STUDENT SUCCESS: THE CASE FOR ESTABLISHING PREREQUISITES THROUGH CONTENT REVIEW

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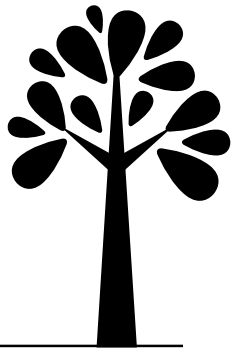

The Academic Senate for California Community Colleges

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Abstract

In the 1990s, the Academic Senate collaborated with the Chancellor's Office and other leadership groups in the state to revise Title 5 regulations, to draft *The Model District Policy on Prerequisites, Corequisites, and Advisories on Recommended Preparation* (Board of Governors, 1993) and *Prerequisites, Corequisites, Advisories, And Limitations On Enrollment* (Chancellor's Office, 1997), and the Academic Senate authored *Good Practice for the Implementation of Prerequisites* (1997). These documents established a requirement that most prerequisites had to be statistically validated in order for enrollment in a course to be restricted, effectively requiring faculty to justify prerequisites by failing students. As a result of the difficulties created by this requirement, many colleges chose not to apply prerequisities to their courses and instead allowed students to self-diagnose their own levels of preparation. After a decade of policy and practice promoting relatively unhindered student enrollment in course sections throughout the curriculum, faculty have concluded that the consequence of this situation has been a decline in the level of student preparation necessary for success in a limited but crucial range of courses in community colleges. In addition, the quality of instruction is likely to have been negatively impacted as faculty attempted to facilitate the success of students who were not appropriately prepared, lacking the knowledge and/or skills necessary for a reasonable chance of success. For these reasons the faculty have adopted resolutions urging expanded use of content review—a method for establishing prerequisites already promoted in the policy documents of the 1990s. This paper indicates why faculty believe expanded reliance on rigorous content review as a means of validating prerequisites is necessary to improve student success. In addition, the Academic Senate is preparing separate papers on related topics, including (1) multiple measures and (2) transition strategies colleges can use as they revisit and in some cases expand the number of legitimate prerequisites in their curriculum. Changing the process for the establishment of prerequisites is just one of many ongoing efforts to increase student success, a goal of all faculty but one most recently renewed as colleges initiated efforts to improve success in the basic skills curriculum as a component of the Basic Skills Initiative (www.cccbsi.org) in preparation for raising statewide the math and English requirements for the earning of an associate degree.

Introduction

The California community colleges have long valued access and have exhibited great dedication to their commitment to serve "all who can benefit." This commitment to access, however, has not been appropriately balanced by a commitment to ensuring success and completion. The colleges are funded so as to place a premium on access and have worked hard to meet the needs of their local communities. The 72 districts that comprise the California community college "system" have dedicated themselves to access and are now increasingly being called on to provide measurable indices of student success. This is occurring at a time when the country, and especially the State of California, is experiencing an economic crisis. As a consequence, the colleges are being asked to improve success outcomes at a time when the funding to support programs known to foster success has been decimated. But even prior to this current challenge the faculty had determined that a change was necessary—there was a need to modify the culture of the colleges to create an environment that facilitates success, as opposed to permitting students the freedom to fail. Colleges have not been allowed to take

appropriate steps to ensure that students were provided with the skills and knowledge necessary for a reasonable chance of success. It is these concerns that have motivated the call to modify existing regulations to permit the use of content review for the establishment of prerequisites. It is a combination of frustration with the status quo, the appropriateness of content review, and the potential benefits of both the content review process and the appropriate implementation of prerequisites that underlies this effort.

Background

Presently in the California community colleges, statistical validation is required for the implementation of cross-discipline prerequisites. It can be argued that the establishment of this requirement was an extreme reaction to clearly inappropriate practices. What led to the establishment of the need for statistical validation of prerequisites and the resulting widespread elimination of prerequisites in the 1990s was "the MALDEF suit." Some California community colleges had a practice in the late 1980s of requiring students who *completed* prerequisite courses to re-take assessment tests and barred their enrollment in subsequent courses if they did not pass that test, leaving them in an enrollment purgatory from which there was no possible exit; students' only option would have been to start over at another community college. That practice is antithetical to the instructional policy and practices supported in this paper and truly peripheral to the establishment of prerequisites. Quite appropriately, the Mexican American Legal Defense and Education Fund (MALDEF) filed suit to demand the prohibition of such practices, which were referred to anecdotally as "trapping." While it touched on courses as prerequisites, the MALDEF suit was primarily aimed at assessment tests as prerequisites. The regulatory solution proposed by then-Chancellor David Mertes included the following (Letter from David Mertes to Manuel Romero/MALDEF, May 28, 1991):

1. Section 58106 [subsequently moved to 55003] should be amended to clarify that all prerequisites must be validated except for degree-applicable sequential coursework prerequisites within a given discipline which were established prior to July of 1990 or those required for transfer to a four year institution.

2. Section 58105 should be amended to clarify that the determination of whether a student meets a basic skill prerequisite must be made using multiple measures.

3. Section 58106 should be amended to clarify that challenges to prerequisites must be resolved in a timely manner which will permit the student to enroll in the course in question if the challenge is successful.

4. Section 58106 should be amended to explicitly prohibit exit tests.

5. Section 55534 should be amended to specify that students must be informed of their rights and responsibilities during orientation.

MALDEF agreed to dismiss the case on the basis of these assurances, and each of these obligations continues to be respected in the revision to Title 5 regulations sought by the Academic Senate.

The Academic Senate's *Good Practice for the Implementation of Prerequisites* was adopted in 1997; it was part of a wider review of California community college regulations summarized in more detail in Appendix II. The procedures mandated by these documents required a burdensome and time-consuming process for establishing prerequisites; the documents themselves acknowledged that it would be difficult to gather sufficient data and thus validate prerequisites in small or infrequently offered classes. Prerequisites of communication and computation (English composition, mathematics, and reading) for courses in *other* disciplines (e.g., a reading prerequisite for a history course or a math prerequisite for an economics course) could be established *only* on the basis of statistical validation. This approach to the validation of prerequisites is unique to the California community colleges; no other higher education faculty has thought the method of statistical validation necessary to establish legitimate prerequisites. As a consequence, California community college students are often able to enroll in courses in which they are not prepared to succeed. The Academic Senate has passed numerous resolutions regarding prerequisites over the past decade and a variety of external scholars and policymakers have questioned the wisdom of this method of establishing prerequisites, including Shulock and Moore in *Rules of the Game* (2007) and Shulock, Moore, Offenstein, and Kirlin in *It Could Happen* (2008), and the California Legislative Analyst's Office in *Back to Basics: Improving College Readiness of Community College Students* (Hill, 2008; see also Appendix III, *Prerequisite Policy in California Community Colleges*, July 2010).

Not long after the requirement for statistical validation was established several resolutions suggested that the Academic Senate should reassess that decision and the principles delineated in *Good Practice for the Implementation of Prerequisites*. Additional impetus to reevaluate the processes for establishing prerequisites came from the examination of data resulting from changes to graduation requirements and the ensuing Basic Skills Initiative. In Spring 2009, the Academic Senate passed Resolution 9.02, which "Resolved, That the Academic Senate for California Community Colleges recommend changes needed to Title 5 language on prerequisites that, instead of relying on statistical analysis, allow local faculty to base their determination for prerequisites of English, reading, or mathematics for collegiate level courses on content review" (see Appendix I for the entire resolution). Finally in Fall 2009, the Academic Senate passed Resolution 9.05 "Ensuring Rigorous Content Review to Establish Prerequisites" resolving to "revisit the content review process as described in *The Model District Policy on Prerequisites, Corequisites, and Advisories on Recommended Preparation* (Board of Governors, 1993) for possible modifications, in an effort to consistently implement rigorous content review standards at such time as content review becomes the primary method of validating prerequisites."

As will be reiterated in several places in this paper, the proposed elimination of the requirement to gather data on a course-by-course basis does not mean that the curriculum process should not continue to make appropriate use of a variety of data. Indeed, Resolution 9.02 S09 also "Resolved, That the Academic Senate for California Community Colleges recommend that once new prerequisites are implemented, colleges conduct research on the effect(s) of the prerequisites." Not only should the impact of prerequisites be examined, but new prerequisites should not be established without a consideration of and preparation for their impact. Efforts must be made to minimize negative unintended consequences. It is critical that prior to the implementation of new prerequisites that an analysis of the students that will likely be impacted is conducted so that planning may

provide for these students (i.e., ensure that there are other course options available to them) and that the impact of the application of new prerequisites be reviewed for future planning. The use of content review as a means of validating prerequisites in no way is a reflection of a lack of understanding of the value and importance of a quantitative examination of the curriculum, rather it is a shift in when and how such data are used.

This paper describes the reasons that content review is sufficient as a process or methodology to establish prerequisites and outlines the events that led the California community colleges to require documented student failure to establish prerequisites. For years, faculty have used the content review process to establish sequenced courses within a discipline (e.g., French I as a prerequisite for French II) and, outside of the California community colleges, this is the process for establishing all prerequisites. The skill and knowledge level that would ensure a student is able to succeed can be clearly identified through the process of content review, a process that involves not only reviewing course content, but methods of evaluation, textbooks and other assigned readings, syllabi, and other documents relevant to how a course is proposed to be taught and how it is taught. The status quo of offering college-level courses to students with a wide range of preparation levels has contributed to the many calls for greater focus on student success within our colleges. Establishing prerequisites where they are needed is one means of increasing student success and fostering a culture where students are appropriately guided in their studies.

The intent of the Academic Senate's 2009 resolution is to focus on the way cross-discipline prerequisites are established for transferable courses. No changes are proposed to a variety of other kinds of prerequisites which are effectively discussed in the 1997 paper, including program prerequisites, corequisites, statutory, regulatory, or contractual requirements as prerequisites, health and safety prerequisites, advisories for recommended preparation, and other limitations on enrollment including those for performance courses, honors courses, or student cohorts. In each of these areas *Good Practice for the Implementation of Prerequisites* (Academic Senate, 1997) remains an effective guide.

Why Content Review

The use of content review for the establishment of prerequisites is not novel. In commenting on the Academic Senate's efforts to rely on content review for this academic endeavor, Nancy Shulock, a researcher who frequently examines the California community colleges, observes the following:

> An expert on state developmental education policy reported that no other state has such a prescriptive policy for what institutions have to do or cannot do to try to improve the basic skills of under-prepared students and none has the kind of "onerous" statistical validation that California has.[ii] He confirmed that leading states, such as Texas, Virginia, Tennessee, and North Carolina, are using content review as the driving force in reforming the delivery of developmental education to improve outcomes for under-prepared students.

With more explicit reference to prerequisites, another leading expert summarized the new directions as follows[iii]:

> The most thoughtful states are trying to strike a delicate balance on assessment and placement policy. On one hand, policies that are too permissive allow students to enroll in college-credit courses without adequate preparation or support, setting up both the student and the institution for failure. On the other hand, overly restrictive policies may require students who have a reasonable chance of succeeding without intervention, such as those who fall just below the established cut score for placement into remediation, to enroll in developmental education anyway….Effective state assessment and placement policies will strike a balance between restrictive and permissive rules. (Collins, p.9)

The ASCCC proposal to allow content review reflects these best efforts by putting the focus on course content and letting faculty at the colleges determine what mix of separate basic skills courses, modular courses, integrated courses, etc. will help students acquire the competencies they need in the shortest possible time.

[i] Beyond the Rhetoric: Improving college readiness through coherent state policy. National Center for Public Policy and Higher Education and Southern Regional Education Board, June 2010.

[ii] Bruce Vandal, Education Commission of the States, personal communication, July 2, 2010.

[iii] Michael Lawrence Collins, Setting Up Success in Developmental Education: How State Policy Can Help Community Colleges Improve Student Success Outcomes. Boston: Jobs for the Future, June 2009.

(Shulock, N. *How To Improve Policy For Remedial/ Developmental Education Success At Community Colleges #3* Retrieved September 23, 2010 from http://collegepuzzle.stanford.edu/)

Shulock's commentary captures many elements of the Academic Senate's reasons for seeking to rely on content review for the establishment of cross-discipline prerequisites. Others external to the California Community College System have commented more directly on the impact of the wholesale sweeping away of prerequisites that followed the MALDEF settlement. Writing in *Honored But Invisible: An Inside Look at Teaching in Community Colleges*, UC Berkeley professor W. Norton Grubb writes:

> The MALDEF case is an interesting example of frustration over standardized tests. California adopted a "matriculation" requirement in which entering students would be assessed and then placed appropriately. In practice, colleges implemented matriculation poorly and unevenly, often requiring standardized tests for inappropriate purposes. The purpose of the MALDEF case was to force colleges to develop more sensible and sensitive procedures. But legal challenges are crude instruments of education policy, and the result—eliminating the power of colleges to require remediation—is as likely to err against the interests of students through underinclusion as the original procedures may have erred through overinclusion. Oral communication, Susan Brown, Legal Counsel for the Latin Issues Forum, San Francisco (formerly an attorney with MALDEF), January 1998. (p. 206)

At the simplest level, a reliance on content review is appropriate as it is a reliance on the expertise of faculty—those who teach the students and know what is needed for success—and the current system is not serving students well. But there are other more nuanced reasons for advocating for this change, reasons that reflect the unintended consequence of the current system, as well as the potential benefits of the use of content review. The following list is not intended to be all-inclusive, but highlights elements of these reasons:

- Educational policy should favor student success, establishing structures that ensure student preparation. The current system is based on requiring student failure in order to validate prerequisites.

- Creating a burdensome process for the establishment of prerequisites has resulted in a culture that avoids prerequisites and even encourages students to enroll in courses in which they have little to no chance of success. At the same time, this has permitted colleges to offer an insufficient number of basic skills courses to meet actual student need—effectively forcing students into courses for which they are not prepared. The addition of even a minimal number of new prerequisites would necessarily alter this balance—shifting resources from transfer-level offerings to basic skills options that are sorely needed and consistently lacking. The Academic Senate has proposed that content review could not be the sole validation tool unless such planning and shifting of resources occurs.

- The great diversity of student preparation in any given classroom creates a challenge for students and faculty alike. Faculty who work to meet the needs of all students may find themselves altering their teaching style to meet the needs of the least-prepared students and, in doing so, do a disservice to those students who are ready and able to succeed in the course taught as intended. The appropriate use of prerequisites will enable faculty to teach courses at the intended level of rigor and to assist students who have the basic skills needed for a given course to succeed in that course.

- All faculty have a vested interest in seeing students succeed and it is the faculty that know what is needed to succeed in their courses. Content review involves a consideration of what is needed for success and a reliance on the documented skills and knowledge needed for success as the basis for prerequisites. Content review will allow faculty to properly sequence courses to better meet student needs and to increase the chances that students succeed in courses on their first attempt.

- The dialog and intra- and inter-discipline collaboration that would result from a renewed focus on the use of content review would result in a better understanding of how a course is intended to be taught and a greater consistency across sections. As the impact of new prerequisites is assessed, these discussions would necessarily continue and result in changes as needed.

- The greater use of cross-discipline prerequisites and the resulting increase in student access to matriculation services would result in increased and earlier student connection to the services available to them.

- The resulting increase in demand for basis skills sections and the necessary shift in college resources (from transfer-level to developmental offerings) would create a pressure to identify more efficient and effective ways to move students through basic skills sequences—and would increase the support of basic skills attainment college-wide.

Why Impose *Any* Prerequisites?

Prerequisites are an essential tool in the construction of curriculum for courses in which student success is highly dependent on previously acquired knowledge or skills. Where evidence indicates that students are unlikely to be successful without an appropriate prerequisite, colleges are ***obligated*** to establish and enforce them.

Title 5 defines these terms as follows:

> "'Prerequisite' means a condition of enrollment that a student is required to meet in order to demonstrate current readiness for enrollment in a course or educational program" (§55000).
>
> "'Corequisite' means a condition of enrollment consisting of a course that a student is required to simultaneously take in order to enroll in another course" (§55000).
>
> "'Advisory on recommended preparation' means a condition of enrollment that a student is advised, but not required, to meet before or in conjunction with enrollment in a course or educational program" (§55000).

The "condition of enrollment" that students are required to meet may be either the successful completion of a course or a determination that a student has the necessary skills or knowledge via an assessment process. While local assessment processes make use of standardized tests, such scores alone should not determine a student's placement: "The determination of whether a student meets a prerequisite shall be based on successful completion of an appropriate course or on an assessment using multiple measures" (§55003). In other words, students are placed into courses based on their success in prerequisite courses or an assessment process that involves the use of standardized tests in conjunction with other measures likely to effect the student's performance. The application of prerequisites should be based on a consideration of what is necessary to make it highly likely that a student will succeed, not the determination that many students do not.

The current system is problematic for a variety of inter-connected and complex reasons. Most significantly, it emphasizes student failure—as opposed to promoting student success. Faculty who wish to establish prerequisites for their courses have to first encourage underprepared students to enroll and withdraw (or assign a significant number of D's and F's) to statistically validate prerequisites. Colleges do students a disservice when they are set up for failure. In addition, while course success is certainly important, student success should be viewed in the context of student progress toward long-term goals. Collecting substandard grades in individual courses makes it harder for students to complete certificate or degrees or to become transfer eligible. Time spent failing or withdrawing from courses for which one is not adequately prepared is not only disheartening for the individual student, postponing whatever goal the students seeks to achieve, it is costly to the state. Students should be incentivized to begin any necessary remediation early so that they are appropriately prepared for the courses that move them towards their ultimate goals. In the absence of appropriate prerequisites, there is no incentive to begin remediation and no means of preventing inappropriate course selections. For students who self-select courses, the current system offers essentially unlimited access without any form of guidance to ensure readiness.

When prerequisites are not applied or are insufficient, students are not required to possess the knowledge or skills needed to succeed in the courses in which they enroll, and faculty may adjust their expectations to accommodate under-prepared students. Instructors will find course goals hard to achieve when class time is needed to tutor under-prepared students. In fact, these situations may create pressure to reduce academic standards. The tendency of under-prepared students to drop out means that seats in classes in which prepared students might have benefitted were ultimately beneficial to no one. Research connected with the Basic Skills Initiative makes it clear that over 70%-80% of students enrolling in California community colleges for the first time do not yet possess all of the skills necessary to succeed in college level work (Fulks & Alancraig, 2008, p. 1). Presently, the lack of prerequisites permits colleges to not offer sufficient basic skills sections—effectively forcing students into courses for which they may not be sufficiently prepared—as opposed to providing them with the educational options they need in order to be successful. Properly established and enforced prerequisites benefit all—students, faculty, the college, and the state—in the following important ways:

- students know what is expected of them and are permitted to enroll in courses for which they are prepared to succeed;
- other students in the class are assured the course will be presented at the appropriate level and rigor;
- faculty can teach courses as they were intended to be taught and provide additional support to students who have the prerequisite skills but are still having difficulties;
- colleges have effective educational programs; and
- the workforce of the state is enhanced by a steady stream of educated and trained college graduates.

Why a Change is Needed

Numerous reports have criticized the California community colleges and provided suggestions for how student success might be increased (Hill, 2008; Shulock & Moore, 2007; Shulock, Moore, Offenstein, & Kirlin, 2008). The Academic Senate is not alone in concluding that changing how prerequisites are validated is one component of a general effort to increase student success. Given the number of uncontrollable variables that affect student outcomes, no definitive conclusions can be reached regarding the impact of not having prerequisites—but trends clearly indicate that more prepared students have a greater chance of success. "More prepared" does not necessarily mean that college-level skills are required—for many courses skills at one or even two levels below transfer may suffice to provide students with a reasonable chance for success. Some researchers point to the absence of significant variation in grade point average (GPA) for students with and without prerequisites as evidence that students are succeeding whether they have taken prerequisite courses or not. This argument is predicated on several assumptions:

- Course outlines are written to a uniform high level of rigor and include appropriate requirements for work outside of class; grades are primarily based on the methods of evaluation stipulated by the course outline, including essays, problem solving exercises, and skill demonstrations as required by Title 5 §55002.

- Syllabi and the course as taught appropriately reflect the expectations of the course outline of record.
- The use of statistics regarding retention and persistence, and funding concerns do not affect decisions about rigor and quality, particularly among part-time or untenured faculty.
- Faculty have not changed the way they teach even as the preparation of students has changed significantly over the past decade and a half.

The following data from a college in Orange County California reflect student enrollments from 2001-2009 and clearly demonstrate that students do enroll in courses in which they commonly have less than a 50% likelihood of passing. Particularly striking is the evidence that students simultaneously enrolling in American Government (a transfer-level course) and the lowest level reading course (several levels below transfer) have zero prospects for success. Students simultaneously enrolling in all 14 of the listed courses have better than a 50% chance of passing only two courses if they are enrolled in the lowest level of English Composition, and a better than 50% chance of passing only three of these classes if they are enrolled in the lowest level of reading (all of the English and reading courses indicated are developmental sequences; none are transfer level).

Success Rates for Students Simultaneously Enrolled in:	**English 39**	**English 59**	**English 60**	**Reading 27**	**Reading 36**	**Reading 56**	**Reading 96**
1. American Government	12%	20%	34%	0%	9%	14%	31%
2. General Psychology	27%	42%	51%	43%	29%	37%	57%
3. Health Science	28%	42%	57%	29%	16%	51%	62%
4. Intro to Sociology	28%	35%	56%	33%	30%	35%	52%
5. Intro to Personal Computers	32%	40%	49%	9%	35%	49%	62%
6. Basic Math	35%	47%	54%	29%	34%	45%	53%
7. Intro to Art	38%	51%	65%	71%	39%	52%	71%
8. Elementary Algebra	40%	44%	47%	47%	42%	47%	54%
9. Elementary Spanish	42%	50%	60%	67%	59%	52%	66%
10. Pre-Algebra	43%	52%	59%	34%	44%	53%	59%
11. History of Rock Music	46%	62%	69%	50%	51%	63%	74%
12. Intermediate Algebra	46%	49%	53%	57%	48%	60%	53%
13. Career/Life Planning	59%	65%	76%	24%	60%	71%	71%
14. The College Experience	64%	72%	76%	50%	67%	75%	75%

Better Skills or Better Students?

A wide range of variables contributes to student success. This is one reason why *Basic Skills as a Foundation for Student Success* (Center for Student Success, 2007) defines basic skills as "those foundation skills in reading, writing, mathematics, and English as a Second Language, *as well as learning skills and study skills*,

which are necessary for students to succeed in college-level work" (emphasis added, p. 4). Recognition of the importance of learning and study skills demonstrates that skill mastery in English, mathematics, and reading are not solely responsible for student success. Students with greater English skills do better in other classes but so do students with greater math skills—even when no math skills are related to course content.

The following student success data from six high-enrollment courses at one San Francisco Bay Area college allow a number of observations:

- Student success increases in each of the six courses as English proficiency increases
- However, student success *also* increases as math skill increases, even for courses in which there is likely little to no need for math skills
- *Average* levels of success (for example, 63% of psychology students simultaneously enrolled in any English class) mask much lower rates of success for students enrolled in lower level basic skills sections: 31% of students in basic writing and 48% of students in writing development.
- Students in macroeconomics and accounting benefited more from two levels of basic skills English than they did from two levels of math, even though accounting and economics would seem to be disciplines that depend heavily on quantitative skills (students in macroeconomics improved 46% from basic writing to college composition and students in accounting improved 29% while students advancing two math levels in macroeconomics improved 36% and accounting students improved only 12%).

Levels of Preparation in GE Courses & Student Success:
Students Simultaneously Enrolled in English/Math Courses

	Success in GE Courses of Simultaneously Enrolled English Students**					
Simultaneously Enrolled English Course	General Psych	Public Speaking	Macro economics	U.S. History	Accounting Procedures	Human Anatomy
Basic Writing	31%	54%	27%	48%	37%	N/A
Writing Development	48%	57%	56%	43%	50%	41%
College Composition	68%	73%	73%	51%	66%	60%
Composition, Literature & Critical Thinking	75%	82%	79%	64%	73%	65%
Total	63%	73%	69%	58%	68%	68%
Total Enrollments	7,815	5,793	5,643	4,603	3,718	3,577

Success in GE Courses of Simultaneously Enrolled Math Students

Simultaneously Enrolled Math Course	General Psych	Public Speaking	Macro economics	U.S. History	Accounting Procedures	Human Anatomy
Math Fundamentals	43%	54%	26%	38%	43%	N/A
Elementary Algebra	51%	63%	46%	48%	46%	51%
Intermediate Algebra	63%	67%	62%	51%	55%	54%
Transfer-Level Math	76%	78%	80%	63%	77%	69%
Total	63%	73%	69%	58%	68%	68%
Total Enrollments	7,815	5,793	5,643	4,603	3,718	3,577

Course enrollments were tracked from Summer 2000 to Spring 2009.
** Success is defined by grades of A, B, C, P, or CR; Non-Success is D, F, I, NC, NP, W

What do these data mean? While student success in general education (GE) courses depends on more than a single skill set, limiting enrollment in certain classes to students with some level of basic skills coursework can at least move the success rate above the 50% threshold. These data support the use of prerequisites to increase a student's likelihood of success and indicate that the attainment of pre-collegiate skill levels can substantially increase student achievement. The content review process will effectively identify the necessary prerequisite(s) by determining what skills are necessary for success in a target course and then determining which prerequisite course(s) provides these skills—courses which may be below college or transfer-level.

Student Success and Disproportionate Impact

Student success, a goal for educators in the state and necessary for the state's long-term prospects, can be improved by changing or modifying much of what occurs in classrooms or offices at a college. However, in seeking to achieve greater student success, colleges must direct their efforts toward helping students meet standards rather than toward lowering those standards. Tutoring centers, contextualized learning, and integrating instruction and student services are examples of means to help students meet the demands of course requirements, and prerequisites as an intervention strategy serves to maintain course standards while directing students in a manner that facilitates success. Interest in establishing prerequisites is a consequence of a review of success, retention, and persistence data that show disproportionate impact of some student cohorts in basic skills as well as transfer level courses. Content review, as the recognized method to establish prerequisites, directly focuses on student success outcomes since it looks at what students need to know and do in order to achieve success, and objectively defines that knowledge and skills.

The Academic Senate has championed student equity and success for years as evidenced by the collection of resolutions and papers relating to these topics. The two most recent papers, *Student Equity: From Dialog and Access to Action* (2010) and *Practices that Promote Equity in Basic Skills in California Community College* (2010) characterize equitable access as necessary but insufficient and equitable outcomes as necessary. The achievement gap is well-documented, and experts in the field of student equity make the case for institutions to consider all means by which student equity can be improved. For example, Bensimon (2005) writes "[t]he first step is for campus leaders to create ways to track and examine equitable outcomes for specific groups of students and make equity in results a core indicator of institutional accountability and excellence" (p. VI). Colleges are challenged to do more to show student equity in achievement in order to demonstrate the college's commitment to student success. Prerequisites in general, and content review in particular focus directly on student outcomes and achievement. Taking the step to establish prerequisites is an action to achieve greater student success, not deny it.

Title 5 regulations regarding prerequisites require that colleges monitor the impact of prerequisites on different student populations and the Academic Senate believes that such monitoring is crucial. There are, however, multiple ways of understanding the meaning of disproportionate impact. One incorrect understanding is that a prerequisite may not be imposed if it affects various demographic groups differently; this is clearly not the case since no college could offer a football or nursing course if that were that the case. The application or removal of prerequisites is not a means of correcting for differential preparation. Currently, disproportionate impact exists due the lack of prerequisites—as is evidenced by the lower success rates of certain groups. Colleges must seek to minimize disproportionate impact such that all student groups have an equal ability to benefit from college instruction and services. Only through an examination of the impact of instruction on comparably prepared students can true disproportionate impact be demonstrated and then analyzed for appropriate remediation. Thoughtful and appropriate application of prerequisites will allow faculty to conduct a more robust and meaningful examination of the many variables that impact student performance. The use of content review to establish prerequisites can ease the disproportionate impact that currently exists. Because prerequisites would be established on a course-by-course basis and based on the actual content of course outlines, all students, and especially those who are currently enrolling in courses and failing, can be guided toward courses in which their prospects for success are more promising. Every college's goal should be to encourage students toward classes in which their immediate prospects of success are good while at the same time guiding those students into the English, math, and reading courses that are critical for their success in other courses and in their overall college experience.

Prerequisites and Content Review

While it is beyond the scope of this paper to recap all regulations about prerequisites, a summary focused on the role of content review in the course approval and establishment of prerequisites processes is appropriate. While content review currently is one component of the course approval process, the use of content review as a validation tool may require changes in current processes to ensure that the process has the necessary rigor.

The purpose of content review is to align the knowledge or skills necessary for success in a course (the target course) with the course that will provide students with that knowledge or skill (the prerequisite); French I provides students the knowledge necessary for success in French II; perhaps Reading 100 provides students the reading skills necessary for success in U.S. History. Prerequisites for sequential courses in a discipline, as in the example of French I and II, are already permitted when based on content review. The Academic Senate proposes that cross-discipline prerequisites, as in the example of a reading course as a prerequisite for a history course or an English composition course as a prerequisite for a philosophy course, should also be based on content review.

Local colleges have long been required to conduct a content review as a part of the course approval process. This process is intended to ensure that students are appropriately informed of the preparation needed to succeed. Content review is defined in Title 5 as "*a rigorous, systematic process*… approved by the Chancellor as part of the district matriculation plan… and that is conducted by faculty to identify the necessary and appropriate body of knowledge or skills students need to possess prior to enrolling in a course, or which students need to acquire through simultaneous enrollment in a corequisite course" (§55000, emphasis added). Moving from data collection and statistical analysis to using content review for the establishment of prerequisites is not intended to make the process of establishing prerequisites "easier" or less rigorous; rather, it shifts the focus to the kind of data to be examined and analyzed by the local curriculum committee, from ambiguous quantitative and statistical data validated by student withdrawal or failure to the qualitative data contained in college-approved course outlines.

The elements involved in content review as delineated in *The Model District Policy on Prerequisites, Corequisites, and Advisories on Recommended Preparation* (Board of Governors, 1993) and supported by the Academic Senate (Resolution 13.01 S93; *Good Practice for the Implementation of Prerequisites*, 1997) include the following:

i. involvement of faculty with appropriate expertise;

ii. consideration of course objectives set by relevant department(s) (the curriculum review process should be done in a manner that is in accordance with accreditation standards);

iii. be based on a detailed course syllabus and outline of record, tests, related instructional materials, course format, type and number of examinations, and grading criteria;

iv. specification of the body of knowledge and/or skills which are deemed necessary at entry and/or concurrent with enrollment;

v. identification and review of the prerequisite or corequisite which develops the body of knowledge and/or measures skills identified under iv.

vi. matching of the knowledge and skills in the targeted course (identified under iv.) and those developed or measured by the prerequisite or corequisite (i.e., the course or assessment identified under v.); and

vii. maintain documentation that the above steps were taken. (p. 5)

These elements of a standard content review process remain relevant and appropriate. Without the additional requirement of statistical validation, colleges should review their local content review process to ensure that

it has the appropriate rigor. The curriculum committee and the local academic senate are responsible for the development and implementation of a content review process that includes three critical steps to ensure that the content review process is rigorous and valid.

First, the discipline faculty should examine

- course outlines
- representative class materials (required readings, class assignments)
- exams, projects, writing requirements
- syllabi
- other elements of the class related to student success

If, in the analysis of the discipline faculty, the students would be highly unlikely to succeed without specific knowledge or skill prior to entering the course, then the faculty must consider proposing a prerequisite or other means of helping student attain the knowledge and skills. Second, the faculty in the discipline should agree on the entrance knowledge or skills that are crucial to student success. Third and finally, faculty should identify the means by which students can acquire the requisite knowledge or skill.

The curriculum committee approves the course outline, including the prerequisite. In evaluating the proposed prerequisite, the committee is checking that 1) the content review process was followed, 2) the proposed prerequisite course does indeed teach the needed knowledge or skill, and 3) the course outline is complete, well integrated, coherent, and meets Title 5 standards. (For more on effective course outlines, see the Academic Senate's *The Course Outline of Record: A Curriculum Reference Guide*, 2008).

Local curriculum committees will want to consider carefully the way they will rely on the recommendation of faculty members. In general, local curriculum committees will be well served by processes that focus on the *explicit content* of course outlines and the *formal recommendation* of recognized discipline or departmental faculty bodies. Local training provided by the curriculum committee is crucial to a broad understanding of content review across the campus.

While there are some disciplines for which it is unlikely that skills would be obtained elsewhere than a prerequisite course, there are others where the discipline faculty and the curriculum committee will need to consider how likely it is that a student may have obtained the skills required by a means other than a course. A prerequisite of a beginning computer course may be hard to justify when many students bring those skills with them from earlier instruction or experience. In such instances an advisory may be warranted. Faculty should not be able to justify a prerequisite for a course whose course outline is vague about the knowledge or skills necessary for successful course completion. Increased reliance on content review and on what is delineated in the course outline will lead to course outlines of greater quality and specificity, another positive unintended consequence.

Teaching to the Course Outline of Record

The purpose of a course outline of record is to establish what a course consists of and promotes consistency across sections and faculty. When prerequisites are established, the need to adhere to the content and rigor of the course outline of record is even more crucial. Faculty need to prepare and teach courses in a way that is consistent with the course outline and justifies the prerequisite. With a prerequisite in place, barring the enrollment of students who lack the specified skills or knowledge, every course section must truly require those established competencies.

Part of the challenge to faculty in developing course outlines is agreeing to the necessary content and appropriate rigor while leaving room for each faculty member to structure and teach his or her section according to his or her professional judgment. While some faculty might be tempted to lower their standards when students struggle, both students and faculty suffer negative consequences when courses are not taught with the appropriate rigor. Those students who *can* meet faculty expectations lose the opportunity to develop their skills, and faculty forfeit trust for their judgment when they do not meet the professional standards they have established for themselves. Nothing in this section should be understood to undermine the respect of the Academic Senate for academic freedom; it is not academic freedom that is placed at risk when faculty do not teach to the course outlines they have developed. Rather, faculty who fail to adhere to their course outlines break trust with their students, their colleagues, their colleges, and the institutions that have agreed to articulate courses. Some colleges may have no difficulty maintaining this consistency of standards. On some campuses or in some departments, all faculty may maintain a very high degree of consistency from section to section. On others, establishing a better dialog among full-time and between full-time and part-time faculty may be necessary. Whatever the case, faculty and students will both benefit from the development of methods to ensure a common level of rigor to courses offered by the college. While curriculum committees evaluate courses through the course outline of record and not syllabi, discipline faculty may find it beneficial to review and discuss actual syllabi and reach agreement about the balance between maintaining common content and rigor and honoring the individual approach of individual faculty members.

Benefits of Using Cross-Discipline Content Review

By far the greatest benefit to be gained from expanding the use of content review to courses in communication and computation is the preservation of the rigor of the curriculum and the sequencing of student enrollment patterns into pathways that lead to student success. These gains result in part from the conversations among faculty that have been rendered largely moot by the requirement of statistical validation and which would almost certainly return to life were faculty afforded appropriate professional judgment about what skills constitute preparation for the courses they teach.

- Faculty in the discipline may discover that courses in a sequence do not provide a clear and logical progression of content or skills. Some shifting of content between the courses may clarify faculty expectations and improve student learning.

- Discussions among instructors of the two courses may lead to the discovery of topics or teaching methods which make the prerequisite skills more effective for the target course. For example, science faculty may expect students to develop graphing skills in a math prerequisite course in which the topic of graphing is introduced, but adequate coverage and practice is not provided to ensure that the skill is developed to the level needed for success in the science course. This might suggest either that a different prerequisite would be more appropriate or that the content of the prerequisite course be reconsidered to provide better preparation in graphing.

- It may be that not all of the prerequisite skills are taught in the proposed prerequisite course. Options to deal with this situation include 1) teaching the prerequisite skill within the target course itself, 2) adding the topic to the content of the proposed prerequisite course, and 3) shifting the needed topic from another course into the proposed course. For example, nine of the ten skills needed for College 50C may be taught in College 50B but one may be taught in College 50A. By moving that topic to B, the prerequisite to C could be B alone rather than both A and B.

- Faculty may elect to create low-unit prerequisite course modules focused on high-demand skills such as graphing, percentages, punctuation, or reading for a discipline.

Through analysis of the course outlines in question and discussion with discipline faculty, the curriculum committee should seek to ensure that any gaps in prerequisites are covered. Such analysis will help to ensure that students enter their courses with the skills necessary to succeed.

The Role of Statistical Validation, Data Collection, and Analysis

Some California community colleges have claimed success in making the current regulations for data collection and analysis work. The Academic Senate's proposal does not mandate a change in local practices, but introduces an alternative mechanism for the validation of cross-discipline prerequisites. Because content review requires time and dialog, no college will be able to implement prerequisites based on content review across the curriculum, or even in an entire division, in a single year, if for no other reason than the fact that colleges could not accommodate the likely increased demand for basic skills sections. While the Academic Senate is advocating for the elimination of a need for statistical validation as the basis for the implementation of prerequisites, a review of relevant data both prior to and after the application of new prerequisites is critical as colleges plan for and assess the impact of such changes.

Once new prerequisites are established, faculty should work with college researchers to evaluate the effects of the prerequisite on student success. Colleges continue to have an obligation to statistically validate assessment tests, monitor disproportionate impact, and conduct research to validate non-course prerequisites, especially

for programs. Each of these activities requires the support of institutional researchers. Only the need to gather statistical data to support course prerequisites prior to their implementation should no longer be mandatory. Ongoing data collection is an important tool for determining the impact of new prerequisites and to guide future decision-making.

Conclusion

Negotiating the transition from statistical validation to content review for cross-discipline prerequisites may be challenging for faculty members, curriculum committees, local senates, and community colleges. For many colleges, however, making this transition is crucial to improving student success, especially for those students whose ambition exceeds their skills, who are not successful, and who do not persist from semester to semester. Content review processes focus directly on student performance and how to improve it; it uses faculty expertise and improves the curriculum by engaging faculty in a rigorous review of the curriculum. Taking the initiative to reconsider prerequisites as part of broader college efforts to improve student success has the potential to also improve student equity and reduce disproportionate impact. The use of content review for the establishment of prerequisites is consistent with the needed evolution of the California community college culture to one that values both success and access, as opposed to the status quo where students are provided little guidance with respect to the skills and knowledge needed for success in some courses, especially those courses deemed transferable. Prerequisites are an academic and professional matter, and a tool for promoting student success.

Recommendations

The following recommendations derive from not only the contents of this paper, but from those that would be relevant as the Academic Senate implemented the proposed change in how prerequisites may be validated.

At the State Level

The Chancellor's Office should work collaboratively with colleges and districts to enhance Datamart and other data research tools in order to provide better system level analysis of the effect of prerequisites. While curriculum is a local matter, state level trends may be informative.

The Chancellor's Office should foster ongoing attention to the interaction of student access, student retention, student success, and student persistence data disaggregated by ethnicity.

The Academic Senate should provide immediate and ongoing training and opportunities for colleges to share their experiences in combining prerequisite validation based on statistical validation and prerequisite validation based on content review. The Academic Senate should, for the foreseeable future, provide opportunities for colleges to share their experiences in implementing prerequisites based exclusively on content review.

In conjunction with the Chancellor's Office and other stakeholders, the Academic Senate should review and revise as appropriate "Multiple Measures and Other Sorrows" (Chancellor's Office, 1998). with particular attention to the need to ensure that the use of multiple measures does not rely on criteria that are excessively subjective or difficult to apply.

At the Local Level

Local curriculum committees should promote a structured review of student success throughout the institution and prioritize the establishment of prerequisites most likely to improve student success and persistence. Where data already exists, legitimate prerequisites should be established.

Local curriculum committees should review or develop a formal process for content review with a degree of rigor consistent with the use of content review alone as the basis for prerequisites.

Local administrations should hold harmless any discipline, department, or division that suffers a drop in enrollment that can be demonstrated to be the result of the faculty's good faith effort to improve student success through the implementation of appropriate prerequisites.

Faculty should undertake a dialog about peer review practices that can ensure that all sections are taught in a way that honor course outlines without infringing on the judgment each faculty member must exercise about how best to translate the course outline to the individual instructor's syllabus.

Academic senates should review and update processes that allow for students to challenge a prerequisite.

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Appendices

Appendix I: Relevant Resolutions

9.05 F09 Ensuring Rigorous Content Review to Establish Prerequisites

Whereas, The Academic Senate for California Community Colleges passed resolution 9.02 in Spring 2009 recommending changes to Title 5 language that would allow for faculty to rely on content review rather than statistical analysis to establish prerequisites;

Whereas, Course content review is used to ensure academic integrity and delineate necessary entry skills to promote student success by matching the exit skills of the prerequisite course with the skills and concepts needed in the targeted course;

Whereas, Standards for content review as stated in *The Model District Policy on Prerequisites, Corequisites, and Advisories on Recommended Preparation (1993)* (see Attachment A) are rigorously described to ensure a proper professional review to establish prerequisites but have not been revised for 16 years; and

Whereas, Moving to content review as a means to establish prerequisites will require clear, relevant, and widely recognized practices of course content review;

Resolved, That the Academic Senate for California Community Colleges revisit the content review process as described in the *The Model District Policy on Prerequisites, Corequisites, and Advisories on Recommended Preparation* for possible modifications, in an effort to consistently implement rigorous content review standards at such time as content review becomes the primary method of validating prerequisites.

9.02 S09 Communication and Computation Prerequisite Validation through Content Review

Whereas, Underprepared students are not able to read, write, or complete quantitative analysis necessary for transfer or collegiate level courses, yet are enrolled in these courses due to the absence of prerequisites and lack of mandated placement;

Whereas, Basic Skills as a Foundation for Student Success in California Community Colleges (2007) summarizes the research confirming that alignment of entry/exit skills and careful organization of instruction is essential to student success;

Whereas, Under current Title 5 Regulation, faculty who wish to correct this situation are unable to apply prerequisites of mathematics, English, or reading to non-sequential courses across disciplines without requiring local college-by-college, course-by-course statistical validation of prerequisites documenting student failure for courses outside of a discipline, and these requirements are perceived as onerous, resulting in a lack of prerequisites for the vast majority of general education courses; and

Whereas, Course content review is used to ensure academic integrity and delineate necessary entry skills to promote student success by matching the exit skills of the prerequisite course with the skills and concepts needed in the targeted course;

Resolved, That the Academic Senate for California Community Colleges recommend changes needed to Title 5 language on prerequisites that, instead of relying on statistical analysis, allow local faculty to base their determination for prerequisites of English, reading, or mathematics for collegiate level courses on content review;

Resolved, That the Academic Senate for California Community Colleges remind local senates to ensure that a prerequisite challenge process must be available to students; and

Resolved, That the Academic Senate for California Community Colleges recommend that once new prerequisites are implemented, colleges conduct research on the effect(s) of the prerequisites.

13.01 S93 Prerequisites

Resolved that the Academic Senate endorse the changes in Title 5 proposed by the Chancellor's Office Task Force to Review Matriculation Regulations which are contained in the document "Regulations on Prerequisites, Corequisites, Advisories on Recommended Preparation and Other Limitations on Enrollment" (3/8/93) and endorse "The Model District Policy" recommended by the Task Force, and

Resolved that the Academic Senate work with the Chancellor's Office to conduct workshops to assist local faculty in implementing these two documents.

11.01.01 F92 Amendment to Establishing Prerequisites

Whereas the Chancellor's Office interprets current regulations to permit content validation as well as statistical validation for mandatory prerequisites (as verified in the memo from Vice Chancellors Rita Cepeda and Thelma Scott Skillman of 8/21/92 to Matriculation Coordinators and Academic Senate Presidents) (Document Available in the Senate Office), and Whereas content review respects the expertise, experience, and professional judgement of faculty in any field, and

Whereas content review has been proven effective over many centuries and is the preferred method of determining prerequisites in all segments of higher education, and

Whereas other forms of research, including statistical validation, provide no greater assurances of fairness to students, and

Whereas adequate safeguards against arbitrariness exist in the departmental review and curriculum review processes; and the rights of students are protected by challenge procedures for special cases;

Resolved that the Academic Senate for California Community Colleges' draft proposal for revision of Title 5 regulations dated 10/2/92 Section 2(d)(7) and 2(d)(8) be amended to read as follows: for any prerequisites not covered in other sections of (d) above, a systematic model of content review, approved by the chancellor's office, shall be an acceptable means of reviewing and evaluating prerequisites. Other types of research designs approved by the chancellor's office shall be acceptable also, and may be used at the discretion of the college or district.

Resolved that language in the rest of the document be consistent with these changes: (2(d)(1)C, 2(d)(2)F, 2(d)(3)D, and 2(d)(1)D[5]).

Appendix II: Putting Prerequisites into Context: How We Got to Where We Are

Originally published in the Academic Senate Rostrum, January 2010
Mark Wade Lieu, Prerequisite Pilot Project Task Force

The Academic Senate is currently embarked on a process to establish pilot projects whereby course prerequisite validation is based primarily on content review, without the need for statistical validation. How these pilot projects will be determined and the form they will take are to be worked out by the Prerequisite Pilot Project Task Force, under the leadership of Executive Committee member Richard Mahon, over the coming months. In the meanwhile, it seems useful to explain how the Academic Senate has arrived at this point with regards to prerequisites and to provide a context for the current activity.

Following on the passage of the Matriculation Act of 1986 (AB3), in 1988, the California Community College system began work on new regulations regarding the implementation and enforcement of matriculation processes, establishing the Matriculation Advisory Committee to assist in that work. In addition, ne3w curricular regulations were proposed regarding the imposition and scrutiny of prerequisites on courses. Owing to concerns over how such regulations would be implemented and the disproportionate effect on select groups of students, the Mexican American Legal Defense and Education Fund (MALDEF) filed suit against the system in order to compel the system to address its concerns.

As a result of the filing, MALDEF was invited to participate in the process of developing the final regulations in both areas, and in 1991, MALDEF dropped its suit against the system.

Among the stipulations of the new matriculation and curricular regulations were:

- A requirement that all test instruments used for assessment and as prerequisites be proven as valid, bias-free and reliable
- A requirement that matriculation plans include processes for establishing and scrutinizing prerequisites
- A requirement that placement decisions be based on multiple measures
- The creation of an approved list of assessment instruments
- Provision of timely resolution to prerequisite challenges
- Evaluation of compliance with matriculation regulations on a statewide basis.

In addition, the following were established:

- A Matriculation Assessment Workgroup to provide the review of test instruments for inclusion on the approved test list
- The use of site evaluation for compliance with matriculation regulations.

Specific guidelines for the implementation of prerequisites were laid out in *The Model District Policy for Prerequisites, Corequisites, Advisories on Recommended Preparation, and Other Limitations on Enrollment* (Board of Governors 1993), which outlined three levels of scrutiny for the establishment of prerequisites. Level one was required for all prerequisites and comprised a rigorous process of content review. In essence, the target course was examined to identify skills that would be necessary upon entry into the course, and these skills were correlated to the skills taught (and presumed learned) in the proposed prerequisite course. Level two applied to sequential courses and equivalent courses already being offered through the CSU or UC. For such courses, the only requirement for the establishment of a prerequisite was content review. Level three was the most rigorous and required for courses with a communication or computation prerequisite that was outside the scope of level two. Here, prerequisite validation required statistical validation.

While the new regulatory requirements made very good sense, the practical implementation revealed significant problems—rather than implement prerequisites, colleges turned increasingly to advisories, which required no validation or content review. Why did this happen? First, many colleges simply lacked the research capacity to carry out the statistical validation required. Second, especially for higher level courses, the limited number of students enrolled meant that it was a problem simply gathering data on a sufficient number of students on which to conduct a statistical analysis. Finally, with the growing influx of under-prepared students, actual classroom practice began to diverge from requirements set out in Course Outlines of Record (COR) with the result that prerequisites could not be validated empirically. And what was the result? Students largely ignored advisories and took whatever courses they wanted to. In some cases, students failed due to inadequate preparation. In others, students wasted their time in courses below their ability level.

As colleges struggled with getting students into the right courses, the number of students requiring basic skills and English as a Second Language coursework grew. In the mid-to-late 2000s, a number of reports were published that addressed the issue of student preparation and the issues of assessment and prerequisites.

Foremost of these reports was the literature review on effective practices in basic skills, *Basic Skills as a Foundation for Student Success* (Center for Student Success 2007). In particular, the review cited mandatory assessment as a proven effective practice to communicate to students their need for basic skills coursework (II.1). At roughly the same time, the Institute for Higher Education Leadership and Policy out of Sacramento State University issued the first of several reports, *Rules of the Game* (Shulock 2007). The report states, "Assessment should be mandatory for degree-seeking students; students with remedial needs should be placed into basic skills courses in their first term. The process for establishing prerequisites should be modified so that colleges can ensure that students have the necessary skills to succeed in their courses." This was later followed by *It Could Happen* (Shulock 2008), which directly addressed the issue of prerequisite validation, "The onerous process required to establish course prerequisites leads many colleges to allow open access to courses, resulting in high rates of failure among students who are not prepared to succeed and challenges for instructors who have well-prepared and poorly-prepared students in the same class."

The Board of Governors held a study session on basic skills in March 2007, and following on the System Strategic Plan's recommendation to develop "methods to more effectively assess student preparedness levels and to place students in appropriate courses," the Board passed a motion directing the Chancellor to "begin the process of evaluating the implementation of a system-wide uniform, common assessment with multiple measures of all community college students…"

The Academic Senate took the lead in addressing the Board's motion and chaired the resultant Consultation Council Task Force on Assessment. The task force issued a report in January 2008 that provided a snapshot of assessment practices throughout the system and made estimates for the cost of implementing "system-wide uniform, common assessment." The report also made the recommendation that assessment issues such as validation of prerequisites be addressed.

In June 2008, the Legislative Analyst's Office (Hill, 2008) issued a report concerning the readiness of community college students and made the recommendation that "the Legislature allow colleges to require underprepared students to take precollegiate coursework beginning in their first term." This perspective echoed Academic Senate resolution 9.05 from spring of 2007.

Interim Chancellor Diane Woodruff called for an Action Planning Group (APG) to address the Legislative Analyst's Office report. Over the course of a year, the APG explored ways to address the LAOs' recommendation, and in consideration of all of the discussion and recommendations that had taken place before, it came to the conclusion that facilitating the validation of prerequisites would provide the best means of signaling to students a route of preparation needed for college work and the motivation to attend to that preparation promptly in order to gain access to college-level courses in their area of interest. This perspective was extensively discussed and debated at the Academic Senate Spring 2009 Plenary Session, and resolutions 9.02 and 9.03 were adopted to support a pilot project to rely primarily on content review for the validation of all prerequisites.

With that, we now arrive at the current day. You now have a context for how we got to where we are. We will keep you apprised of and potentially engaged in the work on the pilot projects in the months to come.

Acknowledgement:

Special thanks to Arnold Bojorquez, Coordinator, Matriculation Unit in the Chancellor's Office.

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Appendix III: Prerequisite Policy in the California Community Colleges

Prerequisite Policy in the California Community Colleges

Nancy Shulock
July 2010

The United States is facing increasingly inadequate college attainment levels and the threat of losing competitive standing on the global stage. The situation is especially dire in California where younger age groups are progressively less well educated and its rank among states in the percentage of adults with college degrees has slipped from third (ages 65 and older) to thirty-first (ages 25-34). A major reason for low college attainment, in California and nationally, is that while enrollment rates are generally high, completion rates are low - across all sectors but especially in community colleges. And a major factor in low completion rates is a lack of college readiness among new college students across broad sectors of American public higher education. In community colleges, the great majority of students enter under-prepared for college-level study - some seriously under-prepared[1]. Large percentages of these students never get through remedial education, let alone to college completion. Despite major reform efforts and emerging models, it is apparent that effective remedial instruction has not yet been implemented on a large scale.

The issue at hand is how best to serve the growing numbers of entering students in California's community colleges who are not prepared for college-level work. Should they be required to take remedial coursework right away or at all? What courses should they be allowed to take before they have completed remedial work? What kind of remedial instruction is most effective? Recently, the Academic Senate of the California Community Colleges (ASCCC) passed a resolution calling for the modification of the process for establishing prerequisites for student entry into college-level courses. The current system for establishing prerequisites is a complex statistical validation for each pair of courses (the college course and the proposed prerequisite course) to demonstrate with historical data that the prerequisite course increases a student's chances of passing the college course. This process is rarely used due to its complexity and the difficulty of meeting established statistical criteria. Therefore, few prerequisites are in place. With few prerequisites, students have open access to college-level courses whether or not they can read or write at college level or perform basic mathematics. Some under-prepared students pass those courses and some fail or drop them. Unfortunately, because assessment isn't strictly required and assessment scores are not recorded in the system-wide data system, we cannot determine the numbers of under-prepared students who enroll in college-level courses or their rates of success or failure in those courses.

The ASCCC proposal is to allow colleges to use "content review" instead of statistical validation. With content review, faculty experts in their fields determine the reading, writing, and/or math competencies that students need to succeed in a given college-level course in another discipline, (e.g., History, Economics), determine the courses (most likely basic skills courses) that provide those competencies, and set course prerequisites accordingly.

The proposal is controversial, with two diametrically opposed sets of beliefs. One side believes that ***setting prerequisites will harm under-represented minority students*** by consigning them to basic skills sequences from which they will not emerge. They cite data showing that substantial numbers of under-prepared students pass transfer-level courses without first completing reading, writing, and/or math remediation as evidence that we direct too many students to basic skills courses. The other side believes that ***failing to set prerequisites will harm under-represented minority students*** by allowing them to enroll in classes for which they are not prepared to succeed. They cite data showing that substantial numbers of under-prepared students fail to successfully complete transfer-level courses and cite anecdotal evidence of faculty acknowledging the need to lower academic standards to accommodate students in their classes who lack fundamental skills in reading, writing, and/or math.

This issue cannot be resolved on the basis of available data. We lack student-level data on high school transcripts and college assessment results to know who is, and is not, judged to be proficient when they enroll in transfer-level classes. Without this data, we cannot compare the performance of students *with equal preparation levels* who take a transfer-level course with or without having become proficient. We also lack measures of quality or standards for college-level classes, so we cannot know whether under-prepared students pass those courses because they mastered college-level work without completing basic skills or because the course could be successfully completed without, for example, having to read or write at college level. Additionally, we lack measures of quality or standards for remedial courses. If data show that students are not helped by remediation, we don't know whether it is because they should not be directed to remediation or because the remedial courses are not of sufficient quality.

But we can learn from what leading-edge states are doing to increase the success of under-prepared students for whom traditional remedial sequences have not proven

effective. A review of developmental education policy reforms reveals the following trends[2]:

1. Minimizing the time students spend in remedial coursework by replacing long sequences of semester-long courses with options that include:
   - modular courses with open entry/open exit as students' competencies dictate
   - contextualized remedial courses whereby students learn basic skills in the context of substantive content, sometimes in paired courses
   - supplemental remedial instruction where students with limited deficiencies enroll in college-level courses and receive targeted assistance with needed basic skills
2. Achieving a balance between permissiveness and restrictiveness with respect to access to college-level courses by under-prepared students by:
   - allowing students into college-level courses concurrent with their remedial enrollments as long as the course does not require skills related to those that need remediation (the key being reading – states generally do not allow students who are not proficient in reading to take college-level courses)
   - requiring students to begin and complete remediation early by setting limits, for example, on the number of credits students may earn before completing remediation
3. Using content review to support the overall reform goal of ensuring that students spend only the minimal time needed in remedial education by:
   - examining and aligning the content of college-level and remedial courses
   - using that content review as the basis for placing or directing students into appropriate courses

The current ASCCC proposal to allow for content review as a basis to set prerequisites aligns with the best thinking nationally on how to simultaneously improve remedial instruction while taking a balanced approach to the prerequisite issue. By encouraging colleges to be clear on the skills and competencies that students need in college level courses and designing basic skills courses accordingly, it is also a major step towards improving basic skills. The proposed policy would also lay the foundation for more diagnostic use of assessments so that students can be directed only to those basic skills courses or modules or contextualized courses that they need – shortening the time they spend in remediation. It lays the foundation for creating a set of clear college readiness standards that can communicate to K-12 what will be expected of students who enter the community colleges. Finally, it replaces problematic statistical processes with purposeful alignment of course content, in line with what the leading reform states are doing and consistent with a new report by two leading national policy centers on improving college readiness by aligning competency expectations and assessing proficiencies[3].

An expert on state developmental education policy reported that no other state has such a prescriptive policy for what institutions have to do or cannot do to try to improve the basic skills of under-prepared students and none has the kind of "onerous" statistical validation that California has[4]. He confirmed that leading states, such as Texas, Virginia, Tennessee, and North Carolina, are using content review as the driving force in reforming the delivery of developmental education to improve outcomes for under-prepared students.

With more explicit reference to prerequisites, another leading expert summarized the new directions as follows[5]:

> The most thoughtful states are trying to strike a delicate balance on assessment and placement policy. On one hand, policies that are too permissive allow students to enroll in college-credit courses without adequate preparation or support, setting up both the student and the institution for failure. On the other hand, overly restrictive policies may require students who have a reasonable chance of succeeding without intervention, such as those who fall just below the established cut score for placement into remediation, to enroll in developmental education anyway....Effective state assessment and placement policies will strike a balance between restrictive and permissive rules. (p.9)

The proposal to allow content review reflects these best efforts by putting the focus on course content and letting faculty at the colleges determine what mix of separate basic skills courses, modular courses, integrated courses, etc. will help students acquire the competencies they need in the shortest possible time.

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1. National Center for Public Policy and Higher Education and Southern Regional Education Board, *Beyond the Rhetoric: Improving College Readiness Through Coherent State Policy*, June, 2010.
2. Education Commission of the States, *Getting Past Go: Rebuilding the Remedial Education Bridge to College Success,* May, 2010, as supplemented by personal communication with lead author Bruce Vandal, July 2, 2010.
3. National Center for Public Policy and Higher Education and Southern Regional Education Board, June, 2010.
4. Bruce Vandal, Education Commission of the States, personal communication, July 2, 2010.
5. Michael Lawrence Collins, *Setting Up Success in Developmental Education: How State Policy Can Help Community Colleges Improve Student Success Outcomes.* Boston: Jobs for the Future, June 2009.