels of remedial courses in each area. Top-level remedial students may be able to accelerate their progress by combining 82 level courses with the appropriate entry-level college course.

Mathematics as a Gatekeeper

- Reassess its requirement for “college-level” math courses in all majors and programs. Math should no longer serve as a roadblock to students enrolled in non-math- or non-science-related programs.
- Working with state higher education officials, revisit the decision to define basic college-level math as content beyond intermediate Algebra. BCCC is not the only campus where this decision has had profound consequences. BCCC can lead the effort to reconsider the standard.
- **The Maryland State Department of Education should consider requiring Algebra II for high school graduation. The highest-level courses required currently are Algebra I and Geometry.**

In Fall 2001, the University of Maryland College Park, began offering a course in which students in the top half of developmental placement complete both a review course and a college-level math unit in one semester. After five weeks, students who have not mastered the remedial material continue in a remedial course; those who have mastered it move on to College Algebra or another college-level course.

Placement Testing

- Re-assess its use of Accuplacer exams and consider other placement techniques. Furthermore, students should have the option to take the placement test with paper and pencil. Such tests are more familiar to incoming students and may give a fairer picture of a student’s abilities. During that assessment, the college should examine whether an adaptive exam like Accuplacer is best suited to the incoming students’ abilities.
- Coordinate review courses for the English, reading and mathematics placement exams to make it easier for students to attend. The exams should not be part of orientation sessions.
- Permit students to retake the Accuplacer English and reading test once, and (after a mathematics review session) retake the Accuplacer mathematics test.
- Study the feasibility of making such review courses mandatory for all students taking the placement exams. As an alternative, the college should explore offering incentives (e.g., book discounts) to students who take the sessions.
- Re-examine cutoff scores for remedial math courses to ensure that students are being placed in the right course offerings. According to the college, a student scoring 61 on the Accuplacer placement exam would be required to take one remedial course at the Community College of Baltimore County. The same score would require two remedial courses at BCCC.

Student Support

- With retention as its highest priority, consider adopting an explicit college-wide focus on providing support for its students based on its past successes. BCCC should carefully analyze the results of the Learning Community and SAI initiatives to determine what components should be expanded. Both follow models that have worked well on other campuses and require additional funding for personnel.
- Create a “one-stop” advising process that bundles academic, social and financial services which should begin before placement testing to help every entering student make thoughtful decisions about college and career and to be a resource throughout the college experience. Student Support should be viewed not only as

a department but also as a foundation of the BCCC culture, with ties to every department in order to better serve every student in completing a degree or certificate.

Faculty

- Explore the feasibility of hiring full-time faculty with expertise in remedial instruction.
- Continue to recommend increased pay for adjunct instructors to make it comparable to or greater than those at peer institutions. BCCC should also explore the need for increased salaries for mathematics lab tutors.
- Expand professional development for newly hired adjunct faculty, with an emphasis on remedial instruction. The college should make such sessions mandatory, pay adjunct faculty to attend, and provide classroom mentoring.
- Improve the evaluation process for all faculty members, particularly adjunct instructors.
- Redouble its efforts to recruit qualified remedial instructors, tapping into the pool of retired public school teachers in the Baltimore region.

Instruction

- Establish a uniform attendance policy, which now varies from class to class.
- In the fall of 2001, BCCC re-established an existing policy that the final exam would count as only 25 percent of the grade in all remedial courses (down from as much as 50 percent). The college should investigate whether that change, designed to reduce test anxiety, has improved pass rates.
- Move aggressively to expand limited “supplemental instruction” in remedial math. In such a program, a student placed into the top-level remedial course, Math 82, would instead be placed in a special section of college-level math. Such sections would include an extra session led by a hands-on instructor.

Bronx Community College in New York City reports success having its remedial students concentrate full time on a single subject area. Instead of taking three remedial courses throughout a 15-week semester, the Bronx college offers intensive 5-week sessions in each subject. A student may spend the first five weeks solely on remedial math, followed by reading and then English.

The QUEST program offers a Workforce Development Academy at St. Philip’s College in San Antonio — an intensive 10-week program of “college prep” instruction. Students attend six hours a day, five days a week, with the goal of attaining basic

high school competency. One-on-one tutoring is available for struggling students. Those who graduate move into career tracks at area community colleges.

Community College of Baltimore County has begun using Supplemental Instruction techniques pioneered at the University of Missouri, Kansas City. A paid instructor sits in on remedial classes and then leads a mandatory extra discussion group in which students review what was covered in class. Such intensive “learning to learn” assistance has shown to be effective on other campuses.

Several Maryland community colleges, including those in Howard, Carroll, Harford and Anne Arundel counties, require their remedial students to attend lab sessions outside of lectures.

Financial Aid

- What is the relationship between effective student financial aid management and BCCC program completion? BCCC should seek to quantify the impact of students’ financial difficulties on their decisions to “stop out” or drop out of college. It is critical to collect and analyze data about individual student use and possible misuse (e.g., students dropping classes after getting their Pell grant checks) of financial aid and scholarships.
- Ensure that all students know about and take advantage of all federal, state and local financial aid and scholarship offerings, and understanding the limitations of such programs.

Bridging the Gap

- Re-evaluate the use of \$460,000 in the BCCC budget allocated to public high schools, now used to pay for reading instruction for BCPSS teachers, for programs with a more direct impact on student readiness for college. Expand the PASS Program that allows high school students to take the Accuplacer test and required remedial courses while still in high school.
- Improve its articulation with the BCPSS curriculum as part of its ongoing effort to reduce the need for remediation. One goal of both institutions should be that high school assessment tests and college-level placement tests cover equivalent material.
- Consider having BCPSS mathematics and English teachers take the Accuplacer exam to familiarize them with the threshold requirements at BCCC.
- Report each year to BCPSS on the remedial instruction needed by its recent high school graduates, with data broken down by high school.

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- Along with BCPSS and state officials, evaluate the results of the PASS program to see if it is an effective and cost-efficient method of preparing students for college. The classes should be taught five days a week on high school campuses to ensure attendance and continuity of learning. The program should be geared toward 10th and 11th graders who are not progressing sufficiently, giving the high schools time to help their students “catch up.”

Data Collection

- Expand its data collection and analysis capabilities in the areas of remedial instruction and degree/certificate program workforce outcomes to help administrators better serve the needs of students.
- Begin collecting better data about demographics, high school academic performance and other aspects of a student’s background. This could be accomplished, at least in part, by using the questionnaire available as part of the Accuplacer placement test, at no cost to the college.
- Place special emphasis on gathering and evaluating qualitative information about the experiences of incoming students for use in redesigning student support services and remedial education.
- Provide faculty a way to submit grades, including progress reports throughout the semester, by computer. Counselors could monitor these grades more effectively and step in to help struggling students.

Like many of its counterparts, Carroll County Community College has developed a helpful database of information about its student body. The college compiles the data and issues a wide range of statistics and analyses regarding its remedial education program. The college produces, for example, a breakdown of how students fared, on a grade-by-grade basis, in each remedial course. The college also collects helpful feedback from students, which allows it to make quick changes to improve academic and tutorial offerings.

The Community College of Baltimore County routinely compiles data on course pass rates, the program pass rates for students who complete their remedial work, retention rates from fall to fall and grade-point averages.

Choosing the Right Path



As BCCC continues to wrestle with retaining students through remedial education to program and degree completion, much will rest with the leadership of its next President. Nevertheless, paving the way to workplace success at BCCC depends greatly on the combined efforts of the Baltimore City Public School System (BCPSS), the Maryland State Board of Education, and the Maryland Higher Education Commission (MHEC). Much of Baltimore's future economic health turns on a successful K-16 collaboration among these partners to produce qualified City residents for available City careers.