October 1, 2009

The Honorable Ulysses Currie Chairman, Senate Budget and Taxation Committee Suite 3 West, Miller Senate Office Building Annapolis, Maryland 21401-1991

The Honorable Norman H. Conway Chairman, House Appropriations Committee 121 House Office Building Annapolis, Maryland 21401-1991

Dear Chairman Currie and Chairman Conway:

I am pleased to present to you the enclosed report, *Best Practices for Accelerating Student Success at Maryland's Public Historically Black Institutions*. This submission fulfills the charge of the 2009 Joint Chairmen's Report (JCR) which required, "the public historically black institutions (HBIs) and the Maryland Higher Education Commission [to] submit a report that outlines the programs and services that are needed and have shown success in promoting academic achievement to ensure that undergraduate students at HBIs who are less prepared for college graduate." The report outlines several best practices and promising strategies which are correlated with improved college retention and graduation rates.

In some instances, this report may have taken a different approach had it been an exclusive product of either the Commission, or the HBIs. However, given the JCR's mandate for this to be a joint effort, it was written in the true spirit of collaboration and reflects the best-thinking and priorities of both the Commission staff and the HBI representatives.

I am sure that this report will provide you with helpful information that can serve as the framework for an effective Access and Success Program.

Sincerely,

James E. Lyons, Sr. Secretary of Higher Education

JEL:dgh Enclosure

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Best Practices for Accelerating Student Success at Maryland's Public Historically Black Institutions

I. Introduction

The April 2009 Joint Chairmen's Report charged the Maryland Higher Education Commission (MHEC) and the State's public historically black institutions (HBIs) with identifying promising strategies for promoting achievement among academically underprepared students attending HBIs. This report fulfills the Joint Chairmen's mandate by highlighting national best practices for improving retention and graduation rates. The initiatives described in the report have been found to facilitate academic success among all students, and have been particularly helpful at supporting students who enter college behind their peers. Additionally, these best practices are supported by empirical data which verify their effectiveness. Several of the best practices included in the report have already been implemented at one or more of Maryland's public HBIs, and data which demonstrate that these initiatives have had a positive effect on student achievement levels are provided.

The workgroup that developed this report was asked to identify best practices for supporting underprepared students at HBIs, an important, albeit very small part of a bigger issue surrounding college and career readiness, P-20 alignment, and timely degree completion at all postsecondary institutions. In fact, a recently published book, *Crossing the Finish Line* (Bowen, Chingos & McPherson, 2009), highlights the fact that many of the nation's premiere public universities must work to substantially improve their graduation rates. In other words, this problem is not unique to Maryland public historically Black institutions.

Before moving into the actual report, it is important to note that although Bowie State University, Coppin State University, Morgan State University and the University of Maryland Eastern Shore comprise the State's four public HBIs, each of these universities has a unique, legislatively mandated institutional mission. Thus, while there may be best practices which are relevant to all of the HBIs, the outcomes of these efforts can be expected to differ depending on factors such as the institutions' admissions criteria, proportion of students who are not academically prepared for college, and availability of financial aid.

It is also necessary to consider the best practices highlighted in this document within the context of statements made by the Panel on the Comparability and Competitiveness of Historically Black Institutions in Maryland (hereinafter referred to as the HBI Panel) which was appointed by the Commission to Develop the Maryland Model for Funding Higher Education (hereinafter referred to as the Funding Commission). In its final report, the HBI Panel (2008) noted that, unlike the State's traditionally white institutions, the historically black institutions in Maryland have a dual mission to provide students with a high-quality educational experience which leads to the attainment of a baccalaureate degree, as well as to, "address the educational needs of students who come from families with traditionally less education and income and who are often under prepared as a result of their circumstances – not their abilities – for college level work" (p. 98). The HBI Panel also observed that, "the HBIs are not funded at appropriate levels to carry out both parts of this mission at once," (p. 102).

The Maryland HBIs welcome the opportunity to address the Joint Chairmen's charge by outlining the best practices to improve retention and graduation rates on their respective campuses. These promising strategies are best considered within the context of the HBIs shared dual missions, and their distinctive legislatively-mandated institutional missions.

Therefore, the \$1,500,000 earmarked for each of the four campuses can be expected to have different outcomes on institutional graduation rates. The Access and Success funding permits the HBIs to provide a measure of extra support for those students judged to be most at-risk, and this effort yields higher retention and graduation rates than would otherwise be expected for this group of students. However, to make significant improvement in the HBIs' graduation rates and to close the graduation rate gap that exists between them and traditionally white institutions (TWIs), the overall capacity and competitiveness of the HBIs need to be improved. In Maryland's Report and Partnership Agreement Between the State of Maryland and the U.S. Department of Education's Office for Civil Rights (hereinafter referred to as the Partnership Agreement), the State acknowledged the importance of enhancing the overall comparability and competitiveness of HBIs in order to improve the access, retention, participation and graduation rates among African Americans in the Maryland (2000). As noted in the Partnership Agreement, to ensure that African Americans could enjoy the benefits associated with earning a credential from a public college or university in Maryland, the State agreed to provide African Americans with equal access to and opportunity for success within these institutions. Further, the State recognized that a central element of this commitment was the, "continuing contributions of the State's four HBCUs and the necessity of ensuring that these institutions are comparable and competitive with the State's TWIs in all facets of their operations and programs" (Partnership Agreement, 2000, p. 22).

It is within the context of the HBIs' commitment to improving graduation and retention rates for all students and the State's commitment to enhancing the HBIs such that they are comparable and competitive with its TWIs, that the present report is submitted. The following strategies which have been identified as national best practices for accelerating student success, particularly among the least academically prepared students, should be components of a comprehensive plan for increasing institutional graduation rates, and are thoroughly examined in the next section of the report:

- Summer Bridge Programs
- Advising Policies and Practices
- First-Year Experience Seminars
- Course Redesign
- Learning Communities
- Honors Programs
- Supplemental Instruction

II. Best Practices for Increasing Retention and Graduation Rates

Summer Bridge Programs

Summer Bridge Programs are a well-documented best practice in promoting academic success and persistence among underprepared students. Swail (2004) is emphatic in his assertion that colleges should focus on developing academic bridge programs between the senior year in high school and the first year in college. On-campus intervention programs that take place before the official start of the academic year afford students a number of potential benefits, including opportunities to become acclimated to the campus, work through some first-year problems before the fall semester begins, receive academic support in areas of weakness, and become accustomed to the pace associated with college-level academic learning. Additionally, Adelman (2006) suggests that earning more than four credits in the postsecondary summer term goes a tremendous way toward closing the degree attainment gap for African-American students, narrowing the completion gap relative to white students from 15.5 percentage points to 6 percentage points.

The Summer Bridge Program offered by the Center for Academic Retention and Enhancement (CARE) at Florida State University serves as a model example of this best practice. CARE's seven week residential summer session offers an alternative admission program focused on helping first-generation and/or low-income students prepare for success at the University. During the summer session, students are introduced to key university personnel, exposed to all of the various support services available on campus, obtain information on strengthening their study, test-taking, and time-management skills, and receive academic advising, tutoring and mentoring. Students also take placement tests during the summer session and are eligible to take up to seven credit hours of either freshman level or developmental courses, depending on their placement scores. According to CARE's program director, the Center serves as "a home base where students know that people are genuinely concerned for them. CARE takes a holistic approach to working with students focusing on their academic, social, financial and personal needs" (CARE, 2009).

Florida State University has been identified by the Education Sector, a Washington DC-based nonpartisan think tank, as having an unusually high six-year graduation rate for African American students (72 percent) compared to the 40.5 percent national completion rate for this group (Redden, 2009). The Education Sector's report, "Graduation Rate Watch: Making Minority Student Success a Priority," remarked that few other large public universities come close to matching FSU's success with African American Students. In fact, the university now graduates African American students at a higher rate than white students who graduate at an average rate of 69 percent within six years. FSU's success in graduating many of its African American students can be attributed, at least in part, to the impact of the CARE program. "We don't have a secret formula," said FSU Provost and Executive Vice President Lawrence G. Abele. "What we have is a comprehensive program that is dedicated to student success. A program like ours involves a major commitment by the university, but the return on our investment is huge," (Florida State University, 2008).

CARE's program has several unique aspects including that it begins reaching out to potential participants and their parents as early as the sixth grade by providing guidance on how to prepare

for college and navigate through various key processes such as applying for admission and financial aid, and preparing for and taking the SAT/ACT. CARE also continues to provide support services for admitted students until they graduate from the University.

While CARE represents the pinnacle of best practices in terms of summer bridge programs for low-income, first-generation, and minority students, each of Maryland's public HBIs has at least one established summer bridge program that seeks to emulate CARE's success, albeit with a much more conservative funding source. Morgan State University's Center for Academic Success and Achievement (CASA) sponsors CASA Academy, an alternative admissions program for students who fail to meet the SAT/ACT requirements for regular admission. CASA accepts up to 300 students each year, and all participants who successfully complete the program are guaranteed admission to the University for the fall semester. The six-week program offers a wide range of activities including developmental courses, study skills, mandatory tutoring, peer mentoring, academic advising, career exploration, orientation to the campus and its offices and resources, opportunities for personal/social development, and an avenue for parent involvement. Upon acceptance to CASA, participants must enroll and successfully complete a curricular component which includes intensive English grammar and composition, reading comprehension and vocabulary, and math. All CASA students work with an academic advisor who remains with them through their first two years of study at Morgan, and each cohort of 20 students is assigned a team of peer mentors who facilitate their academic and social integration into university life. Additionally, since research indicates that parental influence is strongly related to student success, the Center for Academic Success and Achievement is beginning a Parent Advisory Council which will host its first formal meeting in the fall of 2009.

CASA Academy serves as a vital foundation for students' successful academic and personal development at Morgan State University. Many CASA Academy participants go on to demonstrate academic excellence and outstanding leadership, service, and involvement on campus. Over the past three years, an average of 90 percent of students who participated in the program subsequently met the criteria for admission into the freshmen class. The retention rate of the CASA Academy class of 2007 students from fall 2007 to fall 2008 was 73 percent, compared to a retention rate of 68 percent for students in the general population.

Coppin State University accepts 50 registrants into its six-week Pre-College Summer Program (PCSP). During the course of the program, students must attend classes in math, reading, and English, attend two cultural awareness workshops per week and complete four study skills workshops. They are also oriented to the university, which involves meeting administrative officers, directors of special programs, and representatives of campus organizations. Students who complete the summer program are not guaranteed admission into the university, however, more than 92 percent of recent participants have been admitted. If admitted for the fall semester, students must participate in support activities conducted by the Academic Resource Center throughout their first year. More than 88 percent of the PCSP students completed their first year and enrolled for a second year at the university, compared to a first-to-second-year retention rate of 58 percent for the general population of students.

Bowie State University offers its Summer Bridge Program for students who have not met the university's regular admissions standards but show potential for successfully completing college-

level work. During the summer session, students attend a five-week, seven-day residential program and receive intensive instruction in English, math, and reading, as well as time management, communication, and effective planning workshops. Students who successfully complete the program are conditionally admitted as members of the freshman cohort. The program serves approximately 150 students, and about 80 percent of participants become eligible for admission and enroll in the fall.

In addition to providing summer bridge programs for underprepared students, several of the HBIs also have summer bridge programs for students who have been regularly admitted but seek a head start on their college careers. Coppin offers a four-week Step Ahead (STEP) program which is designed to help students improve their academic skills while transitioning into the University. STEP provides students with intense classroom instruction, personal interactions with staff and social development activities. Eligible STEP participants select their courses and experience cultural enrichment activities during the program. Bowie offers the Bulldog Academy for admitted students who want to get a jump start on earning academic credits. They attend an intensive five week, seven-day residential program, during which they are able to obtain between four and six college credits. UMES offers a six-week Summer Enrichment Academy (SEA) during which students may complete college math and English courses, and receive tutoring, mentoring and advising. The second-year retention rate among students who participate in the SEA program averages between 92-96 percent, compared to a second-year retention rate among the general population of students of 66 percent.

Coppin State University and Morgan State University also offer bridge programs for academically talented students who plan to enter challenging fields. These summer sessions prepare students for the rigorous math, science, and engineering courses they will take in the fall. Coppin's six-week STEM program provides academic support to students interested in pursuing the following majors: biology, chemistry, computer science, general science, mathematics, predentistry, pre-medical, pre-pharmacy, and pre-physical therapy. Eligible STEM participants receive stipends and college credit for courses completed during the summer experience. Internships, scholarships and professional development experiences are also made available to students who participate in the STEM summer session.

Morgan has achieved outstanding results with its six-week PACE (Pre-Accelerated Curriculum in Engineering) Program. Students who participate in this enrichment experience take classes in mathematics, computers, English composition, physics, and chemistry. They also develop projects and experiments for a research rotation and science fair. The 50 students who participate in the PACE program each summer test into Calculus at a rate of 80 percent, on average, and are six times more likely than non-PACE freshmen to test out of developmental mathematics. Participation in the PACE program also significantly increases students' rates of persistence to graduation. Data suggest that 80 percent of PACE students are retained to the second year, and 50 percent of PACE participants graduate within five years. This compares favorably to the University's overall first-to-second-year retention rate of 68 percent, and its six-year graduation rate of 34 percent.

The higher than average retention and graduation rates of students who participate in various types of summer bridge programs (developmental, regular and accelerated), suggest that additional funding that would allow more students to take advantage of these opportunities and

would likely lead to significant increases in the overall retention and graduation rates at the HBIs. Although the cost of providing the programs varies based upon their distinctive features (e.g., the population of students served), on average, the cost per student is approximately \$3,000 for a six-week session, inclusive of room and board and educational costs. Given the high number of low-income students who attend the HBIs, it is further recommended that these programs be highly subsidized to ensure maximum participation.

Advising Policies and Practices

Effective academic advisement is one of the national best practices for promoting academic achievement, especially for students of color and/or low-income students. A review of the literature suggests that several advising strategies have a positive impact on retention and graduation rates, and this section of the report will highlight some of these practices including utilizing academic advising centers and/or making special provisions for undeclared students, ensuring that all students take placement tests so that they enroll in appropriate courses and implementing early alert tracking programs to identify and assist at-risk students.

A recent study (Turgeon, 2007), found that one of the decisive components of an effective academic advisement system is the presence of an advising center for undeclared students. This high-risk population, which is often composed of a considerable number of students of color and/or low-income students, requires special attention, and having professional advisors who specialize in working with this cohort positively impacts their retention rate. Each of Maryland's HBIs models this best practice by supporting advisement centers that provide targeted assistance to undeclared majors.

Another widely used best practice in terms of academic advising is utilizing placement tests to ensure that new students enroll in the most appropriate courses in the core areas of English, mathematics and reading. Each of the State's HBIs requires all incoming freshmen to take the College Board's Accuplacer placement tests in these three areas. An effective follow-up strategy to the placement tests has been to require students who are required to take developmental classes to enroll in those courses immediately and to successfully complete them before taking higher level course requirements, thereby ensuring that a strong foundation has been established.

Providing faculty with a mechanism to alert students and their advisors of poor student performance as soon as a problem arises is one of the most utilized best practices in academic advising. In a 2007 Noel-Levitz survey of 193 four-year institutions, 76 percent of four-year public institutions and 79 percent of four-year private institutions responded that they utilize early alert and intervention systems to enhance retention. Starfish Early Alert System, Student Early Alert System, and Early Alert Retention Software are examples of commercial products that provide this service. The widely-used Blackboard course management system also features an Early Warning System (EWS) through which faculty can notify a student or other designated individuals that a student is not performing satisfactorily. Working in concert with the Gradebook feature, the EWS allows faculty to define scenarios in which warnings are disseminated (e.g., low test grades, a particular number of absences, assignments not completed, etc.). Many institutions, however, have also developed in-house early alert systems that are used to warn students and appropriate staff members of students' academic difficulties. Such

institutions typically have an on-line form that instructors can submit, noting their concerns about a student's performance in their course. The person to whom the form is distributed varies depending on the structure of the advising system at the institution. The appropriate office(s) receives the form, and then contacts the student to address the difficulties and advise the student of appropriate campus resources.

Maryland's HBIs are at varying stages of developing and implementing early alert systems. In addition to being able to use the previously mentioned EWS system through Blackboard, Morgan State University, for instance, has long had an in-house early alert and response system (EARS). Instructors of general education courses are required to use EARS forms, and instructors of other courses have access to the forms as well. Faculty are expected to complete the forms at several intervals throughout the semester for any student who is having difficulty in their classes. The forms allow instructors to identify specific areas of weakness so that students can be effectively counseled on how to improve their performance. Two years ago, the College of Liberal Arts, through which approximately 70 percent of the university's general education courses are taken, developed an online EARS form which allows faculty to make submissions via the internet. When faculty members submit a form it is also sent electronically to the student and to the College's retention personnel. After receiving EARS forms, retention staff, who are funded by the Access and Success Grant, attempt to contact the students to discuss their problems and to assist them with getting back on track. The forms are also sent to students' academic departments so that advisors can contact their advisees.

University of Maryland Eastern Shore (UMES) has had early alert programs in place for several years and has recently taken the initiative to enhance these programs. The university's early alert program has three distinct phases: Phase 1- Noel Levitz College Student Inventory Survey (CSI) which is given during the summer; Phase 2 - Online Faculty and Staff Referral System; and, Phase 3 - Intrusive Advising Sessions.

Phase 1 uses the CSI to identify "at-risk" students, and clusters them into the following four intervention categories: a) prone to dropout, b) needs counseling services, c) needs career services, d) lacks financial security or need academic support. Each department chairperson is asked to meet with students identified as "prone to dropout" during the first six weeks of the semester. The Center for Access and Academic Success (CAAS) staff also monitor these students and provide them with additional support. Each faculty member meets with all of their new fall advisees to discuss their CSI results, and if necessary, refers them to CAAS for support. Finally, counselors from financial aid, career services, and personal counseling are given a list of students who self-report as needing assistance in these areas.

Phase 2 of UMES' early alert program provides faculty and staff with an online system that allows them to complete referrals for students who require academic support. Referrals are acted upon by CAAS staff, and students are provided the needed support services or directed to the most appropriate campus resource. All students receiving services are required to login to AccuTrack, an online services portal. AccuTrack keeps data on services provided, service providers seen, amount of time service were provided and frequency of requested services. Detailed data reports for all students who are seen for tutoring are generated by AccuTrack.

Phase 3 of the University's early alert system includes early intrusive advising sessions which are held within the first two weeks of the academic semester. All first-time students are required to attend an intrusive advising session with their advisors to review their CSI data, verify correct course enrollment and complete the Student Success Plan.

The early advising policies and practices included in this section have proven to have a significant positive effect on student retention and graduation outcomes. Therefore, Access and Success funding could be used to implement and/or enhance these strategies at Maryland's public HBIs.

First-Year Experience Seminars

The essential goal of First-Year Experience (FYE) Seminars is to increase a student's potential to achieve academic success, and these classes are often viewed as an extension of a university's orientation program. FYE courses are designed to promote student engagement in the curricular and co-curricular life of the university, to familiarize students with available resources and support services, and to facilitate students' successful transition into campus life by conveying the expectations of the university and its faculty. FYE courses also provide faculty with the unique opportunity to make a different type of connection with students by stepping outside of their traditional teaching role. Over 2,000 campuses throughout the nation offer FYE seminars, and either academic faculty and/or staff members in the Centers for Student Success teach these courses. In a recent national survey, 43 percent of institutions that performed formal evaluations of their first year seminar programs since at least 2003 reported an increase in their second year student persistence rates, (National Resource Center for The First-Year Experience and Students in Transition, 2006).

Northern Michigan University's (NMU) FYE program is designed to assist students in making a successful transition from high school to college. The FYE program has three goals which focus on student academic success, student familiarity with campus resources, and relationship building with other students, faculty, and staff. In studying outcomes related to NMU's first-year experience program, Jameiske (2009) found that students who participated in FYE seminars earned higher GPAs than those who did not, and participating in an FYE course had a greater positive impact on the retention rates of below average students than on the rates of above average students. Similarly, Freidman (2007) explored the effects of the FYE seminar when it was used as the anchor course for students engaged in learning communities. His results revealed that students engaged in learning communities which included an FYE anchor course earned higher grades than those were a part of a learning community without such an FYE seminar.

A growing body of research also substantiates the positive effect of participating in first-year experience seminars on graduation rates. A longitudinal study of 1700 students in four entering cohorts at North Dakota State University found that after controlling for a number of pre-college characteristics including ACT composite scores, high school rank and the four- and five-year graduation rates for students who participated in freshmen seminar courses were significantly higher than the graduation rates of non-participants (Schnell, Louis & Doetkott, 2003). Similarly, Dalton College, a two-year institution in Georgia, Hoff, Cook & Price (1996) found

that over five-year period, 30.8 percent of first-year seminar participants met the credit-hour requirements for graduation, compared to only 19.4% of non-participants who did so.

In 2001, UMES redesigned its FYE seminars, and this effort resulted in a common syllabus, common goals and objectives, monthly meetings for FYE instructors, and the development of a new textbook and academic planner for students in the courses. Students who enrolled in FYE seminars for fall 2001 had an 86 percent first-to-second year return rate, compared to the University's overall retention rate of 71 percent.

Course Redesign

Redesigning the way in which high enrollment courses are delivered is considered a best practice for improving retention and graduation rates. This is particularly important for introductory level courses where a number of challenges converge. Issues that are frequently prevalent in introductory courses, and often hinder student success, include differences in the knowledge-base of incoming students, and lecture-based formats that do not consistently engage students. Additionally, because of the large number of sections of entry-level courses offered there is often a lack of coordination among the various faculty teaching a course, and this can lead to course drift and/or inconsistent learning outcomes.

The National Center for Academic Transformation (NCAT) is regarded as a national leader in using redesigned postsecondary learning environments to achieve optimal levels of student success in entry-level and/or high-enrollment courses (Twigg, 2005). To this end, research findings suggest that NCAT has developed a course redesign model that produces better learning outcomes for students at a reduced cost to institutions. NCAT leaders have identified the following strategies as key components of successful course redesign efforts:

- Online Tutorials interactive tutorials which provide students with the opportunity to practice core concepts, and offer students supplemental information when they need it to progress through the course material.
- Continuous Assessment and Feedback automated response systems that support student learning by instantly assessing their homework assignments and quizzes, and provide students with guidance on how to improve strategies and approaches to solving problems.
- On-Demand Support –the number and types of avenues that students can use to master course material are enhanced considerably. Typically, Undergraduate Learning Assistants (ULAs), rather than traditional faculty or graduate teaching assistants, are readily available to provide students with additional support when they need it most, such as when they are completing homework assignments.
- **Increased Interaction Among Students** redesigned courses promote student engagement by encouraging more frequent interaction among students and ULAs.
- **Mastery Learning** redesigned courses often provide a flexible format to support individualized student progress toward mastering learning objectives. Successful courses are generally not self-paced, but instead provide adequate structure to allow steady progress toward completion.

A benefit that often results from course redesign is improved assessment structures and measures. Many campuses report that simply going through the course redesign process helps to ensure that learning objectives across multiple sections are complete, consistent, and can be adequately attained by students regardless of the course section in which they enroll. Gains in student retention may also result from increased success rates in developmental education classes and other barrier or gatekeeper courses that have traditionally hindered students' academic progress.

The University System of Maryland's (USM) three HBIs have been participating in the national trend to increase the effectiveness and efficiency of learning environments through course redesign. Beginning in fall 2008, UMES redesigned its Principles of Chemistry course. As a result of this initiative, the University reduced the number of course sections, and the cost of offering the course decreased from \$268 to \$80 per student. Most importantly, the redesign effort had a positive effect on student achievement levels, the proportion of students receiving a C or better in the Introduction to Chemistry course increased from 55 percent to 69 percent (Hearn, 2009).

Last year, Coppin State University piloted a redesign of its developmental math courses. These classes were selected as the focus of the institution's redesign efforts because nearly 95 percent of undergraduates are required to take developmental math, and the courses have a failure rate of 75 percent. The University also wanted to address inconsistent instruction, in terms of course content and assessment methods, across various sections of the course taught by different instructors. The disproportionately low success rates in these introductory math courses were also thought to contribute to Coppin's low retention and graduation rates. To address these concerns, the University's redesign effort involved using two computer labs to replace most class meetings, and students proceeded through the courses using *My Math Lab*, an interactive mathematics instructional software package. As a result of the redesign initiative, the number of traditional, in-class student/faculty contact hours decreased while the amount of mathematics-focused student laboratory time increased. The complete redesign of Coppin's Beginning Algebra course will reduce the number of sections offered from 36 to 26, and the number of sections taught in the redesigned Intermediate Algebra course will decrease from 20 to 14.

Although Course Redesign is new to Maryland institutions, its impact can be tracked over several years at many colleges and universities in other states. The University of Alabama is often cited as the premier example of successfully redesigning mathematics courses, and UA has been particularly successful with the redesign of its developmental math component. In 1999, prior to implementing course redesign, UA's Intermediate Algebra (developmental mathematics) course had a success rate (percentage of students who earned a grade of "C" or higher) of 40.6 percent. The University redesigned the course in fall 2000, and by fall 2003 the success rate had increased to 78.9 percent. Furthermore, after the redesign, the success rate for African-American students (71 percent) was higher than the success rate for white students (52 percent). This finding should be carefully considered when examining best practices for promoting success for underprepared students, given Adelman's (2006) assertion that "the evidence that students who successfully pass through remedial course work gain momentum toward degrees is beginning to build" (p.50).

There are a number of opportunities for Maryland's HBIs to continue to make progress by participating in the Course Redesign Movement, and doing so is likely to contribute to their campuses' increased student success rates. It is expected that the focus of these redesign initiatives will be directed at those courses that will have the largest impact based on the number of students reached and/or the potential cost savings achieved. Certainly, the redesign of developmental math courses falls within this category.

Learning Communities

Learning communities have also been found to have a positive effect on student retention and graduation rates. The learning communities concept is based on the premise that students strongly influence one another in both the academic and non-academic settings. In this regard, in his seminal work, *What Matters in College: Four Critical Years Revisited*, Alexander Astin (1993), asserts that "the single most important environmental influence on student development is the peer group. By judicious and imaginative use of peer groups, a college or university can substantially strengthen its impact on student learning and personal development" Astin's research found that frequent interaction with faculty had the next most significant influence, after peers, on student learning, and that the degree to which students actively engage in the learning process also affects their levels of success and personal development. Although there is not a single, standard definition, Gabelnick et al. (1990) developed the following widely accepted explanation of learning communities:

Any one of a variety of curricular structures that link together several existing courses – or actually restructure the material entirely – so that students have opportunities for deeper understanding and integration of the material they are learning, and more interaction with one another and their teachers as fellow participants in the learning enterprise.

Learning communities are based upon all of the major factors (e.g., peer-to-peer influence, faculty interaction, student engagement) which emerged from Astin's research. They are typically comprised of a small cohort of students who take the same cluster of courses together, and are taught by faculty members who integrate thematic concepts across various classes. Having students enroll in common courses provides a catalyst for them to develop mutual interests and experiences, and to work through academic challenges collaboratively.

Below are several variations of the basic learning community model which involves linking or paring courses:

- Team Teaching a group of faculty fully co-teach two or more courses as part of an integrated academic program.
- Freshmen Interest Groups a cohort of freshmen enroll as a small group in two or more regular, large classes and meets weekly with a peer advisor.
- Coordinated Studies students are engaged in the same full-time (15-18 credits) interdisciplinary course of study which emphasizes active learning around established themes.

Research suggests that learning communities produce positive outcomes for students (e.g., enhanced achievement, decreased time-to-degree, improved intellectual development), faculty (e.g., expanded repertoire of teaching approaches, new scholarly interests developed, increased engagement with freshmen and sophomores), and institutions (e.g., enhanced quality of undergraduate education, climate of innovation is fostered, culture of assessment is promoted, increased student persistence rates). For example, at Iowa State University, the six-year graduation rate (72.7 percent) for students in the 2002 cohort who participated in a learning community was higher than the graduation rate for students who did not participate in a learning community (61.5 percent). The same trend was evident for the 2003 cohort where 74 percent of students who participated in a learning community graduated within six years, compared to 63 percent of those who did not participate in a learning community (Iowa State University, 2007).

In a recent study which assessed student performance in General Chemistry at the State University of New York, Stony Brook, Hanson and Heller (2009) also found that individuals who were part of the learning community class were more successful than their peers who were not. Specifically, although there was no statistical difference in the profiles of students in the learning community and non-learning community groups, 71 percent of students in the learning community group had an average score of 90-100 on their weekly quizzes, compared to 53 percent of students in the control group. Similarly, 68 percent of students in the learning community group achieved an end-of-course grade of 'C' or higher while only 50 percent of students in the non-learning community group did so. The authors concluded that the success of the learning community group could be attributed to the following four factors: peer support, peer assessment, group confidence, and the learning environment.

When targeted to under-prepared learners, learning communities increase course completion rates and academic achievement levels in developmental and college-level courses. This phenomenon was evidenced at North Seattle Community College where learning communities were first introduced in 1986. Data collected since that time show higher average course retention rates for students in learning communities than those in regular courses (87 percent versus 81 percent). The 75 percent second year retention rate for students enrolled in learning communities was also considerably higher, than the 63 percent rate for students enrolled in regular courses.

In 2001, UMES introduced its Freshman Studies Program which included a first-semester learning community. This initiative enrolled 25 students who were placed in linked or paired courses (Math109 and First Year Experience Seminar). The second year retention rate for students in the learning community was 86 percent, compared to a retention rate of 68 percent for students who were not enrolled in this program.

Honors Programs

The most effective national models for improving retention and graduation rates include strategies for promoting the academic success of students from a variety of backgrounds, including those who are well-prepared to succeed in college. Therefore, honors programs which support and challenge the most academically talented students should be considered a best practice for increasing retention and graduation rates at the State's public HBIs. This assertion is

supported by the University of Maryland, College Park's (UMCP) highly regarded University Honors Program which is considered an essential component of the campus' student success initiatives.

The key components of UMCP's honors program include special faculty, courses, housing, and events, as well as study abroad programs and scholarships. Students admitted to the Honors Program may also qualify for several types of financial support including the University's most prestigious award, the Banneker Key Scholarship. Students who receive the Banneker Key award either receive a scholarship that covers full tuition, room and board, for four years, or one that covers partial tuition for four years. Both levels of the Banneker Key Scholarship include an additional annual book allowance of \$1025 per year. Undoubtedly, UMCP's ability to recruit and enroll many of the State's best and brightest students is bolstered by its capacity to offer and exceptional Honors Program experience, and lucrative scholarship awards.

Similar to the University of Maryland, College Park's program, the admissions criteria for the University of Idaho's (UI) honors program reflect its aim to enroll, retain, and graduate a cohort of the most academically prepared students in the state. Entering freshmen who obtain competitive scores on the ACT or SAT, and earn an impressive high school grade point average meet the initial minimum criteria for admission to the University Honors Program. The UI honors program features small, stimulating classes taught in a discussion format by selected faculty, lectures by distinguished speakers, and many distinctive extracurricular offerings including cultural enrichment activities and off-campus excursions. Additionally, honors students receive priority registration privileges, scholarships, and an exceptional course of study, learning, and research which prepares them for graduate school or various professional and career paths.

The University of Idaho found that, "honors students generally average higher grades in honors classes than in non-honors classes. For example, the average overall GPA of honors seniors in fall 2007 for honors and non-honors coursework was 3.66, with a 3.93 average in honors courses" (University of Idaho, 2009). This finding suggests that being a part of an honors program has a distinctively positive effect on the success rates of academically strong students.

While the UMCP and UI examples indicate that viable honors programs play an important role in enhancing the overall learning environment at TWIs, these programs should also be an essential component of plans for improving academic success and graduation rates among students attending Maryland's HBIs.

Honors programs offered at the States' HBIs are analogous to those at other institutions in that they are designed to appeal to and challenge students with strong records of pre-college academic achievement. Another goal of honors programs at the HBIs is to ensure that the universities are comparable and competitive to the State's TWIs in their capacity to "provide equal opportunity for a quality education to all students who choose to attend them and to enable them to compete for and be attractive to students regardless of race (Partnership Agreement, 2000, p.35). Additionally, the HBIs' honors programs promote success for all students by focusing on those elements (e.g., recruiting and retaining accomplished faculty, securing and maintaining state of the art facilities, and ensuring the availability of sufficient need-based

financial aid) that, in addition to supporting academically gifted students, assist the general student population and those with less academic preparation, in succeeding. The HBIs agree that improving overall graduation rates requires their campuses to provide comprehensive honors programs that include stellar faculty, rigorous academic courses, and a variety of scholarship opportunities for entering students with strong academic credentials.

A comprehensive plan for increasing graduation rates at the public HBIs must include provisions for attracting students from a variety of academic backgrounds, including those who are academically talented, to the campuses, as well as strategies for ensuring their success. Maryland's HBIs generally do not have operating budgets that provide sufficient financial aid to support the disproportionally large number of students who, regardless of their academic profiles (e.g., honors-eligible, general population, less-well academically prepared) are from low-income families. Furthermore, for Maryland's HBIs, the most challenging aspect of implementing effective, high-quality honors programs is the expense associated with offering the more challenging academic curricula, supporting faculty efforts to enrich courses, having suitable facilities, and providing sufficient student financial aid. Nonetheless, since research indicates that integrating honors programs with other initiatives designed to improve retention and graduation rates for the general student population and for those who are less academically prepared, is a best practice, the HBIs must attempt to compensate for insufficient funding by providing scaled down versions of honors programs, as well as other efforts (e.g., bridge programs), to ensure that many of their students are successful in college (Carey, 2008).

Maryland's HBIs have implemented honors programs, consistent with their institutional missions, on their respective campuses. For example, the honors program at Bowie State University was initiated to challenge highly motivated and academically talented students through a program that provides a learning community in the residence halls, honors sections for general education courses, and special projects to obtain honors credits in other courses. Additionally, Bowie's honors students participate in colloquia to enhance independent study opportunities, community service projects, field trips to places of significance, and local, regional and national seminars, conferences. New and continuing students are offered the opportunity to become a part of the program and to receive scholarship assistance if they meet its rigorous academic requirements.

Students with a demonstrated record of scholarly accomplishments, high motivation and a desire to achieve at the highest levels are encouraged to participate in Morgan State University's Honors Program. The program aims to support an intellectually challenging and stimulating education in the liberal arts and the major fields of study, promote and encourage academic endeavors and scholarly pursuits aimed at endowing students with critical thinking and analytical reasoning skills, and catalyze the highest levels of academic, personal and professional growth among participants.

In summary, the HBIs agree that honors programs should be supported as a shared best practice in improving retention and graduation rates on their respective campuses. While each of the HBIs has an established honors program, these efforts should be enhanced as additional resources become available.

<u>Supplemental Instruction – A National Best Practice</u>

Many colleges and universities have utilized Supplemental Instruction (SI) to provide students with assistance in difficult courses, gateway courses, or capstone courses. This is a practice that has shown benefits across a wide variety of settings. Arendale (1997) describes SI as an academic assistance program that increases academic performance and retention through its use of collaborative learning strategies. Created by Deanna Martin at the University of Missouri-Kansas City in 1973, SI typically targets difficult courses that have a failure and withdrawal rate of at least 30%, and provides regularly scheduled, out-of-class, peer-facilitated sessions that offer students an opportunity to discuss and process course information (Martin, et. al., 1977). The goals of SI are to: (1) improve student grades in targeted, historically difficult courses; (2) reduce the attrition rates within those courses; and, (3) increase the eventual graduation rates of students.

Supplemental instruction avoids the remedial stigma which is often attached to traditional academic assistance programs because it does not identify high-risk students, but instead focuses on high-risk classes. Additionally, SI is typically available to all students which eliminates the need to prescreen participants. SI programs begin at the start of the semester, which allows them to provide support to students during the initial six-week period when attrition rates are higher, and before students' first major exams. Historically, difficult or 'high risk' courses have been defined as such because of the large amount of weekly reading required, difficulty level of the textbooks used, frequency of exams, and/or level of in-class interaction expected. However, it is important to note that each institution may develop its own definition of 'high-risk' courses, and such a designation should not be indicative of prejudicial sentiments regarding the professor teaching the course, or the students enrolled. Rather than blaming the students or the professor for a course's high failure rate, the 'high-risk' classification suggests that additional support is needed for students to raise their academic performance to the level deemed appropriate by the professor (Arendale, 1997).

There are four key individuals or groups necessary to implement a successful supplemental instruction program. The first is the SI supervisor, a trained professional staff member responsible for identifying the targeted courses, gaining faculty support, selecting and training SI leaders, and monitoring and evaluating the program. The second key person is the faculty member who teaches one of the identified high-risk courses since SI is only available for courses in which the professor invites and supports the SI partnership. Next, the SI leaders are an important component of a successful SI program, and they are usually students or learning-center staff members who have mastered the content of a course, are trained in proactive learning and study strategies, and have been approved by the course instructor. SI leaders attend course lectures, take notes, read all assigned materials, and conduct three to five out-of-class SI sessions per week. Supplemental instruction leaders are model students who help students integrate course content with learning and study strategies. The fourth key members of the SI program are the participating students themselves. A university can implement SI can be implemented in one course each semester, or many more; the only issue that needs to be addressed as more courses are added to the SI program is the need to increase personnel and other resources (Arendale, 1997).

The US Department of Education has evaluated and validated the effectiveness of supplemental instruction programs, and the research findings suggest that students who participate in SI for targeted difficult courses earn higher average final course grades than students who do not participate in SI. This result is evident even when ethnicity and prior academic achievement variables are considered. The findings also show that SI students withdraw from courses at lower rates and receive a lower percentage of 'D' or 'F' final grades than their peers who do not participate in SI. Thirdly, the research results indicate that students who participate in SI persist at the institution and graduate at higher rates than those students who do not participate in SI. (Arendale, 1997).

Research in intellectual development (e.g., Piaget, Dale, Arons, and Perry) and college student development and retention (e.g., Pascarella, Tinto, Astin, Light, Noel &Levitz) support the empirical framework upon which supplemental instruction is based. This framework indicates that students who form study groups report enjoying their academic work more and learning more as a result of the academic discussions they have with their peers in these settings (Light, 1990). The conceptual framework which supports supplemental instruction is also aligned with Keimig's (1983) Hierarchy of Learning Improvement Programs which ranks different academic support strategies. According to this hierarchy, remedial courses received the lowest ranking because they teach skills in isolation, and tutoring received the second lowest ranking because it is typically employed as a support strategy only after students have experienced academic difficulty or failure. However, programs similar to supplemental instruction received high rankings on the effectiveness scale because they allow students' learning needs to be presented as, "necessary because of the nature of the objectives and the content of the course rather than because of a student's deficiencies."

Supplemental instruction has proven to be an effective strategy for increasing course completion rates, as well as institutions' retention and completion rates. Therefore, Maryland's public HBIs should investigate adopting this best practice as part of a comprehensive plan to improve their graduation rates.

III. On-going Challenges and Sustainability

The Access and Success funding allows the State's public historically black institutions to develop and implement programs, which they otherwise would not be able to offer, that facilitate student achievement. However, Maryland's HBIs continue to face long-standing challenges which, if addressed, would greatly support their endeavors to significantly increase their retention and graduation rates. Therefore, the HBIs' efforts to implement sustainable retention and graduation programs must be viewed within the socio-economic and academic context in which their instructional services are delivered.

According to the Maryland Higher Education Commission's most recent Student Outcome and Achievement Report, a considerable proportion of the State's recent high school graduates who attended college in Maryland were required to take remedial coursework in either math, English or reading after they enrolled in college. Table 1 and Table 2 illustrate that this problem as more pronounced at the HBIs, and in the services areas in which they are located. Table 1 shows that

the percentage of core (those who completed a college preparatory curriculum) and non-core (those who did not complete a college preparatory curriculum) students required to take remedial math at the HBIs was substantially higher than the statewide average for all public-four year universities.

Table 1. Percent of Core and Non-Core Students Enrolled in Remedial Mathematics by Campus: 2005-2006

University	Core	Non-Core
Bowie State University	53%	53%
Coppin State University	71%	71%
Morgan State University	29%	29%
University of Maryland Eastern Shore	79%	85%
Statewide Average for Public 4-Year Universities	15%	28%

Source: Maryland Higher Education Commission, Student Outcome and Achievement Report, 2009

Similarly, Table 2 illustrates that high school graduates from the counties in which the HBIs are located and from which they attract a majority of their students are more likely than their peers across the State to be required to take a remedial math course in college. These are important points to consider when examining the HBIs' graduation rates, given that prior research has shown that students who are required to take remedial courses are less likely to graduate from college than those who do not need remedial coursework (College Board, 2003; National Center for Education Statistics, 2001).

Table 2. Percent of Core and Non-Core Students Enrolled in Remedial Mathematics by Jurisdiction: 2005-2006

University	Core	Non-Core
Baltimore City	37%	69%
Prince George's County	42%	55%
Somerset County	57%	53%
Statewide Average	32%	49%

Source: Maryland Higher Education Commission, Student Outcome and Achievement Report, 2009

Additionally, according to recent data produced by the Maryland State Department of Education, African American students enrolled in public high schools across the State were much less likely than their peers from other ethnic groups to pass the High School Assessments (HSA). Specifically, Table 3 shows that higher proportions of Asian, white and Hispanic 11th graders passed both the algebra and English HSAs, than African Americans. These data, and those that were previously presented, are not shared to demonstrate the need for a predetermined ceiling for the HBIs' graduation rates, but rather to situate the institutions' retention and graduation rates within the array of on-going challenges related to academic preparedness which must also be addressed. This approach is consistent with Hess et. al.'s (2009) recent observation that, "It is certainly true that graduation rates should be considered in context. Harvard's 97 percent four-year graduation rate may not be all that impressive [considering that] it is easy to grant diplomas when you enroll only students who are most likely to succeed," (p. 3).

Table 3. Maryland 2008 HSA Passage Rates by Race/Ethnicity

	Algebra	English
African American	74	73
Asian	96	91
Latino	81	77
White	95	91

Source: 2009 Maryland Report Card – Assessments

Given that a substantial proportion of the students that enrolled at the HBIs have not received the academic preparation necessary to succeed in college, the data presented in this report also underscore the magnitude of the universities' dual missions, which charges them with, "address[ing] the needs of students who come from families with traditionally less education and income," (Funding Commission, 2008, p.103). To this end, the HBI Panel identified several consequences with which the State's historically black institutions must contend as a result of serving high proportions of underprepared and low-income students. These consequences included expending a higher percentage of revenue on student financial aid, charging lower tuition and fees thereby securing less revenue from these sources, and expending larger portions of their budgets on developmental education and academic support. The Panel also noted that, compared to their peers attending the State's TWIs, "students attending HBIs find a college education much more difficult to afford...[and] it is highly likely that a large number of these students have unmet financial need along with unseen greater financial burdens and responsibilities" (p.106). These financial challenges undoubtedly have a negative effect on a student's ability to earn a bachelor's degree in a timely manner.

In 1999, the State began providing Access and Success funding as a means to address the implications described above, and specifically, to improve the attainment rates of students attending the State's HBIs. While the additional financial support provided by Access and Success is welcomed, it has been difficult for the HBIs to plan sustainable programs to improve their retention and graduation rates because of the variable nature of the funding, and the limited amount of funding provided. Table 4 shows that for the first seven years that A&S resources were available, the funding was allocated in the form of annual grants which were not guaranteed to continue from one year to the next, and the allocation was not added to the institutions' base appropriation until 2006. The amount of A&S funding awarded in the form of annual grants also changed four times over the four-year period from 2000 to 2003, from a low of \$500,000 to the current level of \$1.5 million. Therefore, the HBIs were unable to implement sustainable A&S programs, replete with permanent staff members responsible for long-term, multi-year initiatives, until 2006, and the effects of these efforts on institutional graduation rates will not be evident until 2010 at the earliest.

Table 4. Maryland Access and Success Funding History for HBIs: 1999-2010 (per university)

Year	Amount	Change in Amount	Type of Funding
1999	\$500,000		Grant
2000	\$500,000		Grant
2001	\$750,000	+\$250,000	Grant
2002	\$1,125,000	+\$375,000	Grant
2003	\$1,500,000	+\$375,000	Grant
2004	\$1,500,000		Grant
2005	\$1,500,000		Grant
2006	\$1,500,000		General Fund – base allocation
2007	\$1,500,000		General Fund – base allocation
2008	\$1,500,000		General Fund – base allocation
2009	\$1,500,000		General Fund – base allocation
2010	\$1,500,000		General Fund – base allocation

Source: Maryland State Operating Budget Books; Budget Bills.

Achieving substantial gains in the HBIs retention and graduation rates, and closing the graduation rate gaps that exist between them and the State's TWIs, will require making significant improvements to the institutions' physical and instructional infrastructures. Consistent with this assertion, the HBI Panel recommended that the HBI's capacity to deliver high-quality undergraduate programs needed to be enhanced in order for their graduation rates to become similar to those of the State's TWIs. The panel concluded that, "the HBIs serve a different and higher-need student population...[and] require greater and different capacity than TWIs to produce similar outcomes," (p.104).

In order to maximize graduation rates at the HBIs, two critical infrastructural elements must be addressed: the amount of available need-based financial aid (which the HBI stressed in its final report), and the number of full-time faculty. Many of Maryland's HBIs maintain an acceptable student/faculty ratio by relying heavily on contractual faculty. For example, over one-third of Morgan's full-time-equivalent faculty are employed on a contractual basis, and this represents the highest percentage of contractual faculty at any public four-year campus in the State. The high turnover rate of contractual faculty places an undue burden on regular faculty relative to student advising and counseling. National studies also document the negative impact of high levels of contractual personnel on student academic performance. In a recent study, Ehrenberg and Zhang (2004) found that as the proportion of full-time non-tenured and part-time faculty increased, an institution's graduation rate decreased, and this effect was greatest at public rather than private institutions. Additionally, Benjamin's (2002) review of the effects of contingent faculty on student experiences and outcomes suggests that, on average, part-time faculty spend

fewer hours outside of classes working with students, are less likely to hold office hours and are more likely to teach lower-level courses. The State's HBIs must employ more full-time, highly regarded faculty across the spectrum of academic disciplines if they are to achieve the highly personal and supportive learning environments which have been shown to facilitate student success.

IV. Conclusion

Maryland has much to celebrate in terms of its system of postsecondary education. Nationally, Maryland is among the top five states in bachelor's degree production, and ranks third in the percentage of its workforce which holds at least an associate's degree. Undoubtedly, Bowie State University, Coppin State University, Morgan State University and the University of Maryland Eastern Shore have played an integral role in the State's realization of these accomplishments.

The State's public historically black institutions will use the best practices outlined in this report as a framework for implementing and enhancing their student success initiatives, with the primary intent of improving their overall graduation rates. While beyond the scope of the current Access and Success funding base, in the future, Maryland may wish to implement statewide programs that have been positively correlated with institutional success rates. One such effort is the Graduation Project which originated at the University of New Mexico, but has since been replicated at a number of other institutions (University of New Mexico, n.d.). The founders of the Graduation Project discovered that many students who had obtained at least 98 academic credits left the University in good standing. Their research revealed that the majority of students in this group did not separate from the University because of academic difficulties, but instead left for one of the following reasons: they could not afford the tuition, they were not able to receive adequate academic advising, they were unable to gain access to the courses they needed to graduate, or they could not find parking. As a result of these findings, the University of New Mexico engaged in a quest to reclaim students who had accumulated a significant number of credits and left the University in good academic standing. Since the program began in 1996, 66% of its participants have earned their bachelor's degrees. There is much that the Maryland, and its HBIs in particular, could learn from this successful effort.

Assessment Program (EAP) which is a collaborative effort between the California State University (CSU) and the California State Board of Education. The EAP is designed to offer high school juniors the opportunity to assess their level of readiness for college coursework in English and mathematics (EAP, 2009). After taking the necessary assessments, students receive one of the following three ratings: a) ready for college, b) ready for college – conditional, or c) did not demonstrate college readiness. Students receive their assessment scores and a copy is also sent to their guidance counselors, with the expectation that during their senior year, students who were not deemed "ready for college" will focus on improving the skills that will allow them to enter college-level courses upon graduating.

Moving forward, the HBIs' efforts to improve student success rates will continue to be informed and guided by sound empirical research, such as Kevin Carey's (2008) *Graduation Rate Watch*, which asserts the following:

If there is a single factor that seems to distinguish colleges and universities that have truly made a difference on behalf of minority students, it is *attention*. Successful colleges pay attention to graduation rates. They monitor year-to-year change, study the impact of different interventions on student outcomes, break down the numbers among different student populations, and continuously ask themselves how they could improve. Essentially, they apply the academic values of empiricism and deep inquiry to themselves.

The Maryland Higher Education Commission and the State's public historically black institutions appreciate the opportunity to fulfill the Joint Chairmen's charge to describe best practices for increasing student success on their campuses. Moving forward, the HBIs embrace the opportunity to both improve their graduation rates, and to work collaboratively with key stakeholders throughout the State to address many of the long-standing challenges that serve to hinder their progress in this regard.

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