The Academic Performance Index (API): A Six-Year Plan for Development (2001-2006)

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The purpose of this paper is to propose a long-term plan for the future evolution of the API through the 2006 Base API. The goal is that by the end of this process the development of the API should be substantially complete. The paper is divided into five sections:

1. A look back at the guiding principles for the development of the API
2. A review of three phases of API development
3. A review of issues that remain to be resolved during Phase 3
4. A six-year time table for the evolution of the API
5. A brief discussion of the implications of the federal Title I Adequate Yearly Progress (AYP) requirements for the API

It is important to remember that a plan is more of a process than a product. A plan sets out guideposts. It is still necessary for us to design and implement strategies to attain them. These strategies will change in response to unforeseen events. But a plan enables us to respond positively and creatively in devising these strategies.

I. Guiding Principles

At this point, it is important to restate the Guiding Principles from the original framework of the API, adopted by the State Board of Education in July 1999. These Principles were intended to provide direction for the future development of the API.

1. The API must be technically sound.
2. The API must emphasize student performance, not educational processes.
3. The API must strive to the greatest extent to measure *content, skills, and competencies that can be taught and learned in school and that reflect the state standards*. [Note: Italics in principles # 3, 5, and 12 appear in original document.]
4. The API must allow for fair comparisons.
5. The API should *include* as many students as possible *in each school and district*.
6. The API must measure school performance and growth as accurately as possible.
7. The API should strive in the long-term to measure growth based on student-level longitudinal data.
8. The API should be flexible and its component indicators should be stable.
9. The API should be understandable, particularly to educators and parents.
10. The API is part of an overall accountability system that must include comprehensive information which incorporates contextual and background indicators beyond those required by law.
11. The API should minimize burden.
12. The API should *support* local accountability systems.

II. Three Phases

The development of the API can be divided into three phases.

- Phase 1, the basic design and implementation of the API
- Phase 2, the full integration of all legally-required assessments into the API
- Phase 3, the final consolidation of the API through the incorporation of any remaining indicators and resolution of issues that have arisen during Phases 1 and 2

Phase 1: Design and Implementation (1999-2001)

Phase 1, development and implementation of the API, has already been concluded. In 1999, the State Board of Education (SBE) adopted a system for:

- Summarizing Stanford 9 test results into an API
- Setting a interim statewide performance target
- Defining annual API growth targets for individual schools

The 1999 and 2000 Base APIs rested on Stanford 9 results only. However, the SBE approved a methodology for calculating the API that was ideally suited for the eventual inclusion of results from the California Standards Tests

Phase 2: Expansion of the API (2001-2003)

Phase 2 is characterized by the expansion of the API to include results from the standards-based assessments and high school exit exam. These tests will constitute the core of the California statewide assessment as well as the API.

Phase 2 is currently underway, beginning with the publication of the 2001 Base API in January 2002. The 2001 Base API included results from the California Standards Test in English-Language Arts. This marked the first significant change in the API since its inception in 1999.

The methodology adopted by the SBE for the integration of the CST ELA emphasizes continuity of practice. It maintains the same API scale, the same performance level weighting factors, and the same statewide performance target. It constitutes a framework for the impending integration of the other standards tests into the API.

The 2002 Base API, which will be released in January 2003, is expected to include the California High School Exit Exam (CAHSEE), the California Standards Tests in Mathematics as well as History and Social Science. Other standards tests, including Science, will be added to the API as the SBE defines performance levels for them. The incorporation of the Math Standards Tests and the CAHSEE pose major technical challenges, since these examinations are non-universal, i.e., different students take different exams at different grade levels.

Phase 3: Consolidation of the API (2003-2006)

Phase 3 will mark the final consolidation of the API. The advent of Phase 3 will be marked by the introduction of a new norm-referenced test to succeed the Stanford 9 in 2003. Once the API includes all the standards tests and high school exit exam, the only legally required indicators that remain to be added are attendance and graduation rates. Since the core of the API will consist of the standards-based test results, the addition of these last indicators will represent an enhancement of the API rather than a fundamental shift of emphasis.

Phase 3 will be the opportune time to consider the addition of indicators beyond those legally required. Also, we should use Phase 3 to resolve other significant issues that have arisen during Phases 1 and 2. Our goal should be to complete this process by the end of 2006. At the end of Phase 3, we should have an API that is both stable and more comprehensible to the general public (see Guiding Principles # 8 and 9). The scale calibration factor will become unnecessary. It will no longer be necessary to make a distinction between a school's Growth and Base APIs based on the same year's testing, since we are no longer introducing new components. We will only need to make one data release with one API. This in turn will enable the public to make meaningful comparisons over more than one year of API scores.

III. Issues to be Resolved during Phase 3

During Phase 3, we should deal with any outstanding issues regarding the final form the API should take. These issues include:

- The Eventual Integration of Graduation Rates, Attendance Rates

The PSAA provides for the inclusion of graduation rates as well as staff and student attendance rates in the API. The difficulty is that current data collection procedures do not provide adequate information to calculate accurate rates. Therefore the inclusion of these indicators will be possible only with the provision of additional resources to support:

- The full implementation of the California School Information Services (CSIS)
- Special data collection procedures

If CSIS enjoyed universal participation by local educational agencies (LEAs), the only special data collection required will be staff attendance. Graduation rates and student attendance rates would be derived from CSIS. Currently, however, participation in CSIS is voluntary and non-universal.

To accelerate the full implementation of CSIS and to provide the required special data collections would require significant financial resources. In an addendum to a legislatively mandated report on the establishment of graduation rates and staff and

student attendance rates, the CDE estimated that associated start-up and continuing costs, both state and local, would be about $60 million over a four-year period.[1] In view of the fiscal climate in California, it is impossible to contemplate a commitment of this magnitude prior to 2003. A more realistic time estimate is no earlier than 2003 and no later than 2006.

Beyond data collection difficulties, the introduction of attendance and graduation rates into the API would present major technical issues. The performance-band model that is presently used for summarizing test results is less appropriate for attendance and graduation rates. While it is possible to establish cut points for these rates, this would be to a large extent an arbitrary process and open to challenge and extensive debate.

Equally important from a technical standpoint, it is likely that staff and school attendance rates would reflect very little variance from school to school. This means that it would not enhance the capacity of the API to make distinctions between individual schools. It also may offer little room for schools to improve their API score as a result of better staff or school attendance, assuming that the vast majority of schools will score relatively high on these measures. In turn, this implies that a school would have to make even larger gains on the indicators that are derived from test results.

Also, the inclusion of attendance rates is dubious in view of our Guiding Principles, which state that insofar as possible we should base the API on student outcome measures, not on process indicators (see Guiding Principle # 2). Indeed, staff attendance is not even a student indicator.

Consistent with our Guiding Principles, it may be advisable to encourage the Governor and the Legislature to revisit the suitability of staff attendance as a school performance indicator. It is the only indicator that is not student-based. The variance in staff attendance from school to school in staff attendance will probably be relatively small. It is the one indicator that would require a special data collection, even if CSIS were fully operational. In the final analysis, data collection costs associated with adding this indicator may not be an efficient use of scarce funds.

- Additional Indicators

The PSAA does not preclude the incorporation of additional indicators beyond those legally required. Since the implementation of the API, there have been proposals to add other indicators, such as including results from the California English Language Development Test. During Phase 3, it would be useful to compile a list of potential indicators and evaluate them on the basis of data availability as well as technical merit with a deadline of including them by the publication of the Base 2006 API.

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[1] California Department of Education, "Report to the Governor and Legislature: Establishing School-Level Graduation and Attendance Rates For Implementation of School Accountability (As required by the Public Schools Accountability Act of 1999), Addendum on Estimated Costs," (November 15, 1999).

- The Introduction of a New Norm-Referenced Test (NRT)

In 2003, the Stanford 9, the current NRT used by STAR, will be replaced by a new assessment. This change in the NRT will have significant implications for the API, particularly as a result of the problem of equating the results of the new NRT to the Stanford 9.

The process of equating could have a major impact on year-to-year API comparability and annual growth calculations, which constitute the cornerstone of both the awards and interventions programs. In order to mitigate any technical difficulties arising from equating the results of successive NRTs, it may be advisable to revisit the question of the current weight of standards test results versus norm-referenced test results (60% versus 40%). By increasing the weight of the standards tests, it would be possible to mitigate any fluctuation in the API that results from the adoption of a new NRT.

- The Inclusion of Special Education Students

The current API excludes those students with Individualized Education Programs (IEP) that exempt them from participation in standardized assessments. The CDE has taken the initial steps in the development of an alternate assessment, the California Alternate Performance Assessment (CAPA), for these students. This assessment would be administered for the first time in the spring of 2003. Assuming that we use the first year results for the purpose of analysis, this indicator would first appear in the API in the Base 2004 API. This would dramatically enhance the inclusiveness of the API, consistent with Guiding Principle # 5.

- The Stability of Year-to-Year Growth Estimates

Studies have been published that focus on perceived shortcomings in the API, particularly the use of year-to-year growth targets. Critics have argued that much more reliable estimates of school improvement could be derived by pooling data across years. In California, this would presumably mean averaging APIs and gains/declines over two or more years. This would parallel the practice in Kentucky, which employs multi-year accountability cycles, and reflect the recommendations in the seminal 1998 California report on statewide accountability, "Steering by Results."

- Value-Added Measure

One of the guiding principles (# 7) states that in the long-term the API should strive to measure growth based on student-level longitudinal data. The term applied to this type of measure is "value added," that is a measure of the growth in achievement by an individual student during a school year or, more commonly, from one year to the next. Tennessee has a well-established system of using "value added" as a measure of school accountability.

There are two unresolved questions regarding the use of a value added measure in our current accountability system:

1. How will we acquire the individual, longitudinal student-level data to support such a system?
2. Would the value-added system simply replace the existing cross-sectional system or supplement it?

The introduction of a value-added measure raises data collection issues similar to those regarding student attendance and graduation rates. Either we must rely on a fully implemented CSIS to provide us with the required information or implement a costly and burdensome special data collection.

Moreover, even if we acquire the capacity to generate a value-added indicator, we would still need to hold a thorough discussion of how best to use this measure. Simply replacing the current cross-sectional approach with a value-added measure might not be our best option. Significantly, while Tennessee in the past relied solely on a value added measure for school accountability, in the last few years it has used a mixed system of value-added and cross-sectional results to evaluate school performance.

In a working paper on the adoption of the value-added model in California, Ed Haertel urged a cautious approach to such a fundamental change in the API so soon after its inception:

> " . . . It seems unwise to undertake any significant changes to the API program. Stability itself is a virtue in testing. The current API continues to grow more meaningful as public and professional understanding of the index evolves. Longer data series are increasingly valuable, and any significant change in the API would create a discontinuity in evolving trend data at the school level. For all these reasons, it seems wisest for the present to 'stay the course' and continue to work for an orderly, incremental evolution of the API, not the adoption of an entirely new model."

- Comparable Improvement

Local educational agencies have raised questions about how comparable improvement is measured. A particular concern is whether it is appropriate to require high scoring student subgroups make the same improvement as low scoring subgroups. Currently, the SBE-adopted methodology holds all subgroups at a school accountable for improvement, making no distinction between subgroup targets on the basis of current API scores. Critics have asserted that this is contrary to the principle that a school should not leave student subgroups behind as it registers API gains.

IV. The Structural Development of the API over Six Years

At this point, our best projection of the structure of the API is reflected in the following table. A graphic summary of this table is attached to this document (see page 12). The timetable ends with the year 2006, when API development should be substantively complete.

Base 2001

Grades 2-8

Stanford 9
- Mathematics
- Reading
- Language
- Spelling

California Standards Tests
- English-Language Arts

Grades 9-11

Stanford 9
- Mathematics
- Reading
- Language
- Science
- Social Science

California Standards Tests
- English-Language Arts

Base 2002*

Grades 2-8

Stanford 9
- Mathematics
- Reading
- Language
- Spelling

California Standards Tests
- English-Language Arts
- Mathematics

Grades 9-11

Stanford 9
- Mathematics
- Science
- Reading
- Language

California Standards Tests
- English-Language Arts
- Mathematics
- History/Social Science

California High School Exit Exam (CAHSEE)
- English-Language Arts
- Mathematics

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*Pending adoption by the State Board of Education

Base 2003*

Grades 2-8	**Grades 9-11**
Norm Referenced Test (NRT)	NRT
California Standards Tests - English-Language Arts - Mathematics	California Standards Tests - English-Language Arts - Mathematics - History/Social Science - Science
	CAHSEE - English-Language Arts - Mathematics

Base 2004*

Grades 2-8	**Grades 9-11**
NRT	NRT
California Standards Tests - English-Language Arts - Mathematics - History/Social Science (Gr. 8) - Science (Gr. 5)	California Standards Tests - English-Language Arts - Mathematics - History/Social Science - Science
	CAHSEE - English-Language Arts - Mathematics
California Alternate Performance Assessment (CAPA) (Special Education Students)	CAPA

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*Pending adoption by the State Board of Education

Base 2005*

Grades 2-8	**Grades 9-11**
NRT	NRT
California Standards Tests - English-Language Arts - Mathematics - History/ Social Science (Gr. 8) - Science (Gr. 5)	California Standards Tests - English-Language Arts - Mathematics - History/Social Science - Science
	CAHSEE - English-Language Arts - Mathematics
CAPA	CAPA

Base 2006*

Grades 2-8	**Grades 9-11**
NRT	NRT
California Standards Tests	California Standards Tests
	CAHSEE
Attendance Rates	Attendance Rates
	Graduation Rates
CAPA	CAPA
Other Indicators (Beyond the Legally-Required)	Other Indicators (Beyond the Legally-Required)

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*Pending adoption by the State Board of Education

V. New Federal AYP Requirements

A large unknown in planning for the future of the API is the impact of the new federal AYP requirements, which mirror the Texas statewide accountability system. In summary, states and local educational agencies have twelve years to bring 100% of their students to at least the proficient level in **both** reading and mathematics. This will be done over a period of twelve years by gradually reducing the percentages of students scoring below the proficient level. Conceptually, these federal AYP requirements constitute an accountability model that is different from the API system that California currently employs:

- The API is a single number that summarizes performance over different content areas; it does not treat reading and math separately. Therefore, the API functions in a compensatory fashion: a school may compensate for a less than average performance on reading by a better than average performance on mathematics. The federal accountability model does not allow for this.
- The API employs four cut points and five performance levels, while the federal criteria for assessments appear to employ three cut points and four performance levels: advanced, proficient, basic, and below basic.[2] However, Title I now requires us only to track the percentage of students scoring at proficient or above; therefore, the federal accountability model actually employs a single cut point and two performance levels.
- The performance band system that the API employs also functions in a compensatory fashion: a school may compensate for students scoring below the proficient level by having a higher than average percentage of students scoring at the advanced level. The federal accountability model, on the other hand, only distinguishes between the percentage of students scoring at proficient or above and the percentage that do not.
- In California, comparable improvement is required of all numerically significant student subgroups. Under the federal model, a student subgroup that scores above the status target for that particular year is not required to improve.
- The California formula for deriving annual growth targets, i.e., five percent of the distance to 800, the statewide performance target, requires an annual recalculation of the growth target each year, while the federal requirements envision a more or less set growth target each.

Since the underlying goals of the federal AYP requirements and the California accountability system are the same (improved academic performance and comparable improvement by numerically significant student subgroups), the CDE is asking for flexibility in application of the AYP requirements. However, we must prepare for the possibility that at least some aspects of the present API as well as related methodologies may have to change in order to comply with the new requirements.

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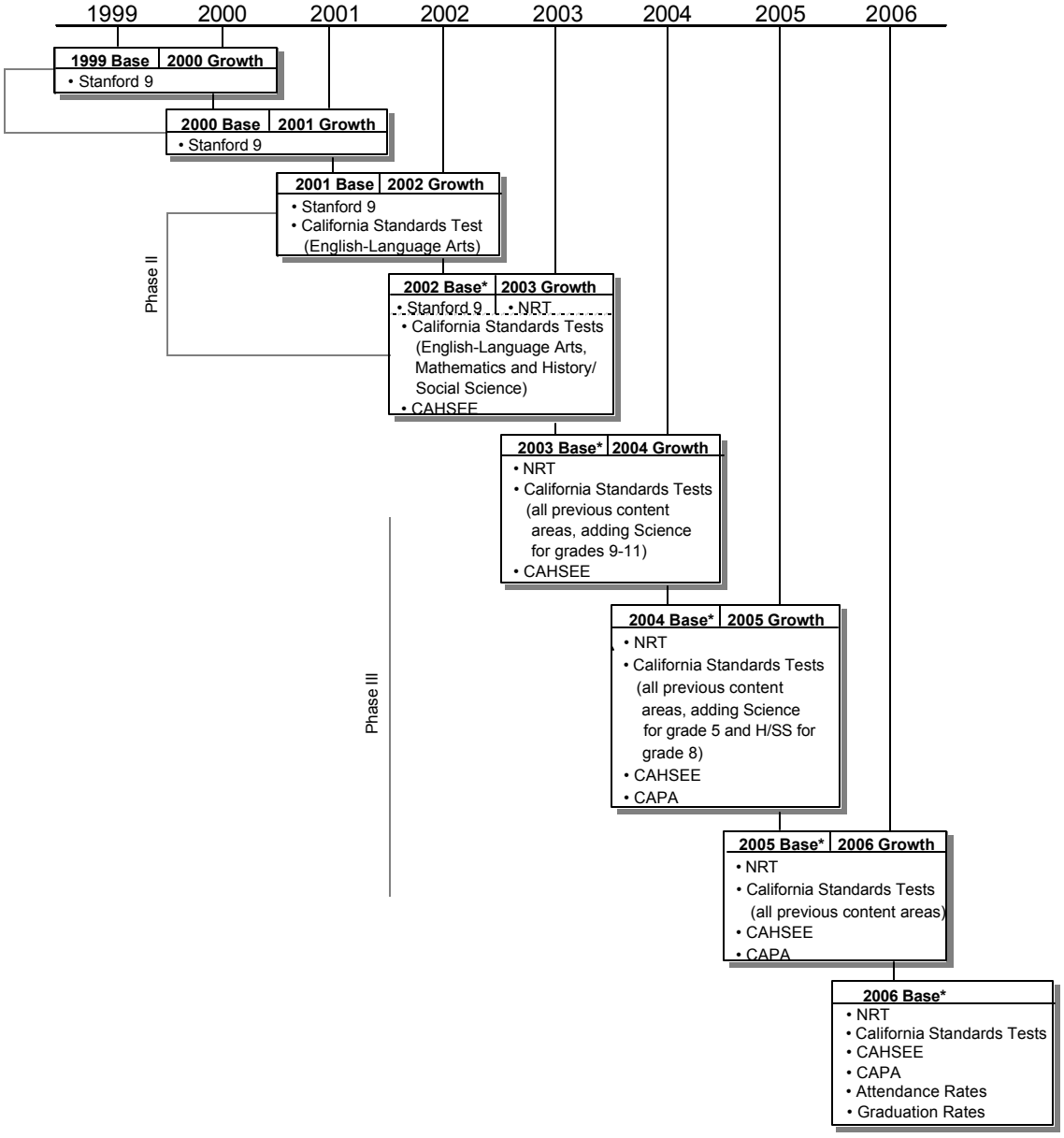
[2] The federal law actually provides for three performance levels for an assessment: advanced, proficient, and basic. However, students who score less than the cut score for basic *de facto* scores "below basic," which constitutes an implicit fourth performance level.

Our approach should be to retain as much of the present system as possible. It is important to consider that the API has created a culture of accountability in California. This culture has its own language, with which local educators have become familiar. While it has critics, educational accountability has widespread public support. This support is based on the system's credibility. To implement fundamental changes in the API, or even throw it out in favor of the federally prescribed model, would fundamentally disrupt the process of educational accountability in California. It is vital that local education agencies view any changes as enhancements of the present system and not as a new or separate system.

At the same time, we should be prepared to institute a process of orderly change in the event that the federal government insists on modifications in our accountability system to comply with the new AYP requirements. This would include the development of policy options or strategies on how best to accomplish this.

API: A Plan For Future Development

An API reporting cycle consists of two components: (1) base year information and (2) growth information. The growth reports are provided each fall, and the base reports are provided each January.



ACRONYMS

CAHSEE - California High School Exit Exam
CAPA - California Alternate Performance Assessment
NRT - Norm Referenced Test

*** Pending State Board of Education adoption.**