The State of College Placement Assessment with Accuplacer at the Massachusetts Public Community Colleges

By

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Executive Summary

A review of current college and career readiness data in Massachusetts points to a growing crisis in the K-16 public education system. The education crisis is rooted in (1) high school graduates' lack of academic preparation for college level coursework; (2) curricular misalignment between secondary and postsecondary systems; and (3) problems with college placement testing administration. This analysis focused on the third root cause of the state's education readiness discourse. Early assessment policies and test administration practices impact remediation rates and student outcomes in significant ways.

The Massachusetts' state colleges and universities are not administering college placement testing in the consistent and comparable manner called for by the Board of Higher Education. Data from a 2009 survey conducted by the author of this study of assessment directors in 13 of the 15 state community colleges, administering the majority of college placement testing, suggest that approximately 40% of the colleges using the exams exhibit great variability in their assessment practices. These incongruities range from a diversity of cut-scores, calculator use, retest guidelines and validity of scores.

The stakes are enormously high, especially for a number of middle and low-income school graduates choosing to enroll in one of Massachusetts fifteen community colleges. The same kind of leadership, shown by the Massachusetts education policy makers' recent adoption of the National Common Core Standards, is needed to ensure that the state's students are not unnecessarily and negatively impacted by college assessment practices. Running parallel is the immediate need for compliance with the college placement assessment standards enacted by the Board of Higher Education in 1998 to ensure the "early assessment of basic academic skills with prompt feedback; timely referral to appropriate course placement; collaboration across segments

to place developmental students primarily at community colleges; and post-assessment of academic skill competencies to assure readiness for college level work" (Massachusetts General Laws Chapter 15A, Section 9c, and 9u and Massachusetts General Laws c. 15A, s.32).

The current consequences of remedial education on the future hopes and aspirations of high school graduates demand accountability. Education is a civil, moral, and economic right for all students, especially those from economically and educationally disadvantaged backgrounds. The reason why is the current assessment placement status quo, maintained largely under the banner of academic and institutional freedoms, needs to be questioned and reformed for the sake of the state's future. Massachusetts education policy makers and leaders must close the assessment policy gaps because there are human and economic costs to remedial referral.

Introduction

Massachusetts prides itself as a national leader in K-16 education. The state consistently outperforms other states on participation and performance on national and state assessments. Data from the National Center for Public Policy and Higher Education's national report card indicate that Massachusetts' 8th grade students are top performers in math, science and reading; Massachusetts' high school completion rates are among the highest at 92%, as are college enrollment rates at 41% (Measuring Up, 2008). However, the state's college remediation and completion rates are causing alarm among education stakeholders and policy makers. Current data from the Massachusetts Department of Higher Education's School to Career Database (2008) showed 31% (8.9% state university; 22.1% state college) of new first-time, full-time degree seeking freshmen at the four-year state institutions and 60% at the public community colleges are referred to at least one remedial course.

On October 5, 1998, the Massachusetts Board of Higher Education set forth standards for basic academic skills assessment for entering students at Massachusetts public campuses in order "to place developmental students in appropriate courses in order to assure readiness for college level work." The Board also sought to ensure "comparability and compatibility of assessment within the system; reducing remedial courses on four-year campuses and stimulating best practice approaches to developmental education." The impetus the Board of Higher Education cited for establishing these assessment standards was because:

> The public campuses exhibited great variability in their assessment practices, including instruments used, cut off-scores, and standards for course placements. These variations have resulted in disparities among assessment results and prevent any opportunity for comparing remedial course enrollment across campuses (Massachusetts General Laws Chapter 15A, Section 9c, and 9u and Massachusetts General Laws c. 15A, s.32).

The state assessment policy called upon the Boards of Trustees of each two and four-year state institutions to implement these standards beginning with the Fall class of 1999 in order to accomplish several things, most importantly to place developmental students in appropriate courses in order to assure readiness for college level work. However, twelve years later, state colleges still exhibit great variability in their assessment practices. The disparities with test administration live on despite years of education reform efforts yielding an unprecedented wealth of student outcome data, which, with respect to college readiness, are alarming. Each year thousands of high school graduates in Massachusetts are deemed to be not ready for college coursework and placed into developmental classes. In Fall 2008, 10,268 out of 28,518 new first-

time, full-time degree seeking freshmen enrolled in at least one developmental course (Massachusetts Department of Higher Education, 2008).

The rise in remedial education has prompted many secondary education leaders and stakeholders to raise some concerns about the validity of the assessment outcomes, especially considering the degree of variability of assessment standards across the state's postsecondary institutions. Indeed, many public secondary educators, along with students and parents, argue that many college freshmen entering the state colleges and universities have been inappropriately referred to developmental/remedial courses due to the diversity of assessment rules, policies, guidelines and results currently in place.

To this end, this study investigates the impact of test administration practices for college placement within the Massachusetts state college system, focusing primarily on the fifteen community colleges that do the majority of testing. The paper analyzes the degree to which practices are inconsistent, and in some cases unfair, and examines the policy implications of these variables at the state, local and student levels.

Methodology

This analysis is grounded in (1) a review of the historical context behind the 1999 Massachusetts policy on college placement testing in the state; (2) an analysis of the impetus and intent of this policy guidance; and (3) an examination of current placement assessment practices across the Massachusetts Community College System based on a survey of assessment directors and coordinators conducted by this author in Spring 2009.

An examination of the policy from the Massachusetts Board of Higher Education reveals the Board's original intent (see Appendix A). The policy addresses college level competency

definitions, testing instruments, cut scores, exemptions, and retest policies to be employed system-wide for each skill area. The analysis focused on two-year state colleges is driven by the fact that public community colleges enroll 43% of the state entering freshmen (Retrieved on July 31, 2010 from http://www.masscc.org/inside.asp?id=4), test more than two thirds of them and enroll over 60% of students into remedial courses (Massachusetts Department of Higher Education, 2008). Moreover, due to the community colleges' mission to provide college access to all, the community colleges rely more heavily upon the options available with the Accuplacer College Placement Test to determine readiness.

In order to measure the level of adherence by the state colleges and universities to the Massachusetts Board of Higher Education's testing policy, a survey was conducted (see Appendix B) with the assessment directors and coordinators at the two-year state postsecondary institutions. Thirteen of the fifteen state community colleges completed the survey questionnaire by Spring 2009. The online survey asked the community college assessment directors, administrators and coordinators to respond to questions regarding their college placement assessment programs, methodologies and policies. The results were analyzed for potential differentiations of assessment placement application across the public community colleges as well as unintended consequences on the appraisal of mathematics and English college level skills of public high school graduates, especially those from low-income and ethnic minority groups.

Contextual Background

The current college and career readiness crisis in the Massachusetts public education system and across the nation points to three educational trends: (1) secondary school graduates' lack of academic preparation for college level coursework; (2) curricular misalignment between

secondary and postsecondary; and (3) problems with college readiness placement assessment testing administration. Strong American Schools (2008), a nonpartisan organization promoting sound education policies for all Americans, argues that:

> A hoax is being played on America. The public believes that a high school diploma shows that a student is ready for college-level academics. Parents believe it too. So do students. But when high school graduates enroll in college as many as one million students fail placement exams every year. Well over one third of all college students need remedial courses in order to acquire basic academic skills (p. 3).

Expanding upon the above claim, The National Center for Public Policy and Higher Education (2008) reports that for each cohort of 100 students enrolled in one of Massachusetts' public colleges and universities, the completion rate is only 18 students within 6 years. This comes as no surprise given state and federally mandated performance measures, dating back to the 2001 No Child Left Behind Act Massachusetts Education Reform, aimed at high school graduation as an end in and of itself (Retrieved on July 31, 2010 from http://www.doe.mass.edu/nclb/news02/0222memo.html). Regardless, the ever-rising remedial placement rate of first year college students at both two- and four-year public institutions suggests not only misaligned curricula between secondary and postsecondary, but also highlight the disparities in college remedial assessment practices across Massachusetts' higher education system.

The use of college placement tests is facing increased scrutiny not only here in Massachusetts but across the country by some national researchers Bailey (2009), Boylan (2009) and Saxon (2008). With over two million secondary school graduates enrolling in remedial education every year (Boylan, 2009), these researchers are calling into question the assessment

instruments themselves as well as the assessment practices and remediation effects on student success into postsecondary education.

Saxon, Levine-Brown and Boylan (2008) assert that since nearly all current college placement tests are cognitive assessments they only measure students' knowledge on a particular subject at a given testing time period. While they acknowledge that the information from the cognitive assessment are reliable in placing students into academic levels, they maintain that the assessments do not measure all the factors important to student success like affective characteristics such as motivation, attitudes towards learning or anxiety.

In addition to concerns raised by Saxon (2008) et. al. about the reliability of these assessments in gauging pre-requisite factors for college and career readiness, Bailey (2009) examines the validity of the assessments in determining students' placement into remedial coursework. Bailey (2009) finds that "among students with equally low assessment test scores, those who take developmental education do no better than those who enroll directly in college-level courses" (p.15). He further argues that the variation of outcomes for students with similar assessment results signals a dissonance between what the assessment is currently measuring and what is needed to be successful. To this end, Bailey (2009) advocates that the present "approaches to assessment for developmental placement should be reconsidered and perhaps replaced with an approach that tries explicitly to determine what a student will need to succeed in college generally rather than one that aims to identify a somewhat narrow set of skills a student possess at a given point" (p. 24).

Notwithstanding, the reforms needed to deal with existing assessment measures for college and career readiness, there is also growing awareness and distress about the enormous flexibility in test administration in public college systems. In Massachusetts, the assessment

flexibilities have led to unprecedented levels of college readiness assessment disparities that raise concerns about the validity and reliability of the state's current remedial referral measurements. The time has come to revisit and reexamine policies, instruments, practices and assurances of compliance to ensure that each student's program of study is appropriate and takes the least amount of money and time spent in remediation.

The Massachusetts Department of Higher Education reported in 2008 that 31% of high school graduates enrolled in the state's four-year public institutions were placed in remediation courses and 60% of community college students (Massachusetts Department of Higher Education, 2008). For these students, completing a two or four-year degree is a daunting task that requires significant effort, time, money and personal resilience.

Massachusetts students are not alone. The Education Commission of the States (ECS) reported in May 2010 data from several states showing statewide remedial rates ranging from 30% to over 50%. Placement in remedial education has some consequences especially during the first year of college. According to the U.S. Department of Education, only 17% of students enrolled in remedial reading and 27% enrolled in mathematics earn a bachelor's degree (Education Commission of the States, 2010) as compared to 58% of first-time degree seekers who are not required to take remedial classes (Planty, M., Hussar, W., Snyder, T., Kena, G., KewalRamani, A., Kemp, J., Bianco, K., Dinkes, R., 2009). Achieving The Dream (2008), a multiyear national initiative dedicated to helping community college students succeed, reported that 46% of students who were required to take remedial courses failed to complete them. They also found a strong correlation between the number of developmental courses required and the likelihood that a student would drop out. Bailey (2009) concludes that "students who enroll in

remediation are less likely to complete degrees or transfer than non-developmental students" (p. 15).

The incongruities between current educational expectations and realities are both paradoxical and obscured from public view. Most Massachusetts taxpayers are unaware that, on average, twelve years of schooling funded at an annual per pupil cost of $13,017.31, has not prepared 60% of its public high school graduates for college level coursework in the Massachusetts community college system nor 31% enrolling in one of the state's four-year institutions (Massachusetts Department of Higher Education, 2008).

Students are not the only casualties in this remedial education quagmire. The community colleges themselves are caving in under the weight of the remedial education burden fueled in part by the sociopolitical mandate that every student attend college and in part due to the perceived strategic affordability of community college transfer programs. In 2009, the number of students enrolling in Massachusetts community colleges is unprecedented with 43% of the state entering freshmen enrolled (Retrieved on July 31, 2010 from http://www.masscc.org/inside.asp?id=4). The expectation that all students should go to college is driving students who are not yet "college ready" to enroll and is taxing a community college system already bursting at the seams. Against the backdrop of these crippling costs and government push for increased college enrollment is the fact that remedial education is not fully funded by federal or state education appropriations. This leaves two-year colleges to fend for themselves, often making cuts to the student support programs and services that assist the very students placed in remediation.

Ten years ago, Breneman and Harlow (1998) estimated that nationally colleges spent more than $1 billion annually on remedial education. Today, Bailey (2009 as cited in Strong

American School, 2008) approximates the annual cost of remediation to community colleges nationwide at $1.9 to $2.9 billion and at $500 million at four-year institutions. Furthermore, nationally, the per student cost for remediation is estimated to be between $1,607 and $2,008 for public community colleges and between $2,025 and $2,531 for public four-year institutions for a total cost to students and families of $708 to $886 millions (Strong American School, 2008). Students are charged full tuition and fees for these remedial courses that do not satisfy graduation requirements or earn transferable credits. The financial consequence to low-income and poor students with limited resources makes completion highly improbable.

As noted earlier, the causes of the remedial/developmental enrollment increase point to three educational issues: (1) high school graduates' lack of academic preparation for college level material; (2) curricular misalignment between the K-12 and higher education systems; and (3) college placement testing administration disparities, which might lead to incorrect remedial education referral. Massachusetts' recent adoption of the National Common Core Standards and assessment on July 21, 2010, is an important step towards addressing the first two trends (Retrieved on July 31, 2010 from http://www.doe.mass.edu/news/news.aspx?id=5634 - 28 KB). However, the third trend concerning the condition of college placement testing administration across the state's postsecondary system remains real and unresolved. Data from the results of this author's 2009 survey of assessment directors from 87% of state community colleges show strong evidence of placement assessment disparities, which should prompt Massachusetts education leaders and stakeholders to address the third trend in this readiness debacle.

The economic and political costs of remedial education are consequences of the tolls on the individual. In the words of President Kennedy, "Let us think of education as the means of developing our greatest abilities, because in each of us there is a private hope and dream which,

fulfilled, can be translated into benefit for everyone and greater strength for our nation" (Retrieved on July 30, 2010 from http://www.quotationspage.com/quote/8280.html). To remove unnecessary barriers to Massachusetts' students' private hopes and dreams, and to make our state stronger, state policy makers and leaders should revisit the placement assessment standards in the context of the data outcomes.

Findings

Developmental education is a necessary reality. For myriad reasons, there will always be high school graduates who lack the academic knowledge and skills necessary for immediate success in college or in the workplace. Placement testing is essential in determining where these students must begin; however, the tests must be administered consistently and with the goal of expedient placement in the appropriate developmental courses.

The assessment policy the Massachusetts' Board of Higher Education adopted twelve years ago that set forth standards for basic academic skills assessment for entering students at Massachusetts public colleges and universities has largely gone unmonitored. The Massachusetts Board of Education's 1998 assessment policy was adopted to (a) appropriately assess the academic skills and competencies of incoming students for college readiness; (b) encourage collaboration across the public institutions in the placement of students in developmental courses primarily at the community colleges; and (c) create common assessment standards. This study finds that the goal of the Board to achieve "adequate standardization of the assessment" remains to be realized.

Data from this author's survey conducted in Spring 2009 found the vast majority of the two-year state colleges across Massachusetts administer the Accuplacer in combination with their own college-developed instruments for the purpose of placement. A significant number

(61%) of the public community colleges also use independent variations in testing standards, guidelines, rules, policies and procedures ranging from disabling the online calculator, varying degrees of retest policies, utilization of a menu of cut scores and abandonment of sections of the writing test all together. These persistent variances merit even greater scrutiny today at the community colleges given that a growing number of Massachusetts' students entering the state's colleges and universities are enrolled in the two-year colleges.

There is undeniable variance across the two-year state colleges in administering and utilizing college placement tests. An 87% response rate from the public community colleges (n = 13) to the Spring 2009 survey results revealed discrepancies including variability in test exemptions; math cut-scores; the use of calculators; retest policies and expiration date of the test scores. Although all the surveyed colleges use the Accuplacer for placement testing, not all require every incoming student to take the assessment. Sixty one percent (61%) of the respondents (n = 8) reported that they test every first year student prior to enrollment while the remaining 38.5% (n = 5) exempt some students.

Reasons for these exemptions include students who have successful completed college level mathematics and English coursework at another institution with a passing grade; students who previously earned an associate, bachelor or master's degree; students who took high school advanced placement courses and scored 3 or above in English and 4 or higher in math; and high school students who earned SAT scores of 550 or above in mathematics and 600 or higher in Verbal. Interestingly, several of these exemptions, in particular the use of the students' SAT Verbal scores, are outlined in the state policy, yet only five community colleges honor them. In the eight colleges who do not, there may well be a sizeable number of incoming students placed into remediation unnecessarily.

While there is no available data to estimate how many Massachusetts students have been unnecessarily enrolled in remedial classes at the state community colleges, (i.e. the number eligible for exemptions that were not granted such exemptions) ethics dictate the need for a means of accountability in ensuring compliance with these exemptions. Bailey (2009) argues that one of the main issues with remedial education is the arbitrary nature of placement assessment in distinguishing remedial versus non-remedial students. He found in the analysis he completed of Achieving the Dream's community college data that "students who were referred to developmental math but never enrolled in a developmental math course nevertheless took and passed a college-level math course" (p.23).

Another disparity in college placement testing exists in the administration of the mathematics assessment despite the 1998 policy recommendations:

> The Massachusetts Board of Higher Education's 19-member Developmental Assessment and Placement Advisory Committee recommends the use of the College Board's Accuplacer Computerized Placement Test (CPT) to test reading and mathematics basic skills with cut-off scores of 68 on the CPT reading component, and 40 on the College Level Math test or 82 on the Accuplacer Elementary Algebra test. These cut-off scores represent the committee's best judgment based on available research on the minimum proficiencies required to successfully pursue college level work (Massachusetts General Laws Chapter 15A, Section 9c, and 9u and Massachusetts General Laws c. 15A, s.32).

Any one of these discrepancies in determining math placements can have a major impact on student enrollment and persistence. For instance, students admitted to several public community colleges, which use varying math placement assessment standards for remedial referral, face a dilemma. These students will not only be confused by the array of conflicting

placements and referrals to remedial courses from each school, more importantly, they may never be able to make informed decisions about their enrollment because they won't know which course placement results are appropriate for them. Simply cut-score variability affects the ability to gauge college ready versus remedial eligible students. To this point, Bailey (2009) finds that "within a relatively large range around the cutoff score, there is little difference between students who are assigned to developmental education and those who are encouraged to enroll in college-level courses" (p. 23).

As stated earlier, the complex assortment of rules, testing procedures and cut-scores for mathematics course placement benefits the community colleges. After all, community colleges charge full tuition and fees for remedial courses, but give no credits for graduation or transfer to four-year institutions for the courses. Community colleges participating in this survey administer three mathematics tests to incoming freshmen: arithmetic (100% of the colleges), elementary algebra (92%), and college level math (83%).

The survey results showed that the community colleges use various cut-scores in arithmetic, elementary algebra and college level math to decide student placements. In arithmetic, 67% of the colleges reported using a cut-score of 50 or lower to place students into basic remedial math courses; while 33% require a range of 55 to 65 for such placement. In elementary algebra, 8 out of 13 colleges (67%) reported an array of cut-scores to make placement decisions: some use a cut-score of 42, 54, and 57 while others use multiple combinations ranging from 26 to 81. In college level math, 67% of the schools utilize a cut-score of 82 or higher to determine placement in credit bearing courses; while 33% use a range and combination of cut-scores between 75 and 85.

Table Summary of Math Cut-Score Distribution

Math Test	Cut-Scores	Percentage of Colleges	Board Cut-Score Policy
Arithmetic	50≤	67%	82
	55-65	33%	
Elm. Algebra	Multiple: 42, 54, 57	67%	
	Multiple: 21 - 81	33%	
College Math	82≥	67%	40
	Multiple: 75 -85	33%	

Note: The Board of Higher Education policy states students who score below 40 on the College Level Mathematics test should take the Elementary Algebra test and score at least 82.

What's more, developmental education referrals have some significant impact on persistence especially during the first year of college. Achieving The Dream (2008) data, for first year incoming community college students referred to a single or multiple remedial courses, reveal persistent rates of only 13% for those placed in multiple levels of remediation and 23% in a single remedial referral. Furthermore, remedial assessment placement sends discouraging signals to students who may never engage again in postsecondary education. Bailey (2009) discovers that 21% of students placed in remedial mathematics and 33% in reading do not enroll in any developmental programs within three year of initial registration. Thus, the cut-scores inconsistencies must be investigated and addressed.

In addition to the cut-score incongruities, the community colleges employ varying rules for the use of the calculator during the math test. The calculator was embedded into the assessment test by the test designers to be used for a select group of questions. For example, the calculator is not available during the arithmetic test but does come up for some algebra questions. While 69.2% of the colleges comply with the use of the test embedded calculator, 30.8% do not. The reason most often sited for disabling the calculator is that the colleges mathematic departments reject it.

The existing practices at the community colleges about the use of the calculator are both arbitrary and based on mathematic departments' ideologies that are often unsubstantiated. Those that argue against students' use of the calculator believe that calculator dependency weakens students' mathematics skills. However, several researchers, including those from the American Mathematical Association of Two-Year Colleges, have dispelled the theories posited against the use of the calculator. In her study to understand improvement of basic algebra skills by full integration of calculator use, Martin (2008) determines that "the idea of teaching students obsolete skills to help them think is nonsense, as is the idea that using calculators causes mental atrophy" (p.22).

Few educators in the 21st century would disagree that college and career readiness includes students' ability to utilize technology. Calculator use is integral to the teaching and learning of mathematics today. Martin (2008), citing the American Mathematical Association of Two-Year Colleges, argues that:

> Technology continues to change the face of mathematics and affect the relative importance of various concepts and topics of the discipline. Advancements in technology have changed not only how faculty teach, but also what is taught and when it is taught. Using some of the many types of technologies can deepen student's learning of mathematics and prepare them for the workforce (p.21).

This lack of common rules for calculator usage has some significant consequences on student placement. First and foremost, high school students have been using calculators as part of their math curriculum since the sixth or seventh grades. In the K-12 curriculum, use of a calculator demonstrates a student's ability to apply their knowledge and use a technological tool for higher order problem solving. So, it is reasonable to believe that students who test at community colleges that allow them to have access to the embedded calculator for the

appropriate questions will have different placement experiences and results than those who take their exams at institutions that do not let them use the calculator.

Thus, it is probable to conclude that students who have been denied the use of a calculator during the math placement assessment were not given the opportunity to demonstrate their true math skills; therefore, misplaced into remedial math coursework. Furthermore, the rule against the use of the calculator employed by some of the state community colleges is unjustifiable. As mentioned earlier, Bailey (2009) showed that some students who were placed into developmental math courses yet elected not to enroll but instead took college-level math courses passed them.

Finally, another area of concern regarding the inconsistent administration and use of the college placement tests at the state community colleges is the retest rules and the lifetime validity of the test scores. The 2009 survey of state community colleges found that most of the colleges allow a student to retest; however, retesting policies vary widely. The colleges use an array of rules ranging from (1) retest only after two-weeks of formal review; (2) permitting the retest any time but only allowing one test at a time; or (3) approving students to retest at the discretion of the testing director. Complicating matters is the fact that students' opportunities to retest are determined by the lifetime validity of the scores each college assigns to the results. There is a complex and variable set of rules with respect to the assessment score "expiration date." Some of the institutions (n = 9) use a time span ranging anywhere from one year to five years, while others' (n = 4) results have an indefinite lifetime. Once again, students caught in these discrepancy gaps will find themselves at the vortex of incompatible requirements.

The data on the correlation between remediation and persistence suggest that Strong American Schools' (2008) charge of the nation's educational systems' disconnects are pervasive

across many levels. The curriculum misalignment extends to the 2 +2 program of study touted by many public high schools, in particular those with career/vocational technical education programs (i.e., Perkins' Tech Prep). The data indicate that, for students pursuing an associate degree in a technical career pathway, two years is rarely the norm. For those who graduate the rates are not encouraging. The Center for Higher Education Management Systems (2009) reports the three-year associate degree completion rates for Massachusetts at 18.4%.

For career and technical education students enrolled in postsecondary, the National Center for Education Statistics (2006), for which the latest data is available, showed that 16.3% of students earn an associate degree within three years (Laird, J., Chen, X., Levesque, K., 2006). This is also true for high school graduates choosing community college as an economical 2 +2 strategy to earning a bachelors degree via joint admission and transfer programs. In fact, data from the Achieving the Dream Initiative paint a bleak picture for students in remedial education in the nation with only 15% completing their education sequence, 40% partially completing their sequence and 46% failing to finish their first semester (Education Commission of the States, 2010).

Recommendations

The pervasive inconsistencies that have been allowed to remain in place over the past twelve years have not provided the necessary comparability and compatibility data to improve test administration and outcomes. Massachusetts education policy makers are accountable for ensuring that the policy enacted in 1998 is implemented by each and every public college and university, beginning with the community colleges.

Massachusetts education leaders and policy makers should consider the following priorities:

1. Form a committee to revisit the standards for the assessment i.e. math cut-scores, calculator use, retest policies and validity of test scores to limit the myriad of discrepancies;
2. Establish a placement protocol that combines assessment scores with high school transcript data and MCAS results to define a more comprehensive referral system for developmental education;
3. Create an accountability system for ensuring compliance with the standards set forth.
4. Conduct a statewide education campaign including ongoing professional development to address the lack of consistent and common knowledge of college placement testing and guidelines by students, school counselors, teachers and college assessment testing coordinators. In particular, high school guidance counselors must be educated so that they can inform students and families of their rights and options regarding placement testing. Equally, college assessment testing administrators would benefit from a policy review on cut-scores, exemption, and retest requirements and monitoring.
5. Collect regular and frequent assessment data to be analyzed for appropriate and timely adjustments of policy guidelines to ensure stronger validity and reliability of the assessment scores for specific cohorts of incoming freshmen.
6. Allow remedial course credits to be used towards college level elective course credits to alleviate the financial burden of remedial education, especially on low-income and poor students.
7. Provide financial support for the development of best practice models informed by timely data.

Limitations

This study sets out to investigate the degree to which assessment placement testing administration practices at the state community colleges are inconsistent, and to examine the policy implications of these variables at the state, local and student levels. The author's main argument is testing inconsistencies cause inaccurate student referrals to remedial education programs. The misplacement of students into remedial coursework contributes to the state's ever raising numbers of students' deemed unprepared for college level material and has some human, financial and economic consequences that are detrimental to Massachusetts' future growth. The current lack of adherence to the state policy recommendations does not allow for comparability and compatibility of scores to determine the validity of the state's standards for gauging income students' college and career readiness.

Although the author's findings are compelling enough to warrant some assessment policy re-evaluation, there are limitations to these results. One, the study did not correlate placement results of incoming students from multiple public community colleges against student performance outcomes in the remedial courses by the beginning of the students' sophomore year to measure the specific impacts assessment discrepancies could have on students' educational progress due to a lack of access to the data. Such analysis would have strengthened this study's position that incompatible placement testing administration is one of the leading causes of the state's college and career readiness debacle.

Second, the author did not reference any assessment placement revisions that may have been made since the inception of the policy in 1998 because at the conclusion of this study no published reform updates to the policy were available. Information on any formal or informal follow up revisions to the state's college readiness placement policy would have helped the

author of this study make a more balanced argument about the charge that the current disparities in assessment practices are due to state policy makers' lack of monitoring. Furthermore, policy update information would have offered valuable insights that could help better explain the current patterns of placement assessments.

Despite these limitations, this study raised some important questions about one of the trends of Massachusetts' college and career readiness issues. A full understanding of this readiness issue will require further studies. Future studies will need to consider a longitudinal investigation of the correlation between placement results and student outcomes to determine the degree of validity of the state's current cut-scores, exemption rules and retest guidelines for college level work assessments.

Conclusion

Participation in some form of postsecondary education or training is at the heart of Massachusetts' economic strength and future growth. In fact, jobs requiring more than a high school diploma, but not a four-year degree, represent 44% of the largest share of the state jobs and are considered to hold greater demands in future growths. Thus, the state's future economic and education policy vision should encompass a strong commitment to some postsecondary education and training for all residents (National Skills Coalition, 2010).

However, access to education and training for Massachusetts' future workforce needs to mean more than completion of the high school diploma, admission into postsecondary or workforce training programs, and enrollment in college. Access to education and training beyond high school for the state's students must include degrees of academic preparation that are adequate for postsecondary work, and, most importantly, common and consistent ways of

assessing readiness for college and career that are standardized, valid, and reliable. Undeniable human and economic costs are tied to the State of Massachusetts' ability to address its currently broken system of measuring student readiness for college level credit-bearing coursework.

The state would be advised to consider adopting solutions that include investment in the development of best practice model, informed by timely data gathering, and consistent assessment policy implementation across the public education system. Data from the National Skills Coalition (2010) study revealed that "Massachusetts is currently ranked 47th in the nation in per capita state spending on public higher education. Underinvestment in community colleges, public four-year institutions, vocational education and technical training has left the Commonwealth challenged to prepare its workforce…" (p. 6).

Beyond the financial resource requirements for Massachusetts to meet its workforce readiness challenge in the 21st century innovation economy, state education policy makers and stakeholders must re-examine our students' readiness calibration standards. The state's recent adoption of the National Common Core Standards is a vital and significant start for Massachusetts to begin to address its college and career readiness reforms, as will standardization and monitoring of the state's college readiness placement assessment standards.

Appendix A

BOARD OF HIGHER EDUCATION
REQUEST FOR BOARD ACTION

COMMITTEE: ACADEMIC AND CAMPUS AFFAIRS **NO**.: ACA 99-04

COMMITTEE DATE: October 5, 1998

MOVED: The Board of Higher Education adopts the attached standards for the assessment of basic academic skills for students entering institutions within the system of public institutions of higher education, and calls upon the board of trustees of each institution to implement these standards effective for the fall 1999 freshman class.

Authority: Massachusetts General Laws Chapter 15A, Section 9c, and 9u and Massachusetts General Laws c. 15A, s.32

Common Assessment

The historical context for the standardization of basic academic skills assessment for entering students at Massachusetts public campuses is grounded in: Board policy on the need for comparability and compatibility of assessment within the system as originally described in the Undergraduate Experience (1989); Board policy reducing remedial courses on four-year campuses (1996); and the adoption by the Developmental Advisory Group (1997) of a "Best Practice" approach to developmental education. This approach encourages early assessment of basic academic skills with prompt feedback; timely referral to appropriate course placement; collaboration across segments to place developmental students primarily at community colleges; and post-assessment of academic skill competencies to assure readiness for college level work.

Currently the public campuses exhibit great variability in their assessment practices, including instruments used, cut off-scores, and standards for course placements. These variations have resulted in disparities among assessment results and prevent any opportunity for comparing remedial course enrollment across campuses.

During the past academic year, a 19-member Developmental Assessment and Placement Advisory Committee, with assistance from task forces on the three basic academic skills, has reviewed and reached agreement on common definitions, competencies, testing instruments, cut scores, exemptions, and retest policies to be employed system-wide for each skill area.

Representatives from each segment of public higher education, including faculty and staff from four state colleges, four UMass campuses, seven community colleges, the University President's Office, the Executive Office of Community Colleges, and the State College Council of Presidents, participated in the review process and oversaw the work of the task forces. Assessment experts from the Department of Education provided insight on behalf of the K-12 sector and helped to ensure consistency with the Department's new statewide comprehensive assessment system (the MCAS).

The Advisory Committee recommends the use of the College Board's Accuplacer Computerized Placement Test (CPT) to test reading and mathematics basic skills with cut-off scores of 68 on the CPT reading component, and 40 on the College Level Math test or 82 on the Accuplacer Elementary Algebra test. These cut-off scores represent the committee's best judgment based on available research on the minimum proficiencies required to successfully pursue college level work.

To test basic writing skills, the Advisory Committee has recommended the use of an impromptu writing sample that would be evaluated by local campus faculty using common scoring guidelines. A statewide workshop will be held to explain scoring guidelines and standardize evaluation of sample essays. Students who score over 500 on the SAT I-Verbal exam would be exempt from the reading test. Students who score over 600 on the SAT I-Verbal exam would be exempt from both reading and writing tests. All students would take the math test.

The assessment policy will take effect beginning with the fall 1999 freshman class and be reviewed prior to fall 2003 when the Grade 10 MCAS test will be a requirement for graduation.

Appendix B

Survey Questionnaire

1. What is your institutional type?

- ☐ 2-year public
- ☐ 2-year private
- ☐ 4-year public
- ☐ 4-year private

2. What type of CPT (College Placement Testing) instrument do you use at your institution?

- ☐ Accuplacer
- ☐ Other (please specify)

3. Is it a state mandate for your institution to administer the CPT assessment to all incoming students?

- ☐ Yes
- ☐ No
- ☐ Other (please specify)

4. How long has your institution been using the CPT assessment?

5. Do you administer the test to all entering freshmen?

- ☐ Yes
- ☐ No

If No, please indicate criteria for test exemption

6. How do you inform students about the test?

- ☐ Included in Admissions Application Material
- ☐ Included in Acceptance Notice
- ☐ Included in Orientation Packets
- ☐ During Orientation & Registration Periods
- ☐ Other (please specify)

7. Do you charge a test fee?

- ☐ Yes

☐ No

If Yes (please indicate how much)

8. Do you use the SAT Scores to exempt students from the CPT assessment?

☐ Yes

☐ No

If Yes (please indicate the required SAT Scores for Math, Critical Reading, Writing)

9. What subjects do you test on your CPT assessment? (Please check all that apply)

☐ Math

☐ English

☐ Language

☐ Science

☐ Other (please specify)

10. If you test in English, please indicate the areas of assessment? (Please check all that apply)

☐ Reading Comprehension

☐ Sentence Skills

☐ LOEP

☐ WritePlacer

☐ In House Instrument (please specify)

11. If you test in Math, please indicate the areas of assessment? (Please check all that apply)

☐ Arithmetic

☐ Elementary Algebra

☐ Intermediate Algebra

☐ College Level Math

☐ Pre-Calculus

☐ Calculus

☐ In House Test (please specify)

12. What are your cut-scores in Arithmetic/Basic Math? (Please check all that apply)

☐ 0-25

☐ 25-35

- [ ] 35-45
- [ ] 45-55
- [ ] 55-65
- [ ] 65-75
- [ ] 75-85
- [ ] 90 and above
- [ ] Other (please specify)

13. What are your cut-scores in Elementary Algebra (please check all that apply)?

- [ ] 0-25
- [ ] 25-35
- [ ] 35-45
- [ ] 45-55
- [ ] 55-65
- [ ] 65-75
- [ ] 75-85
- [ ] 90 and above
- [ ] Other (please specify)

14. What are your cut-scores in Intermediate Algebra (Please check all that apply)?

- [ ] 0-25
- [ ] 25-35
- [ ] 35-45
- [ ] 45-55
- [ ] 55-65
- [ ] 65-75
- [ ] 75-85
- [ ] 90 and above
- [ ] Other (please specify)

15. What are your cut-scores in College Algebra (please check all that apply)?

- [ ] 0-25
- [ ] 25-35

- [ ] 35-45
- [ ] 45-55
- [ ] 55-65
- [ ] 65-75
- [ ] 75-85
- [ ] 90 and above
- [ ] Other (please specify)

16. What are your cut-scores for Reading Comprehension (please check all that apply)?

- [ ] 0-25
- [ ] 25-35
- [ ] 35-45
- [ ] 45-55
- [ ] 55-65
- [ ] 65-75
- [ ] 75-85
- [ ] 90 and above
- [ ] Other (please specify)

17. What are your cut-scores for Sentence Skills (please check all that apply)?

- [ ] 0-25
- [ ] 25-35
- [ ] 35-45
- [ ] 45-55
- [ ] 55-65
- [ ] 65-75
- [ ] 75-85
- [ ] 90 and above
- [ ] Other (please specify)

18. What are your cut-scores for LOEP (please check all that apply)?

- [ ] 0-25
- [ ] 25-35

- [ ] 35-45
- [ ] 45-55
- [ ] 55-65
- [ ] 65-75
- [ ] 75-85
- [ ] 90 and above
- [ ] Other (please specify)

19. What are your cut-scores for WritePlacer (please check all that apply)?

- [ ] 0-25
- [ ] 25-35
- [ ] 35-45
- [ ] 45-55
- [ ] 55-65
- [ ] 65-75
- [ ] 75-85
- [ ] 90 and above
- [ ] Other (please specify)

20. What are your cut-scores for In-House Instrument (please check all that apply)?

- [ ] 0-25
- [ ] 25-35
- [ ] 35-45
- [ ] 45-55
- [ ] 55-65
- [ ] 65-75
- [ ] 75-85
- [ ] 90 and above
- [ ] Other (please specify)

21. Do you allow the use of the calculator, when permitted by the test, in the math section of the assessment?

- [ ] Yes

☐ No

If NO, please explain the institution's reason

22. How many pre-college level Math courses do you offer?

23. How many pre-college level English courses do you offer?

24. What Math scores do you use to place students into your pre-college courses?

25. What English scores do you use to place students into your pre-college courses?

26. What Math pre-college courses do students typically place into? (please list course titles and numbers)

27. What English pre-college courses do students typically place into? (Please list course titles and numbers)

28. How long are the test scores valid for?

☐ One Semester

☐ Two Semesters

☐ Other (please specify)

29. Do you allow a student to retest?

☐ Yes

☐ No

If NO (please explain school policy)

30. Do you offer remedial services to students who place below college level?

☐ Yes

☐ No

☐ Other (please specify)

31. On average how many tests do you administer annually?

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