Overcoming the High School Senior Slump: New Education Policies

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THE SENIOR YEAR IN HIGH SCHOOL has substantial but under-utilized potential for improving student preparation to enter and succeed in post-secondary education. Preparation primarily occurs between Grades 8-11 because admissions processes begin early in the senior year. Failure to use the senior year to enhance preparation for success at the post-secondary education level, reflects the deep disjuncture between post-secondary and K-12 education, and the consequent lack of knowledge and incentives for students to work hard academically, and prepare for post-secondary education. Neither K-12 nor post-secondary education claims the academic content of the senior year as a basis for further education. Consequently, the senior high school curriculum is not linked clearly to the first two years of a university, or a continuous vision of liberal education. Policy-making for the two education levels are made in separate orbits that rarely interact, and the policy focus for K-16 has been more concerned with access to post-secondary education, than completion of degrees or programs. Students receive vague and mixed signals and incentives concerning what they need to know and be able to do for completing post-secondary education. Many students who express interest in college mistakenly assume that meeting their high school graduation requirements means they are college prepared (ACT, 2000). All types of students, including the highest performing, talk about the second semester of the senior year as being a time they have “earned” to relax and have fun. The weak academic focus in the senior year is one cause that about 70% of seniors go to post-secondary education from high school in 2000, but the percentage that complete a baccalaureate degree is not much greater than it was in 1950 (NCES, 1997; Orrill, 2000).

Why is the Senior Year Not Effective?
Admissions and placement policies are prime examples of the problems for students at all levels of the high school achievement band. For instance, community colleges have open admission, so students rarely are aware placement exams exist or requirements
exist to prepare for community college. Yet placement exams determine whether community college students can do credit-level work. Many selective public universities admit by December 1 of the senior year, and rarely even look at senior year grades. Consequently, students cut back on academic courses and work long hours in non-school jobs or internships. Rarely do universities or colleges withdraw admission if grades fall off drastically during the senior year, even though ETS found a long-term trend of high school grade inflation in its annual reports on SAT tests scores.

The substantial increase in early admissions by December of the senior year at our most selective universities results in students knowing early in their senior year where they will attend university. Many of these students took AP courses in their junior year in order to gain admittance to a highly selective school, and drop difficult senior year courses after receiving early admission. These high achieving students have scant need or motivation to use the senior year for more academic preparation. In some cases, internships become more of a priority. The high school suffers from less academic effort by the best academic students, and the universities lose a headstart such students could make upon their undergraduate general education requirements.

Indeed, many seniors regress in terms of academic preparation as evidenced by high failure rates on mathematics placement tests. Sixty-eight percent of the students admitted to California State Universities must take a remedial course. And many really high achievers take highest level math courses their junior year in high school and then do not have any math options their senior year. A typical pattern for many students attending less selective four-year institutions or community colleges is not to take any math in the senior year. These same students are confronted with a math placement exam in the summer after graduation. They discover that they have forgotten the math needed to avoid remedial courses at the outset of their post-secondary career. These remediation problems are particularly acute for low-income students proceeding directly from high school to post-secondary education (ACT, 2000).

Students do not realize how important advanced academic classes including Algebra II taken in the senior year can be for university graduation (Adelman, 1999). Community colleges send weak signals about how senior year courses could improve academic preparation. SAT and ACT are not designed to assess most senior year learning. Very few states have any assessment system for the 12th Grade, so the current state standards movement is not designed with the “senior slump” in mind.

These examples are cited merely to illustrate some specific senior-year issues. This paper will begin with an analysis of the causes and evolution of the K-12/higher education disjuncture, derive policy problems from this evolution, synthesize literature about K-16 policies including testing incoherence, summarize relevant findings from
the Stanford Bridge Project concerning admissions and placement, and conclude with specific policy directions to enhance the senior year.

Evolution of Disjuncture Between Higher Education and K-12 Education

The American system has the greatest chasm between higher education and lower education of the nine nations studied in 1985 by Burton Clark. Thus, extent of this divide is in many ways a unique American problem.\(^1\) In part, its stems from the laudable way the U.S. constructed mass education systems for both higher and K-12 education. In England, for example, upper secondary education was designed for an elite group who would be going on to universities. Consequently, higher education historically had a major role in determining the format and content of exams, grading O and A exams, and establishing the course content syllabi to be taught.

The final year of English secondary education was and still is crucial in determining admission to universities, and specific departments within universities. English A levels exams taken at the end of the last year of secondary education are the crucial admission criteria. English exams in most fields are entirely written responses, and there is no significant use of multiple choice. Professors at English universities like Oxford and Durham grade written responses for the secondary exam systems. In the U.S., by contrast, both the SAT I and ACT exams assess writing through a multiple-choice test - a practice viewed by the English as inauthentic assessment of writing attainment.

The U.S. post-secondary system used to play a more important role in high schools. In 1900 the U.S. K-16 system was linked somewhat because the College Board set uniform standards for each academic subject, and issued a syllabus to help students get ready for subject-matter examinations. Prior to that, students had to prepare for different entry requirements at different colleges.\(^2\) The University of California accredited high schools in the early 20th century to make sure the curriculum was adequate for university preparation. But this K-16 academic standards connection frayed and then broke open, and the remaining major linkage is usually teacher preparation in an education school. Aptitude tests like the SAT replaced subject-matter standards and secondary school curriculum electives including vocational education and life skills proliferated in many directions beyond post-secondary preparation.

Unlike the early twentieth century, today faculty members in discipline-based professional organizations across K-16 levels interact rarely, and policymakers even less. When I was President of the California State Board of Education (1977-1981), I never met with my board counterparts at the university level.

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\(^1\) Burton Clark, *The School and the University* (Berkeley: University of California, 1985).

coordinating boards rarely extend their “coordination” to K-12. The only nationally aligned K-16 standards effort is the Advanced Placement program — a stalactite that extends from universities, utilizing a common content syllabus and exam. An exam score of 3 or higher out of 5 on AP is one indicator of college preparation. But 33% of all AP students do not take the AP exam so many AP students may not be benefiting much from AP’s close link to post-secondary standards (Lichten, 2000).

Curricular coherence and sequencing between the senior year and post-secondary education is not a priority issue. There is no plan in the U.S. to relate the content and experience of the last two years in high school to the first two years of college, so that the student experiences a continuous process conceived as a whole. As Orrill points out, there is an “eclectic academic muddle in Grades 10-14” before a student focuses upon a major (Orrill, 2000). Ernest Boyer argued that post-secondary general education is the “spare room” of the university, “the domain of no one in particular” whose many functions made it useless for any one purpose (Boyer and Levine, 1981). The “rooms” that concern faculty and students are majors and electives. Consequently, confusion reigns with some contending general education is supposed to prepare students for a specialized major, while others believe general education is an antidote to specialization, vocationalism, and majors. Burton Clark (1993) hopes that somehow the small, specialized interests of the faculty will lead to interdisciplinary connections and a more connected general education. So far, there is little evidence that this has happened.

It is very difficult with available evidence to ascertain the current status of general education. Catalog data have validity problems, and there are no recent studies. Adelman (1992) analyzed student transcripts from the National Longitudinal Study. He emphasized that students took very little course work that often is considered part of general education. Less than one-third of college credits came from courses that focused upon cultural knowledge, including Western and non-Western culture, ethnic, or gender studies. Adelman also found that 26% of bachelor degree recipients never earned a single college credit in history, 40% in English or American literature, and 58% in foreign languages. The role of the senior year in providing general education is rarely discussed, even though many seniors go directly to specialized university departments like business. But most of the college credits in Adelman’s study were earned during the early to mid-1970’s which was be a low point in general education requirements.

High schools do not view learning as a series of building blocks that culminates in the senior year. Students take subjects in discrete areas (Algebra, Geometry, etc.) that do not build on the previous years’ knowledge base. Moreover, the focus of K-16 linking mechanisms including counselors, admissions, and financial aid focuses upon access to higher education, but much less on academic preparation for degree completion. The situation is summarized this way:
Massive institutional complexes, the secondary and higher education systems seem to diverge, pulled apart by different agendas. Traditional direct links become strained, even broken. In response, we can observe an array of mediators that emerge to link the two levels. There are the mediating professionals also: counselors, recruiters, admissions personnel, and financial-aid experts. A major role is assumed by the major private testing organizations, whose tests have become powerful tools for allocating students to different types of universities and colleges. And increasingly prominent is the mediating influence of federal government as it has attempted to increase equity in American education and now, in the 1980's, as once before in the post-Sputnik years, seeks to emphasize excellence.

The array of mediating groups, institutional devices, and social statuses is the best indicator of the amount of disorder and confusion that has grown through the years in the relationship between the school and the university in America. We should expect such mediation to continue and to expand.3

The Standards Movement and K-16 Disjuncture
Education standards have swept across the U.S., engulfing almost every state. Forty-six states have created K-12 academic content standards in most academic subjects, and all but Iowa and Nebraska have statewide K-12 student achievement tests. At the state level, there is progress toward focusing on, and clarifying: 1) what students must be able to know and to do in the K-12 grades, and 2) how to align standards, assessments, textbook selection, and accountability measures at the K-12 level. A gaping hole in this reform strategy, however, is the lack of coherence in content and assessment standards between higher education institutions and systems and K-12 systems. Unless we close this standards gap and align K-16 policies, students and secondary schools will continue to receive a confusing array of signals and will not be able to prepare adequately for higher education. The current scene is a “babel of standards,” rather than a coherent strategy.

U.S. higher education relies on the SAT and ACT to provide some national assessment uniformity, but neither of these assessments is completely aligned with the recent up-surge in K-12 standards. Moreover, the situation is even more disjointed concerning higher education placement tests. In the southeast United States, for example, in 1995 there were 125 combinations of 75 different placement tests devised by universities with scant regard to secondary school standards. The result of this confusion is that K-12 and university entrance and placement assessments usually

utilize different formats, emphasize different content, and take different amounts of time to complete. For example, Illinois and Florida assessment rely heavily on actual written work, but the SAT I and ACT and some Florida placement exams assess writing through multiple choice.

Massachusetts' state K-12 assessment contains performance items that are dissimilar to the closed-end multiple-choice format of the SAT and ACT exams. California's newly-augmented STAR test includes math that is considerably more advanced and difficult than the SAT and ACT. Texas' high school assessment (TAAS), however, does not include sufficient algebra or geometry so it is not as challenging as the SAT. Some state K-12 assessments permit students to use calculators, but the university placement exams do not. Texas has a statewide post-secondary placement test (TASP), but many Texas universities also use their own placement exams. Interviews with Texas students demonstrate that they have no idea about placement standards. Many state assessments do not go beyond tenth grade and do not test every pupil (they use a matrix sample). Consequently, they do not provide individual scores for use in admissions or placement. By contrast, Illinois is implementing a new state test to be given in the 11th and 12th grades, and plans to combine a state standards-based assessment with ACT.

Universities provide some good reasons why they pay little attention to K-12 standards or assessments. Universities emphasize that they were not involved in the process of creating or refining K-12 standards. Moreover, state K-12 standards keep changing because of political or technical problems, and are not evaluated to see how well they predict freshman grades (although this is not difficult to do). Universities hope that the SAT and ACT will make adjustments to accommodate these new K-12 standards, and feel more comfortable with the two assessments (SAT/ACT) that they know and can influence. Many universities are wary of being subjected to a higher education version of K-12 state-accountability systems, and the political quagmire surrounding high stakes testing.

These disjunctures will be hard to fix unless there is an institutional center nationally and in each state for K-16 reform. Very few states have any policy mechanism that can make specific decisions concerning K-16 standards and assessment alignment. Higher education coordinating bodies do not include K-16 standards alignment within their purview. In short, there are few regular opportunities for K-12 educators to even discuss, much less resolve, standards issues with college and university faculty or policymakers. The disciplinary and professional associations have potential to span K-16, but are organized mostly along K-12 and post-secondary units. Given the volume of applications, the selective universities are getting the students they want, so they see

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no need to implement an alternative to junior year SAT/ACT. In some states, the governor's office is the most logical place to put these fractured standards systems together, but higher education leaders (especially private universities) want to guard their political independence from gubernatorial and legislative specification of admissions criteria. Because each state has a distinctive K-12 standards and assessment system, it is not clear what can be done nationally. For example, President Clinton's advocacy of a national voluntary test died after protests concerning states' rights and students' opportunity to learn.

Aligning and Improving Standards/Assessments
Post-secondary education needs to send consistent and clearer signals (accompanied by appropriate incentives) to seniors concerning academic preparation. The concepts of content and standards alignment are promising, but also have deleterious effects if not done properly. For example, K-16 alignment focused upon low-level or inappropriate content would make the situation worse than the current babel of standards. For example, many mathematics teachers at all levels do not believe some current post-secondary math placement tests are good enough to be the keystone around which alignment takes place. Some K-12 state assessments are at such a basic level that they are inappropriate for use in post-secondary education.

Even if alignment across efforts was somehow achieved, there is no guarantee that the content of reform would reflect high-quality standards and assessment tools. For example, authentic assessment is a concept in the earlier stages of development. In a rush to reach consensus, standards reformers might settle for the lowest common denominator. It is no improvement on the current situation if K-16 standards are aligned around concepts that do not encourage teaching for understanding. At the same time, a stream of related problems continues to confound the issues, including shifts in affirmative action that are causing complex and controversial changes in admissions policies, further complicating the transition from secondary to post-secondary education for minority and immigrant students. A recent study of the City University of New York (CUNY) system observed:

In thinking about the drastic changes that will most likely result from the new admissions policy, it is helpful to take a look at the CUNY skills assessment tests. Although developed for assessment and placement purposes, their use as admissions tests raises the most serious questions about their validity. In research on these tests, we looked at the association of graduation rates with various levels of performance on the test battery for students who entered in fall 1988 (Lavin & Weininger, 1998). As might be expected, students who passed all of the tests were more likely to graduate (by 1996) than those who did not pass all of them. But what one may find surprising is that graduation rates for those who did not pass all of the tests are often substantial. Indeed, Asian students who failed one test were as likely to graduate as those who
passed all of the, and even among those who failed two, the graduation rate was quite comparable with those who passed all. Among those who failed all three tests, about a quarter had graduated from CUNY after eight years.5

Two recent analyses of K-16 assessments expose the similarities and differences among K-16 visions of what high school students need to know and be able to do. Figure I from a 1999 report of the Education Trust demonstrates the range in mathematics.

**Figure I. Distribution of Topics on Standardized Assessments**

<table>
<thead>
<tr>
<th>Test</th>
<th>Algebra 1</th>
<th>Geometry</th>
<th>Algebra 2</th>
<th>Trig/prec al</th>
<th>Alg 2+Trig</th>
<th>D.P.S.</th>
<th>Number*</th>
</tr>
</thead>
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<tr>
<td>TerraNova</td>
<td>14%</td>
<td>29%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>23%</td>
<td>21%</td>
</tr>
<tr>
<td>Stan 9 m/c</td>
<td>29%</td>
<td>25%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25%</td>
<td>21%</td>
</tr>
<tr>
<td>KY CATS</td>
<td>9%</td>
<td>33%</td>
<td>20%</td>
<td>0</td>
<td>20%</td>
<td>17%</td>
<td>18%</td>
</tr>
<tr>
<td>MCAS 10</td>
<td>23%</td>
<td>28%</td>
<td>13%</td>
<td>5%</td>
<td>18%</td>
<td>13%</td>
<td>18%</td>
</tr>
<tr>
<td>New York</td>
<td>29%</td>
<td>26%</td>
<td>9%</td>
<td>3%</td>
<td>10%</td>
<td>9%</td>
<td>26%</td>
</tr>
<tr>
<td>TAAS</td>
<td>12%</td>
<td>23%</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3%</td>
<td>53%</td>
</tr>
<tr>
<td>SAT 1</td>
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<td>23%</td>
<td>3%</td>
<td>0</td>
<td>3%</td>
<td>3%</td>
<td>23%</td>
</tr>
<tr>
<td>ACT</td>
<td>25%</td>
<td>27%</td>
<td>12%</td>
<td>8%</td>
<td>20%</td>
<td>5%</td>
<td>18%</td>
</tr>
<tr>
<td>COMPASS</td>
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<td>25%</td>
<td>15%</td>
<td>40%</td>
<td>0</td>
<td>19%</td>
</tr>
<tr>
<td>ACCUP al</td>
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<td>75%</td>
<td>0</td>
<td>75%</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ACCUP cl</td>
<td>16%</td>
<td>0</td>
<td>63%</td>
<td>21%</td>
<td>84%</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* "Number" includes number and number theory, arithmetic, combinatorics, and logic. DPS is “data, probability and statistics.” Source, Education Trust, Washington, D.C., 2000. Terra Nova and Stanford 9 are standardized tests made by corporations. Kentucky’s CATS is the Kentucky Assessment System, MCAS is in Massachusetts, TAAS is in Texas, Compass and Accuplacer are placement tests developed by private organizations.

As Figure I indicates, the high school tests rarely extended beyond algebra and geometry with content coverage similar to SAT I. But the placement exams had considerable emphasis on Algebra 2 and Trigonometry. Students are admitted to post-secondary education based on one conception of appropriate math, but are placed on a different conception. Since community colleges use Compass and

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5 David E. Lavin, Policy Change and Access to Two and Four Year Colleges, American Behavioral Scientist 3(7), April 2000, p. 1155.
Accuplacer math for placement, community college students are placed on a standard that is different from their high school tests.

Some K-12 state assessments, however, are rigorous and are more like the math placement standards than admissions tests like SAT I. The Massachusetts and Kentucky K-12 assessments emphasized upon Algebra 2 and Trigonometry. On the other hand, many state K-12 tests like California Stanford 9 stress DPS (data, probability, and statistics), but university admissions and placement tests do not. In short, K-16 assessments are all over the map, and send confusing signals to students and parents. The need for students to take Algebra 2 and Trigonometry in their senior year is not communicated clearly by higher education, because students are focusing upon access/admission, and not what they need to know to complete their post-secondary programs. Stanford’s Bridge Project has interviewed high school students in six states and found minimal student awareness of higher education placement standards/except for AP students. Students are confused as to why SAT I is so different from the content and skills on their state K-12 assessments.

The Bridge Project has completed analyses of all tests for statewide high school and college entrance exams for six states and found the same problems as did the Education Trust. Below is a listing of some of the California state tests:

K-12 Statewide Assessments
- Stanford 9 augmented for California Standards - every student tested in grades 2-11; 335 minutes for 11th grade without social science/science.
- State graduation test - being developed.
- Golden State Exam - high school students in top one-third, endorsed diploma.
- GED
- California High School Proficiency Exam - early graduation from high school

Under Consideration
- K-12, School Site Matrix Test based on state content standards
- English Language Learner Assessment

College and University Assessments (Public)
- Community College Placement Exams - vary by college/district
- SAT I - Multiple Choice
- SAT II - Subject Matter - mostly multiple choice
- ACT - multiple choice
- California State University Placement Exam - 68% fail language arts/math
- UC Placement Exam - One-third fail English/language arts

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6 Bridge project states are California, Illinois, Texas, Maryland, Georgia, and Oregon. See also Education Trust, Thinking K-16, (Washington, D.C., 1999). More findings from Bridge are in the Appendix.
Advanced Placement – Subject-matter based – some multiple choice

The Rand Corporation analyzed the content and format of California assessments and concluded that:

The problem may be more serious when two tests reflect different philosophies concerning what students should know and what kinds of skills they should be able to display. In many cases, the misalignment among K-12 and university-level tests results from reforms that have taken hold at one level of the educational system, but not another. This is particularly true in states where new tests have been developed to reflect state standards or frameworks that emphasize inquiry-based teaching and open-ended problem solving. In such cases, the skills and knowledge students are expected to demonstrate on the state exams may differ substantially from what is expected on college admissions and placement exams. This creates a confusing set of signals for students concerning how they should prepare for the admissions and placement process.\(^7\)

The Bridge six-state assessment analysis also highlights the differences in K-16 writing standards. SAT I and ACT assess writing through multiple choice formats, while many states use writing samples. It is ironic that many of the nation’s universities do not place enough value upon actual writing to include it in their admission standards. Consequently, SAT/ACT preparation courses emphasize finding errors quickly in sentence and paragraph structure. The New York, Massachusetts, and Kentucky state K-12 assessments in contrast link written responses to questions about reading passages. Several states including Oregon and Illinois require K-12 students to do exposition/analytical writing, as well as a narrative/personal essay.

Placement tests include some student written samples, but admissions offices do not require this except for the few students who take the SAT II. But even the SAT II utilizes a personal reflective form of writing that is rarely used beyond the English classroom. Most written work in college is not personal feelings or reflections, but involves analysis, reporting, argument, and persuasion. Even placement exams utilized by universities and community colleges like Accuplacer and Compass do not include exposition/analytical-writing tasks. The senior year should include intensive writing preparation for post-secondary success, but there are few signals or incentives to do this.

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Policy Improvements That Encompass The Senior Year
Several policy directions would improve senior year preparation for post-secondary education. The next section has recommendations targeted to the senior year. Recommendations are not listed in order of priority:

- Permit students to submit subject matter-based state external exams as a significant factor for admissions and freshman placement. Study the university success of these students. Several states have developed appropriate subject matter external exams including Michigan, North Carolina, Florida, New York, and Massachusetts. These states and others are potential locations for experimentation. Let us begin by defining what a curriculum or subject matter-based external exit examination system is: The crucial difference between external exams and the SAT/ACT is that a curriculum-based exam is organized by discipline and keyed to the content of specific course sequences (Bishop, 1996, 1997). This focuses responsibility for preparing the student for particular exams on one or a small group of teachers. These exams produces signals of student accomplishment that have real consequences for the student, and define achievement relative to an external standard, not relative to other students in the classroom or the school.

Signals multiple levels of achievement in the subject. If only a pass-fail signal is generated by an exam, the standard will have to be set low enough to allow almost everyone to pass, and this will not stimulate greater effort in the great bulk of students. It covers almost all secondary school students. Exams designed for a set of elite schools or honors courses will influence standards at the top of the vertical curriculum, but will probably have limited effects on the rest of the students. The school system as a whole must be made to accept responsibility for how students perform on the exams. A single exam taken by all is not essential. Many nations allow students to choose which subjects to be examined in, and offer high and intermediate level exams in the same subject.

- Substitute SAT II (or College Board Pacesetters when it is developed), for SAT I in order to link admissions and placement standards closer to external discipline-based standards outlined above. Higher costs of SAT II should be borne by the public and not the student. Many SAT II exams need to be strengthened and updated. Some SAT II exams have not been changed since they were originated.

- Align freshman placement exams with other state standards, and publicize placement exam content, standards, and consequences to students in high school. At present, high school students do not have knowledge of content or performance standards in university placement exams. Many of the exams included in the first recommendation could be used for placement. But the quality of exams must be high or else alignment will lead to lower and inappropriate standards. Current
placement exams devised by colleges and universities need to be reviewed for reliability, validity, authenticity, and teaching for understanding.

- Report and publicize freshman placement results for each high school similar to school site reporting for state assessments like Massachusetts and Maryland. Allow students to take placement exams in 11th or 12th Grade, and substitute K-12 assessments for university-devised placement exams. Since some states have different placement exams for each university or tier of university, there needs to be a study of content differences and whether a common exam is feasible. A common exam would encourage eleventh graders to take placement exams because they may not know which public university they will attend.

- Require a writing sample for all admissions decisions. Neither the SAT I or ACT assess writing samples—instead SAT and ACT test writing through a multiple choice test. Some statewide K-12 assessments have a writing sample that could be incorporated into the regular admit/placement process. SAT II writing is only twenty minutes of a 60-minute test; the rest is grammar and mechanics.

- At present, high schools in some states like Texas can choose any procedure to compute high school class rank, and improve students' chances for admission by leaving some courses (e.g. jewelry making) in or out of high school class rank (HCR). Standardize high school procedures for computing class rank/grade point average. Universities should specify academic courses that count in computing HCR, and accord appropriate weight for honors and AP courses across all high schools in a state. Senior year academic courses should be an important component of HCR calculations.

- Explore feasibility of using student portfolios for admissions in lieu of current policies and thereby create a new currency for higher education admission and placement that uses authentic assessment. The Oregon PASS project has created a promising approach for portfolio use. For example, Oregon PASS provides a writing score to college/universities that is based on a portfolio of high school written work. PASS has prepared high school teacher to rate this overall written portfolio.

- Align merit financial aid policies with changes recommended above. For example, base merit aid on external subject matter exams like the New York Regents and North Carolina end-of-course tests.

- Review on a periodic basis state, local K-16, and university content and performance standards. Part of this analysis should include conflicting concepts and signals sent to prospective university students. Study the signals and incentives that students receive concerning high school admissions standards. Universities
know what signals they are trying to send, but not what signals students receive. Pay special attention to differential signaling impact upon high, middle, and low SES students.

Specific initiatives to improve the academic quality and impact of the senior year The following list is targeted at the senior year, but will be more effective is accompanied by the changes recommended in the prior section.

- For 70% of students now participating in post-secondary education, senior year should be re-conceptualized to stress preparation for post-secondary success, credit level placement, and a start upon continuous general or liberal arts education. Access to higher education is only the starting point of senior year, not the sole goal.

- Expand substantially successful dual-enrollment K-12 post-secondary programs that include all levels of students, not just highest achieving students. Example in “Running Start” in Washington, D.C. and “Diploma Plus” in Massachusetts. The theory of senior year is that most youth can meet high post-secondary standards, and dual enrollment is not primarily designed for the highest achieving students.

- Undergraduate general education requirements need to be sequenced so appropriate senior-year courses are linked. Senior year courses can be a gateway to general education requirements in the first year of college/university. This would entail a major overhaul of post-secondary general education at all levels from community college onward. Without re-conceptualizing general education, other recommendations in this paper will not have as much impact.

- Set explicit standards for senior year performance in all courses and withdraw admission if they are not met. This may require computerized transcript communication between high school and university. Require a minimum number of academic credits for the senior year last semester. Stress post-secondary placement exam standards in this last semester for students who plan to proceed to post-secondary education.

- Make the implications of freshman placement exams clearer to students and stress that taking senior year math and writing courses enhances placement scores, and results in less costly remediation. Integrate freshman placement information about standards with admissions information sent to applicants. Most colleges and universities admissions offices know very little about placement.

- If a university requires math to graduate from its campus, then require a linked high school senior-year math course with a certain minimum standard. Many states require only two years of high school math.
• University reports about remediation and freshman performance of students from specific high schools should be publicized widely in mass media, and considered by local school boards for policy implications. At present, these reports are sent to high schools or central district offices, but are rarely revealed within or outside the local education agency.

• Encourage high school accreditation by state governments and private groups (e.g. North Central) to focus upon the academic rigor of the senior year. Accreditation needs to focus more directly on post-secondary preparation.

• Review high school policies granting course credit for work experience that has no strong academic components. Much of the senior year for many students is spent working with no academic link.

Need for a K-16 Institutional Center
These recommendations will be easier to accomplish if there is an overall organizational base to deliberate about K-16 policy. For example, California has numerous fragmented governance units that are partial K-16 policymakers.
• Regents of the University of California
• Trustees of California State University
• Board of Governors of the California Community Colleges
• State Board of Education
• California Post-secondary Education Commission
• California Department of Social Services
• California Economic Development Department
• Governor's Secretary of Education
• Superintendent of Public Instruction
• Assembly and State Legislative Committees
• State Job Training Coordinating Council

California created an Education Roundtable in 1981 that focuses on issues that span lower and higher education, and tries to overcome governance fragmentation. Roundtable membership consists of the UC president, the CSU and California Community College Chancellors, the Superintendent of Public Instruction, the Director of the Post-secondary Education Commission, and the Chairman of the Association of Independent California Colleges and Universities. But the Roundtable has made only partial progress in aligning K-16 education assessment standards, and the elected State Superintendent cannot adequately represent all of K-12 education.

Particular promising mechanisms are the state and regional P-16 Councils in Georgia. The statewide Georgia P-16 Council focuses upon four objectives:
1. Development of standards of what students should know and be able to do beginning in preschool and continuing through post-secondary levels;
2. Creation of a P-16 multi-agency-linked student database to monitor student progress through all levels of education;
3. Alignment of curricula from preschool through post-secondary education;
4. Strengthening teacher quality through the co-reform of schools and preparation programs for teachers, school leaders, and educational support personnel.

Currently, the Georgia statewide P-16 Council is co-chaired through a rotation system of the four heads of the Office of School Readiness (Georgia's voluntary preschool program), the State Department of Education, the Department of Technical and Adult Education, and the University System (Kettlewell, 2000). The council includes individuals from post-secondary education, P-12 education, the legislature, youth advocate groups, the corporate sector, and the community. The council meets four times per year and has 49 members, with the governor serving as honorary chair. Georgia's P-16 Council provides overall coordination and leadership for the P-16 Initiative at state and local levels. Because the council is not a governance structure with any authority in policy or law, recommendations are sent to the proper authorities and governing boards.

Early on, it was recognized that work at the state level, although necessary, was insufficient to link K-16 adequately. Consequently, local partnerships were devised to provide an infrastructure to create grassroots support and new initiatives such as supplemental programs for 7th- through 12th-grade students in at-risk situations who benefit from extra support for post-secondary education. In 1997, using University System funds as seed money, 15 local/regional P-16 councils were formed in Georgia. Each council received $10,000 and was charged with development of local plans to achieve the P-16 mission in their region. The membership within the 15 local P-16 councils included: 29 University System colleges and universities (out of 34), 147 school districts (out of 180), 23 technical institutes (out of 34), 23 private schools, 80 businesses, 41 public agencies, and representatives from communities (Kettlewell, 2000).

Concluding Comments
All of these policy mechanisms and recommendations require leadership and motivation to improve the senior year. It is unclear how this will evolve, given the long U.S. tradition of K-16 disjunction. Perhaps the stimulus will come from rising public concern about post-secondary remediation. More fundamental reform could be stimulated by rethinking general education and curriculum for ages 15-20. But the senior slump has been around so long, it has become part of American high school culture. The senior year issue must receive more public attention and concern before K-16 policy communities will be mobilized to act. The first move needs to get the senior year issue in a priority position on the public agenda. Given the huge gap in
post-secondary attainment between high and low income students (particularly for Hispanics and African Americans), this is an urgent issue of equity as well as quality education.