In recent years, policymakers have begun to realize that California’s K-12 and higher education systems can no longer be approached as separate entities. Historically, there has been a disconnect because of funding strategies, mission and structure. The K-12 and higher education systems have been two separate spheres moving in different directions with no mechanisms in place to bring them together. This disconnect has led to all kinds of confusion and disjunctures between such policies as undergraduate admissions requirements, high school graduation exams, and university placement tests.

High school level exams such as the augmented STAR and the Golden State Exams ask students to know and be able to demonstrate skills in areas that are different from those tested by college entrance and placement exams such as the SAT-I, SAT-II, and the California State University’s mathematics and English placement exams. While there is a lot of overlap between some of the assessments and standards, there has not been enough purposeful alignment. In 1995, the California Education Round Table brought some of these issues to the fore by proposing that the state undertake several collaborative initiatives between the K-12 and higher education sectors. These included: 1) developing more agreement around the standards necessary for high school graduation, 2) clarifying the expected competencies for university admission, and 3) assessing student progress more uniformly to determine if standards have been met. While much progress has been made within education sectors, more work between sectors must be done to tie K-12 and higher education together.

We propose that policymakers look toward developing deeper connections between the K-12 and higher education systems to create more coherence. This is particularly important in an environment in which over 70 percent of the state’s graduating high school students will attend some kind of postsecondary education institution, and in a diverse state, with an ever-growing population, that is grappling with issues pertaining to equitable access to postsecondary education. Given the high skills nature of the labor market, and growing economic disparities in the state, it is imperative that the two education levels work together to increase student opportunities to enter and succeed in higher education. In this chapter, we assert that one way to strengthen the opportunity structure for all students is to develop greater alignment between the systems, and thereby
decrease the fragmentation and confusion surrounding high school curriculum requirements and undergraduate admission and placement policies.

In the following chapter, we begin by presenting recent changes that have occurred in K-12 education instructional policy. We then look at the current policy landscape in California higher education. Those two sections provide the context for the closing section in which we suggest ways in which policymakers can work to bring coherence to the entire K-16 system by connecting such policies as content standards, admission standards, and placement exams. While there are logical and historical reasons why the two systems are so separate—K-12 is a mass education system for minors, while higher education is a more elite and often more specialized form of education for adults—we propose that strengthening the alignment between the two systems would be beneficial for all stakeholders. Both K-12 and higher education stakeholders would benefit from having a more academically prepared student body. Also, students, parents, and K-12 educators would receive clearer signals regarding college preparation and expectations, while higher education stakeholders could use information from K-12 assessments as one factor in admissions decisions.

Changes and Challenges in California’s K-12 Instructional Policy

Over the last twenty-five years, the state’s K-12 education system has evolved from one largely controlled by local school districts to one that is more heavily controlled by centralized state decision-making. This transition occurred in a somewhat desultory manner, as the state developed no master plan, or road map, to guide policy toward a systemic end. Both school governance and education policy remain fragmented and confused. As a consequence, the Senate Office of Research wrote that, “California’s schools operate in an environment of significant instability that impacts their ability to plan and perform in a manner that maximizes student achievement. At the core of this instability is a convoluted, multi-layered system of governance in which roles and scopes of authority are not clearly defined.” One district superintendent, undoubtedly voicing the concerns of others, stated that California has a K-12 education system with no conceptual framework.

In recent years, California has been working to reverse this situation, taking tentative but significant steps to putting a framework in place. The centerpiece of this campaign is the state’s effort to develop an accountability system based on rigorous academic standards aligned to curriculum frameworks and assessments. The hope is that this accountability system will result in higher expectations and greater accountability for students and schools alike which will lead to improved student achievement. In such an environment, assessments will have higher stakes than ever before. Students could face not graduating from high school if they fail a proposed high school examination. Individual schools and their staffs may receive rewards for success and harsh penalties for failure.

Progress regarding the development and alignment of components within the accountability system has been made on several fronts.
Academic content standards were developed (however, performance standards that will be used to interpret student success toward meeting the content standards are still under discussion), followed by the development of the curricular frameworks and the augmentation of the Stanford 9 assessment used in the state’s Standardized Testing and Reporting (STAR) assessment program. The Stanford 9, a basic skills test, has been augmented with rigorous testing items reflective of California’s standards. However, the state board of education and policymakers are aware of the need to further align the assessment program with the standards. In any case, implementing the standards will not be an easy matter. To take just one example, the standards have been layered on top of an existing curriculum, and categorical programs are often tied to the curriculum. Thus, the curriculum and the funding stream often have little to no connection with today’s standards. Consequently, there are two different incentive systems – one based on categoricals and one based on standards; these systems are often in conflict. As this chapter highlights, many reforms and policies have been layered on top of each other without a rational plan.

**Curricular Standard-Setting**

The California Education Round Table helped to lay the foundation for the development of the current standards with its 1995 report entitled, “Collaborative Initiatives to Improve Student Learning and Academic Performance, Kindergarten Through College.” Its first recommendation was that the state needed to agree on standards for high school graduation and clarify expected competencies for university admission.7 The standards commission authorized by Assembly Bill 265 developed content standards for all core curriculum areas in all grade levels. While the standards are not mandatory, the hope is that all districts will be held accountable for preparing their students for the state assessment; the results reflect students’ achievement toward the standards. The state board has approved content standards in English, math, science, and social studies.

These standards outline what students need to know and be able to do to be considered proficient in each subject area. The state has yet to adopt performance standards stating what level of achievement is expected of students for each of the content standards.6

Curriculum frameworks have been approved by the state board of education in English and mathematics, and are being developed in other subjects. The augmented STAR is aligned with the content standards, and current plans are for STAR to include Stanford 9 and the augmentation. The state board of education plans for the performance standards (showing whether students meet the content standards) to be aligned with the content standards (showing what students know and can do) and assessments.7 Currently, the state’s curriculum frameworks are being updated to be aligned with the state’s content standards. There are not state adopted textbooks for high schools.8

Unless the curriculum, standards, and assessments are carefully aligned, there will be serious ramifications for the effectiveness of the proposed accountability system.9 For example, if funding is tied to high academic performance, or if local educators face firing or school reconstitution if students perform poorly on the STAR, and if the standards, curriculum, and assessments are not aligned, the sys-
tem will unjustly penalize the schools. Although it is impossible to align every aspect of a state’s K-12 system at one time, if students are being assessed on and held accountable for knowledge and skills that are not taught in the classroom.

**The Need to Align Assessments with the Standards**

As the assessment chapter describes, California’s K-12 assessment environment has been tumultuous during the past decade. From 1972 until 1990, California’s only testing program was the California Assessment Program (CAP), which focused on school site scores. Former Governor Deukmejian canceled this low stakes testing program in 1990. In 1992, the State Department of Education began work on California’s first performance assessment, the California Learning Assessment System, or CLAS. CLAS was supposed to provide school scores initially and would eventually provide individual scores. But then Governor Wilson vetoed CLAS funding due to concerns about the test design, in addition to the lack of individual pupil data. The legislature passed legislation in 1997 authorizing a new testing system that would provide individual, school, and district assessment data in relation to statewide performance and academic standards. In response to the legislation, plans for the California Assessment of Academic Skills—another test that would provide only group scores—were announced. Again, Governor Wilson intervened and withheld funding, asking for a basic skills test that would provide individual scores. Thus, the Standardized Testing and Reporting Program (STAR) program was introduced through gubernatorial fiat in 1997 and was authorized by Senate Bill 376 in October 1997. While the assessment system was originally designed to provide primarily diagnostic information, a new high stakes accountability focus has been introduced, mandating that the test results determine whether students can graduate from high school or if school staff will be rewarded or sanctioned.

All students in grades 2-11 in California’s public schools are required to participate in the STAR program. The STAR program includes the Stanford 9, a nationally normed basic skills test; the Stanford 9 Augmentation, a set of test questions aligned to California’s new content standards; and SABE 2, a Spanish language test taken by first year limited English speakers to assess content knowledge. The Department of Education hopes to develop a new test, the California Assessment of Applied Academic Skills (CAAAS), which would be similar to the Augmented Stanford 9 in its purpose, design, and type of scoring (criterion-referenced). Unlike the Augmented Stanford 9, in which all students respond to the same set of questions, students taking the CAAAS would respond to different sets of questions. This is called a matrix test; it allows for more questions to be used. This creates a deeper assessment of general knowledge acquisition at the school level—not just at the individual student level.

Yet another assessment, a statewide high school exit examination in Reading, Writing, and mathematics, is scheduled to be adopted by the State Board of Education in 2000 and implemented for students in senior high school starting in the 2003-2004 academic year. One rationale behind the legislation creating this test is that, since localities are not mandated to adopt the state’s content standards, they may be
left with local standards that may not be high enough. A high stakes statewide graduation exam would, de facto, ensure that every school aligns some of its standards with the state standards. Although it would seem logical to use the STAR test as a graduation exam, rather than to create a new test as the exit exam, the STAR is “a generic test of basic skills that does not necessarily have ‘curricular validity’ as yet...the basic test is still not assured to match the state standards, and therefore would not be ‘aligned’ to the standards based exit exam.”

The debate surrounding the exit exam has been a contentious political issue – especially around the stakes of the exam. The statute is clear, though. In 2004, students will not be able to graduate from high school unless they pass the exam. Once the test is given in 2004, there will be an evaluation to determine whether there should be an additional, alternative, assessment.

The results from the 1999 STAR assessment are discussed at length in the assessment chapter. A major issue for this chapter is that the current STAR test is only partially aligned with the state’s content standards or the current curriculum. Consequently, the Stanford 9 is not testing the same knowledge and skills that students are being asked to learn in the content standards and statewide curriculum. A piece of the Star program, the augmented STAR, administered in 1999, is more aligned with California state standards.

The California Department of Education also administers the Golden State Exams (GSE) – the state’s end-of-course exams. The tests are offered in key subject areas in grades seven through eleven. The GSE program recognizes students for outstanding levels of achievement on each examination, culminating with the new Golden State Seal Merit Diploma established by AB 3488. The UC System’s BOARS (the Board of Admissions and Relations with Schools) committee members testified at a legislative hearing in Sacramento that it will be analyzing how well the GSE’s predict grades for students in the UC system. After completing the research, the committee will consider whether it will use GSE scores to inform admissions decisions, as admissions criteria, or not at all. The GSEs, however, are not currently aligned with the content standard, the augmented STAR, or higher education admission and placement policies.

It is legislated that the proposed high school exit examination will be aligned, as far as content is concerned, with the state’s academic content standards, and work is being done to align the Golden State exams with these standards. The result of all of this testing is that high school students spend many hours preparing and taking K-12 tests that are irrelevant for higher education admission, and higher education-related exams that are irrelevant for high school graduation. An eleventh grader takes six hours of standardized tests in writing, social studies, mathematics, and reading comprehension. Those scores account for nothing when that student applies to a public institution of higher education in California.

Making Students and Schools Accountable for Results
There is great momentum behind the development of a statewide accountability system, which is intended to drive the improvement of California’s schools. Policymakers and the public have shown growing concern over much-
publicized problems such as low test scores, student apathy, and poor national rankings. The current accountability movement is concerned with outputs (i.e., performance on tests), not on inputs (i.e., student/teacher ratios, length of class periods) as was the case in the past.\textsuperscript{18}

Senate Bill (SB) 1570 required the superintendent of schools to submit a plan for “positive and negative incentives” for the state board of education’s approval by the last day of 1997.\textsuperscript{19} SB 1x and SB 2x address strict accountability measures, including the establishment of a four-part $192.3 million umbrella entitled the Public Performance Accountability Program. The two pieces of legislation include:

- An Academic Performance Index (API) that will be the basis for ranking all public schools’ performance;
- Intervention for underperforming schools, based on the API, that will include financial assistance and sanction, including the possible reassignment of school personnel;
- $125 million for schools that meet and/or exceed their performance targets; and
- the development and implementation of a state high school exit examination.\textsuperscript{20}

In addition, Assembly Bill 1626 requires every school district to approve a policy regarding the promotion and retention of students between grade levels and to ensure that students are identified who “should be retained or are at risk of being retained in their current grade level.”\textsuperscript{21} Senate Bill 1370 increased the funds available to districts for summer school instructional programs, or remedial programs in order to deal with the probable influx of students needing remedial assistance.\textsuperscript{22}

The California Public Schools Accountability Act (PSAA), part of Governor Davis’s school reform program, went into effect in the fall of 1999. It is designed to set targets for improving all schools and for forcing low-performing schools to shape up. The main measure of success or failure will be results from the STAR assessment. The first API results that were released used only STAR results, raising an outcry from educators that one measure is not enough for an accountability program. In the future, rates of attendance, teacher absenteeism, and graduation rates will also be used in the performance indices. Every school that falls below the median is eligible for a $50,000 state grant to hire a consultant in addition to funds to implement reforms. Schools that do not improve within three years will be subject to sanctions, such as the reassignment of teachers, the removal of principals, or take-over by the state. All of California’s schools must improve five percent per year. In addition, failing schools must identify the underlying causes of low student performance and figure out how to rectify them.\textsuperscript{23}

California is behind most other states in developing and implementing an accountability system. At least 32 states and 34 large city school districts have accountability systems based, in part, on test scores. Many educators are concerned that the system is moving too quickly given its fragmented nature – and that holding schools accountable for success using a measure that is not entirely aligned with the content standards is poor policy. At the end of this chapter, we explore issues related to the development of a K-16 accountability system.
Such an accountability system would tie together data from both systems.

**Working Toward a K-12 Master Plan**  
Policymakers and legislators are increasingly concerned about the state’s lack of a comprehensive, coherent vision for K-12 reform.24 Responding to this concern, the Legislative Analyst’s Office has proposed that the state develop a Master Plan for K-12 education (see www.lao.ca.gov/). The proposed plan would provide a conceptual framework for K-12 education, local control over the implementation of standards, and local fiscal control. The state would provide schools and the public with funding, flexibility, and information.25 To address the concerns about the lack of a coherent vision for K-12 education in the state, the Joint Committee to Develop a Master Plan for K-12 and Higher Education was been formed.26 Absent a plan, however, many of the current reforms, standards, and assessments will be seen as ad hoc, with each major policymaker advocating the use of his or her favorites. It remains to be seen if all the pieces of the California education policy puzzle will be put together correctly, or if they will evolve into a misaligned assortment of policies. Currently, the layers of categorical programs, assessments, standards, curriculum frameworks, and accountability measures—some aligned and some not—create a confusing environment through which students must navigate in order to graduate from high school and attend institutions of higher education. The picture becomes even more confusing when higher education standards and assessments are added to the mix.

**Higher Education in California: Negotiating the Maze**

**Context: The Master Plan and Current Policy Environment**  
The state’s higher education institutions have well-articulated agreements between them regarding their admission policies. In 1960, California’s Master Plan for Higher Education established student eligibility criteria for the three segments—the community colleges, the California State University System (CSU), and the University of California (UC). The criteria are as follows:

- The community colleges, 106 in total, are to accept all applicants eighteen and older who can benefit from attending.
- CSU is to draw from the top one-third of high school graduates and all qualified transfer students from the community colleges.
- UC is to draw from the top 12.5 percent of high school graduates and accept all transfer students from the community colleges.27

Since the passage of Proposition 209 on November 5, 1996, the state has strengthened its efforts to ensure that diverse groups of students will be prepared to enter and succeed in its public colleges and universities. Proposition 209 bars the use of “preferential treatment” in public employment, public education, or public contracting.28 The proposition mandated an end to the use of affirmative action in UC’s and CSU’s admission policies and procedures. This change highlighted the need to provide equal, high quality K-12 educational opportunities to all students—including clear signals about what students need to know and be able to do to enter higher education—in order to maintain...
diverse student bodies in the state’s public university systems. In response to Proposition 209, Governor Davis proposed the Top Four Percent rule, which will allow students in the top four percent of their graduating high school class to gain admission to the UC System. The UC Board of Regents approved the proposal on March 19, 1999. The UC System estimates that it will increase the pool of eligible students by 3,600, or 1.4 percent.29

The Governor has also increased the state’s commitment to provide financial aid for college students. The Governor’s 2000 budget, released on January 10, 2000, includes a $26.5 million expansion of the Cal Grant Program. Slightly more than half ($14.1 million) would be used to add more than 7,700 new Cal Grant A, B, and C awards for financially needy students; $2.4 million would be used to increase the maximum awards for students attending independent institutions. The Governor proposes to increase the budget for merit aid as well. In addition, 1,000 new awards are authorized for the Assumption Program of Loans for Education, a program that forgives student loans for individuals who become teachers in schools districts facing a shortage of qualified teachers.10 These efforts show a commitment to expand programs that benefit more than the traditional elite pool of prospective college students.

Other measures have been taken to try to offset the effects of Proposition 209. The state has dramatically expanded funding for its pre-college outreach programs in the wake of Proposition 209; however, the evaluation component of the many outreach programs is lagging. The UC System has begun a large scale evaluation of its outreach programs and, when fully developed, it will have a comprehensive database of student-level data for students who participate in UC’s outreach programs.

The expansion in outreach-related services has come in every direction—school improvement, after school programs, mentoring, tutoring, teacher preparation—but little is known about which strategies are effective and which are not. The 1998-1999 state budget provided an extra $33.5 million in state support, plus $5 million from the UC System, for outreach. The budget required a $31 million match from the schools; therefore, the total amount of new money was $69.5 million. The UC spent approximately $137 million on outreach efforts in 1998-1999; this was more than double the $65 million spent in the previous year. The additional money expanded 1) partnerships with schools that focuses on improving long-term student performance ($15 million); 2) student-centered academic programs such as Math, Engineering, Science Achievement (MESA), Puente, and Early Academic Outreach Program (EAOP, $15 million); 3) services that promote the community college transfer function; 4) programs in the Central Valley; 5) outreach to students, families, teachers, and counselors; and 6) UC’s evaluation of the effectiveness of its outreach efforts.11 Also, the UC Office of the President is administering a $25 million federal GEAR UP (Gaining Early Awareness and Readiness for Undergraduate Programs) grant to encourage and prepare more middle schools students for college. In addition to this grant, many K-12 districts and higher education institutions in the state received one-time GEAR UP partnership grants. Finally, the UC System is requesting a $6 million increase in its proposed 2000-2001 budget in order to expand outreach initiatives.12
From the CSU System perspective, the Trustees adopted the Cornerstone Implementation Plan in January of 1998. Principle 5 of the plan states that, “The California State University will meet the need for undergraduate education in California through increasing outreach efforts and transfer, retention, and graduation rates, and providing students a variety of pathways that may reduce the time needed to complete degrees.”

In January 1996, the CSU Trustees passed a policy to reduce the need for remediation in English and mathematics. The policy calls for the CSU to work with public schools to strengthen the preparation of high school graduates and reduce the need for remediation for incoming students by 10 percent in 2001 and a total of no more than 10 percent in both subjects by 2007. The policy does not call for the elimination of remedial studies at CSU campuses. Strategies to be used include: strengthening teacher preparation, setting clear standards and assessing performance to ensure that students meet high school graduation and university admission standards, communicating university competence standards to K-12 stakeholders, informing high schools and community colleges about first year student performance at the CSU, developing early intervention programs for high school students, using CSU students to tutor and mentor K-12 students, and providing early assessment after university admission and before enrollment.\(^\text{33}\)

A priority for the campuses is to continue and expand their programs to reach traditionally underrepresented student groups.\(^\text{34}\) An outreach effort which has impacted the CSU’s approach regarding working with high schools is California Academic Partnership Program (CAPP), which was established by the legislature in 1984. CAPP promotes intersegmental partnerships by awarding grants to higher education institutions, public schools, and businesses to improve academic programs and increase the number of students who are prepared for college. CAPP focuses on identifying strategies and activities that improve college preparatory curriculum and strengthening teachers’ capacities to help all students learn the curriculum.\(^\text{35}\)

Also, the CSU system has identified approximately 240 high schools that traditionally send the most students to the CSU. The system has allocated approximately 10 million dollars to its campuses to work with those high schools and focus on faculty-to-faculty interaction. A goal is to have faculty from each system interact with each other about what they teach and what their expectations are in order to reduce the need for remediation.\(^\text{36}\)

Other current statewide K-16 efforts include the following:

- The California Subject Matter Projects (CSMP), a professional development network funded by the legislature, link UC campuses, CSU campuses, Independent Colleges, County Education Offices, Community Colleges, and high schools. The CSMPs develop teachers’ content knowledge and expand their teaching strategies, create a pool of expert teachers to conduct CSMP programs, and bring universities and schools together. The CSMPs started as the Bay Area Writing Project, but now include mathematics, art, foreign language, literature, and science. CSMPs serve over 500 California school district where 87 percent of the state’s teachers and 90 percent of the students are
located. This effort has historically been a major commitment on behalf of the state.17

• SB 1697 established the College Preparatory Partnership Program as a $13 million grant program for high schools to contract with providers for “the provision of preparation courses for college admissions tests for eligible high school pupils.” Priority for inclusion in the grant program will be given to schools with student populations that have low college attendance, high numbers of low-income students, and demonstrated efforts to improve their college preparatory curriculum and college attendance rates.18 This bill does not, however, challenge the misaligned system. Rather, it is an attempt to work within the status quo to prepare students for the current standardized college entrance exams. Programs such as those mentioned above assist students in a wide variety of ways – from helping students navigate through undergraduate application processes, to academic tutoring and test preparation. Rarely, though, do outreach programs prepare students to take higher education placement exams.

A Proliferation of Unaligned Placement Exams

Each college and university system, and sometimes each individual campus, develops or adopts placement exams to determine which core courses students should take during their first year. These exams are not well-publicized to high school students and their parents or to teachers, nor are they aligned with current K-12 standards and assessments; this creates a situation in which it is difficult for students to prepare adequately for the placement exams. The placement tests given by most institutions of higher education are administered after students are already accepted by a particular campus, so students have no way to prepare specifically for the tests. Students who fail placement exams must take lower level courses that do not count for graduation and many are not informed of the tests prior to matriculation into the university.19 Below are descriptions of placement exams administered by the California Community College System, the California State University System, and the University of California System.

• Community College System. Community college leaders are concerned about the inability of many of their students to complete credit level or transfer level work when they enter a community college. Remedial rates vary greatly depending on the high school the student attended. For example, approximately one-third of the students who graduated from higher performing (on standardized tests) high schools in the Santa Barbara area and matriculated into Santa Barbara community college could not do credit level mathematics work; that number for lower performing high schools is approximately two-thirds.20 Community colleges in California administer approximately fifty-eight different placement tests; there are approximately 678 combinations of exams given each year by the campuses. This does not include exams developed by individual faculty members. The list does include many tests developed by ACT, the UC and CSU systems and campuses, and the College Board.21

• CSU System. The CSU System has two placement exams that are used by every uni-
versity in the system: the Entry Level Mathematics Examination (ELM) and the English Placement Test (EPT). The tests were designed to assess the skills of entering CSU students in mathematics and in reading and writing, respectively, so that students can be directed to the appropriate courses or programs to help them attain the necessary skills. All entering undergraduates must take both exams. The tests are not used in the admission process. Campuses and individual faculty members also develop and use their own placement exams in core subject areas. In 1998, the CSU system reported that a record 47 percent of its freshmen had to take remedial English; 54 percent enrolled in remedial mathematics.42

• UC System. The UC system administers the Subject A English examination. It does not have a mathematics placement exam. Campuses and individual faculty members also develop and use their own placement exams in core subject areas. In 1998, the CSU system reported that a record 47 percent of its freshmen had to take remedial English; 54 percent enrolled in remedial mathematics.42

Admission Requirements
University of California System. UC System standards have long had an affect on the K-12 system. In a previous report, PACE researchers wrote that, “Historically, high schools have been attentive to changes in admission requirements of the postsecondary institutions and other higher education-initiated curricular directions. . . . The University of California’s entrance requirements have long been viewed as a primary determinant of high school curriculum.”43 The UC System and CSU joined forces in 1999 to align their required course sequences; the new requirements are entitled “a-g” and include Visual and Performing Arts. The “a-g” requirements, listed below, have historically driven the college preparatory curricula in the state’s high schools. The intent of the subject area requirements is to assure that students can participate fully in the first year program at the University in a wide variety of fields.44

In order to gain entry into an institution in the UC System, applicants must 1) complete the required “a-g” courses sequence, 2) meet the Scholarship Requirement, and 3) meet the Examination Requirement. The Scholarship Requirement specifies the grade point average (through the use of an Eligibility Index) that applicants must earn in the “a-g” courses to be eligible for admission. The Examination Requirement stipulates that applicants must submit SAT-I or ACT scores and SAT-II scores.48 Three SAT-II tests are required by the UC institutions: 1) Writing, 2) mathematics, and 3) a subject in an area appropriate to a student’s chosen area of study in college (chosen from English Literature, Foreign Language, Science, or Social Studies).

There has been a recent increase in the percentage of California high school students taking a rigorous sequence of courses. In 1998, over 36 percent of high school graduates have finished the “a-f” requirements (as they were previously called) for the UC System—an increase of over 3 percentage points since 1996. Also in 1998, over three times as many California students took and passed Advanced Placement exams than in 1984-1985. Over 13 percent of all juniors and seniors passed the exams, compared with just over 9 percent nationally.46 A major problem exists, however; there is not enough
<table>
<thead>
<tr>
<th>Course</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>History/Social Science</td>
<td>2 years, including 1 year of US history or .5 year of US history and .5 year of civics or American government; and 1 year of world history, cultures, and geography.</td>
</tr>
<tr>
<td>English</td>
<td>4 years of college preparatory English that includes frequent and regular writing, and reading of classic and modern literature. Not more than 2 semesters of 9th grade English can be used to meet this requirement.</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3 years required, 4 years recommended, of college preparatory mathematics that includes the topics covered in elementary and advanced algebra and 2 and 3 dimensional geometry. Math courses taken in grades 7 and 8 may be used to fulfill part of this requirement if your high school accepts them as equivalent to its own courses.</td>
</tr>
<tr>
<td>Laboratory Science</td>
<td>2 years required, 3 recommended. 2 years of laboratory science providing fundamental knowledge in at least 2 of these 3 areas: biology, chemistry, and physics. Lab courses in earth/space sciences are acceptable if they have as prerequisite or provide basic knowledge in biology, chemistry, or physics. Not more than 1 year of 9th grade laboratory science can be used to meet this requirement.</td>
</tr>
<tr>
<td>Language Other Than English</td>
<td>2 years required, 3 recommended. Courses should emphasize speaking and understanding and include instruction in grammar, vocabulary, reading, and composition.</td>
</tr>
<tr>
<td>College Preparatory Electives</td>
<td>2 years. Courses must be chosen from the following areas: visual and performing arts, history, social science, English, advanced math, laboratory science, and language other than English.</td>
</tr>
<tr>
<td>Visual and Performing Arts</td>
<td>1 year. Courses must be chosen from the following areas: art dance, drama/theatre, or music.</td>
</tr>
</tbody>
</table>

Table 1. A-G Requirements

Consistency in terms of what is offered in a-g courses across the state. The UC System certifies that a course meets the necessary criteria by ensuring that the course title meets its standards. If substantial changes are made, the UC System must be notified. Content of the courses varies and, over time, does not always match the titles of the course.47

Community College System. The California Community Colleges must admit any California resident, and may admit any person, who is at least eighteen years old and capable of profiting from the instruction offered. The community colleges may also admit a nonresident who has a high school diploma or the equivalent.48

California State University System. Freshmen are admitted based on courses taken in high school and their ranking on the eligibility index, a combination of high school grades.
and either the SAT or ACT composite scores. To qualify for admission a student must satisfy the following criteria: 1) be a high school graduate, 2) have completed the course subject requirements with a grade of C or better, 3) and earned a qualifying ranking on the eligibility index. Again, the course subject requirements, the a-g requirements, are the same as those required by the UC System.

California residents with a school grade point average of 3.0 or better are not required to submit test scores, but are encouraged to do so. The SAT-I, like the CSU math placement exam, covers algebra and geometry; however, the SAT-I also covers topics not stressed in the CSU exam such as ratios and data interpretations. A score above 550 on the mathematics section of the SAT exempts students from taking the CSU’s mathematics placement exam.

**The SAT and Advanced Placement**

Results from the traditional measure of college preparation, the SAT™, are encouraging. California’s state standards and assessments, however, are not aligned with the SAT; SAT results are not indicators of students’ overall academic performance in school. SAT results are intended to measure students’ readiness for college-level academic work. In 1997, 47 percent of California’s high school seniors took the SAT, four percentage points higher than the national average. Percentage-wise, substantially more California students were not native English speakers and were from economically disadvantaged families. Nevertheless, average scores increased to the highest point since 1973-1974: 497 in the verbal section (the national score was 505) and 516 in math (the national score was 512).\(^{49}\) The assessment chapter provides more detailed information and data regarding the SAT.

Although causality can not be proven with these data, the table below shows that the more academic courses a student completes, the higher the SAT scores.\(^{50}\)

Currently, because there are three required SAT-II portions and only two SAT-I portions, the SAT-II factors more heavily for campuses that choose to use all three SAT-II exams in calculating their academic index. It is unknown what percentage of non-honors or non-AP track students are aware of, and prepare for, the SAT-II. If the SAT-II is not a commonly known assessment, it could be a barrier for students

<table>
<thead>
<tr>
<th>Academic Courses Taken</th>
<th>California SAT Math Scores</th>
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</thead>
<tbody>
<tr>
<td>20-plus</td>
<td>567</td>
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<tr>
<td>19-19.5</td>
<td>525</td>
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<tr>
<td>18-18.5</td>
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<td>17-17.5</td>
<td>481</td>
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<tr>
<td>16-16.5</td>
<td>472</td>
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<tr>
<td>15-15.5</td>
<td>470</td>
</tr>
<tr>
<td>Less than 15</td>
<td>456</td>
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</table>

<table>
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<tr>
<th>Academic Courses Taken</th>
<th>California SAT Verbal Scores</th>
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<tbody>
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<td>20-plus</td>
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<td>19-19.5</td>
<td>508</td>
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<td>Less than 15</td>
<td>434</td>
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</tbody>
</table>

Table 2. Number of Academic Courses Completed and SAT Score, 1998