

Efforts to Produce Relevant Score Reports to School, District, and State Officials on National Tests

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The College Board

Presentation at the annual meeting of NCME
April 14, 2009, San Diego, CA.

- As assessment developers, it is our responsibility to ensure that the information displayed on score reports are understood, meaningful, and useful to their intended audiences.
 - Standards for Educational and Psychological Testing
 - Code of Fair Testing Practices in Education
 - Code of Professional Responsibilities in Educational Measurement
- We contend that the efficacy and utility of reports by consumers is an important facet of validity.
- We also contend that the delivery of good score reports is an issue of fairness.

Our Approach

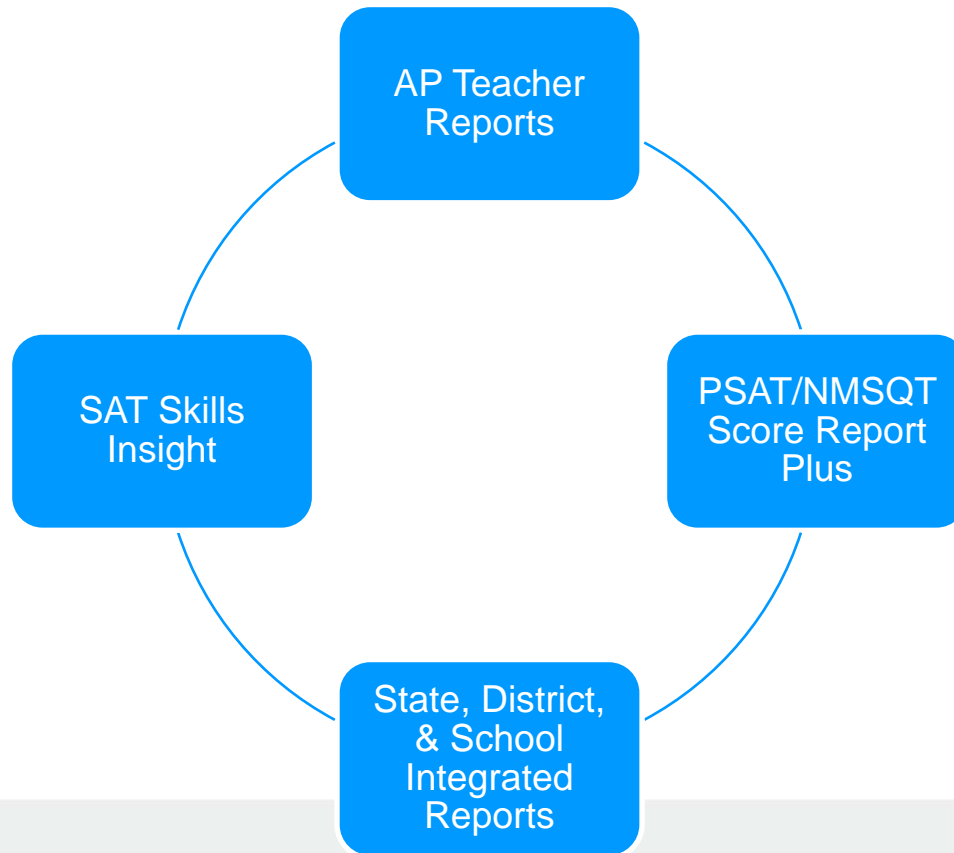
More recently, the College Board introduced more rigorous methods in the development of score reports in the last ten years.

Overview of the Approach:

1. Considering the purpose of the test, clearly articulate the audience and goals of the score report.
2. Survey consumers using rigorous designs to capture needs and preferences
3. Select and utilize appropriate psychometric methods
4. Develop a mock-up of the score report
 - Keep true to the purpose
 - Provide context
 - Give guidance
 - Keep it simple
5. Capture feedback of mock-ups
 - Strive to use representative samples
 - Ask preferences and comprehension-type questions
6. Revise & pilot

Several sets of activities/efforts changed the College Board's approach

Many good and bad things were learned when we actually asked educators what they thought and how they used score reports.



Each effort reinforced one or more of the components of the approach indicated.

SAT[®] Skills Insight[™] Development

The College Board engaged many external educators, curriculum experts and users to develop and validate the content in SAT Skills Insight...

Step I: Agree on the purpose of the score report

- Provide enhanced feedback to students and educators
- Give them insight into what the score represents

Step II: Conduct Scale Anchoring Research

- Ronald Hambleton, Stephen Sireci (University of Massachusetts-Amherst), and Mary Lyn Borque (formally with the National Assessment Governing Board) implemented the scale anchoring approach to the SAT.
- Using secondary and post-secondary educators and content experts, they developed scale anchors at 200-290; 300-390; 400-490; 500-590; 600-690; 700-800 for critical reading, mathematics, and writing.
- Test Development staff with R&D convened several panels for each section of the SAT to develop performance category descriptions that were accurate and understandable by consumers.

SAT Skills Insight Development

Step III: Test Concept at Focus Groups

- 2007 National Forum focus group with students
- Round I of focus groups with students and counselors
- Round II of focus groups with students

Step IV: Validate and Iterate on the Content

- Secondary and post-secondary educators
- State and district curriculum and assessment experts

Step V: Conduct Usability Testing

- Usability studies with students and teachers

Step VI: Test Concept at More Focus Groups

- Focus groups with state educators to develop aggregate reports

Round I of Focus Groups with Students and Counselors

Focused on the following:

- Feedback and initial reactions to skill descriptors, suggestions for improvement, and sample questions
- Gauge intended use
- Feedback on reactions to report format, language and overall layout

Round I of Focus Groups: Key Findings

- Initial reactions to report are mixed among students and counselors
 - At first glance, the information seems overwhelming and challenging to interpret. However, both audiences see that it is a tool for improving skills
- The availability of information on all score bands was of great interest
- Skill descriptors contain too much educational jargon. Needs to be more “student friendly”
- Skill Improvement section could be improved by identifying current weaknesses in skill areas.
- Examples of SAT[®] Questions should be provided for ALL skill descriptors
- Needs an eye-catching format (adding colors could enhance appeal of report)
- This tool would be beneficial if provided after the PSAT/NMSQT[®] and prior to the first SAT

Round II of Focus Groups: Key Findings

- After making revisions from the first round of focus groups, the students indicated the following:
 - They could easily navigate through the website.
 - The layout of the webpage was appealing.
 - The most important feature of the report was the inclusion of the sample items.

SAT Skills Insight (final version online): Student Version

The screenshot shows the CollegeBoard SAT Skills Insight Student Version web interface. At the top, the CollegeBoard logo is on the left and "for Students" is on the right. Below the logo, the text "SAT® Skills Insight™" is displayed in a large, bold font. A navigation bar contains tabs for "OVERVIEW", "CRITICAL READING", "MATHEMATICS", and "WRITING", along with a "Print" button. The main content area features a large heading "Improve your SAT Scores with the SAT Skills Insight" and a sub-heading "The SAT is the one test that shows colleges what you know and what you know you can do". Below this is a "Select a Section to get Started" dropdown menu and a "GO" button. To the right, there are two call-to-action boxes: "GET READY FOR THE SAT" and "REGISTER FOR THE SAT". The main content area is titled "How does Skills Insight work?" and contains three sections: "What is it?", "How do I use it?", and "What do I do next?". Each section has a corresponding image and text. The "What is it?" section includes a quote: "I want to do better than that." The "How do I use it?" section includes a quote: "I want to do better than that." The "What do I do next?" section includes a quote: "I want to do better than that." The interface is displayed in a browser window with a taskbar at the bottom showing "Done" and "Internet".

Students receiving their score reports on the web (via My Online Score Report) are provided with a link to SAT Skills Insight. For those receiving their score reports on paper (in the mail) the url to skills insight is printed on their score report.

www.collegeboard.com/satskillsinsight

SAT Skills Insight – Student Version

SAT scores are grouped into six “score bands” between 200 and 800.

SAT® Skills Insight™

OVERVIEW **CRITICAL READING** MATHEMATICS WRITING Print

200-290 300-390 400-490 500-590 600-690 700-800

Using SAT® Skills Insight™ Next

CRITICAL READING SKILL GROUPS: 1 2 3 4 5

1. Determining the Meaning of Words

Academic Skills **Suggestions for Improvement**

A typical student in this score band can do the following:

- **SKILL 1:** Use context clues when selecting missing vocabulary at the sentence level
- **SKILL 2:** Use knowledge of root words, prefixes, and suffixes when selecting missing vocabulary at the sentence level
- **SKILL 3:** Use the context of a sentence or a short section of text to clarify the meaning of unknown words or to select the appropriate meaning of familiar and simple words that have multiple meanings

To prepare for the next score band, try the following:

- When you come across an unknown or difficult word in your reading, look at the word to see if it contains a root word that you know.
- When you come across an unknown or difficult word in your reading, try to find out if that word is jargon, or the specialized vocabulary of a specific field.
- When you come across an unknown word or a word with multiple meanings in your reading, look at the context of the sentence for clues to what the word means.
- In your reading, pick out a long sentence and break it down into smaller parts. Think about how the structure of the sentence creates relationships among the ideas in the sentence. Think about how words like *but*, *although*, and *also* create certain relationships.

Skill Examples

The example questions below demonstrate the Academic Skills found in this score band. Without looking at the answers, try out the questions to see how comfortable you feel with the skills they test.

SKILL 1—EXAMPLE

Use context clues when selecting missing vocabulary at the sentence level

Some fans feel that sports events are ----- only when the competitors are of equal ability, making the outcome of the game -----.

A successful . . . assured
 B boring . . . questionable
 C dull . . . foreseen
 D interesting . . . predictable

For each score band, academic skills are categorized by skill group.

“Suggestions for Improvement” help students advance to a higher score band.

“Academic Skills” are skills typical of students who score within the selected score band.

“Skill Examples” are SAT questions that illustrate the meaning of each skill.

Step VI: Refine report for state officials

- Using the feedback that we received from students, teachers, counselors, and other educators, developed an aggregate report for use by state officials.
- In addition to providing the performance category descriptions, sample items, and suggestions for activities to enhance performance, provided a summary of student performance across the state:
 - Showed overall performance over time
 - Offer comparisons
 - Show patterns of performance

Skills Insight Paper Report for State Officials: Original Designs

CollegeBoard SAT **SAT SKILLS MAP - 2007 STATE SUMMARY**
 Sample State - Public Schools
 Overview of Student Performance on the SAT

STEP 1: Examine the charts below to gauge the performance of your students over the last three years.
 Keep in mind that:
 → Students can improve their score by learning about and practicing the types of questions that are on the SAT.
 → The SAT Skills Map is one of several tools that can assist you in helping your students succeed.

CRITICAL READING MATH WRITING

— Mean The vertical length of the box represents the middle 50% of the distribution.

STEP 2: Examine the charts below to develop an understanding of how your students performed on the SAT by score band.
 → In the Map, we've grouped the SAT scores into six "score bands" between 200 and 800. For each band, the Map provides examples of a typical student's skills who scores within that band (See pages 2 - 7). The information in the Map is based on the performance of students who have taken the SAT. [REFERENCE SCALE ANCHOR RESEARCH](#)

Percentage of Students and Characteristics of Each Score Band - Critical Reading, Mathematics, and Writing			
Score Bands	Percentage of students	CRITICAL READING: Characteristics of each score band	MATHEMATICS: Characteristics of each score band
700-800	4%	• Space holder for general descriptions of each score band	• Space holder for general descriptions of each score band
600-699	19%	• Space holder for general descriptions of each score band	• Space holder for general descriptions of each score band
500-599	35%	• Space holder for general descriptions of each score band	• Space holder for general descriptions of each score band
400-499	34%	• Space holder for general descriptions of each score band	• Space holder for general descriptions of each score band
300-399	18%	• Space holder for general descriptions of each score band	• Space holder for general descriptions of each score band
200-299	9%	• Space holder for general descriptions of each score band	• Space holder for general descriptions of each score band

STEP 3: For each section of the SAT - Critical Reading, Mathematics, and Writing - examine the types of skills tested in each score band and the suggestions for improving to the next level to understand what your students *should* know to succeed, and how they can improve their skills.

DRAFT - DO NOT DISTRIBUTE

Boxplots showing mean and range of scores of middle 50th percentile

Percent of students (State & Nation) falling within each score band on each section of the SAT. General Descriptions of the skills students have mastered at each score band were going to be provided in the space-holders next to each display.

Skills Insight Paper Report for State Officials: Original Designs

CRITICAL READING: Academic Skills at Each Score

		Determining the Meaning of Words	Understanding Literary Elements	Organization and Ideas
700-800	Academic Skills	A typical student in this score interval can do the following:		
		<p>Understand how words can sometimes be used in unusual</p> <p>Understand multiple possible meanings of words, select nuances, and infer connotations</p>	<p>Analyze the roles and relationships among</p> <p>Interpret dialogue from a character's or from the narrator's perspective</p>	<p>Analyze context, sentence structure, and sentence variation to construct meaning within and across sentences and texts</p> <p>Interpret multiple layers of a text</p>
600-690	Academic Skills	A typical student in this score interval can do the following:		
		<p>Understand familiar words in unfamiliar contexts and differentiate among multiple possible meanings for words in unfamiliar contexts</p> <p>Understand sophisticated and specialized vocabulary</p> <p>Determine the meaning of a word when there is little or no supporting context</p> <p>Negotiate complex syntax (the arrangement of words and phrases in a sentence), and integrate ideas within and across sentences</p>	<p>Analyze characters' function in a narrative</p> <p>Interpret dialogue from a character's or from the narrator's perspective</p>	<p>Analyze main ideas and concepts within and across complex and sometimes opposing texts</p> <p>Compare and contrast explicit and implicit supporting ideas across texts</p> <p>Recognize components of an author's argument within a text</p>
600-690	Suggestions for Improvement	Score bands consist of six 100-point score bands (200–290, 300–390, 400–490, 500–590, 600–690, 700–800).		
		<p>unknown words might mean.</p> <p>When you encounter a difficult word in your reading, use the context of the sentence to determine the meaning of the word. Use a dictionary to determine the rest of the sentence's meaning.</p> <p>To improve your understanding of the words you encounter, look up the words you encounter in a dictionary to learn information on the origins and history of a word.</p>	<p>each other and to the narrator.</p>	<p>As you read a text, think about the stated topic but also consider its larger meaning or purpose. Consider whether the text's meaning goes beyond its stated intention.</p>

Displays the typical skills of students who score within each score band.

Score bands consist of six 100-point score bands (200–290, 300–390, 400–490, 500–590, 600–690, 700–800).

Displays what students should do to advance to a higher score band.

Skills Insight Paper Report for State Officials: Revised Designs



SAT Skills Insight - 2008 State Summary

Sample State - Public Schools

Step 1: Examine the charts below to gauge the performance of your students on each section of the SAT over the last five years.

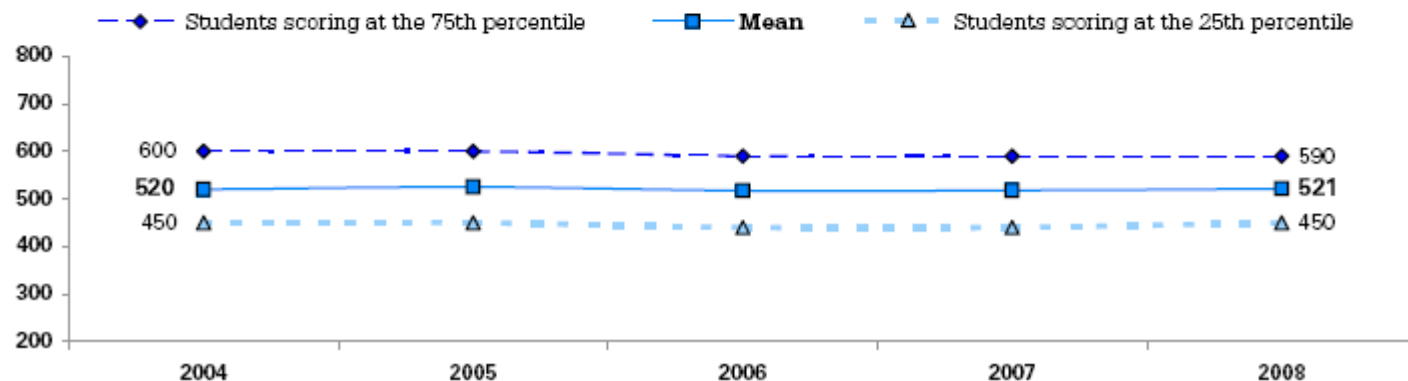
➔ Keep in mind that participation rates for your state may vary from year to year.

Sample State - Public Schools Participation Rate *

	2004	2005	2006	2007	2008
Participation Rate	47%	48%	45%	43%	42%
Number of Test Takers	3,367	3,338	3,514	3,449	3,341

➔ The charts below display scores for your higher performing students (75th percentile) and lower performing students (25th percentile), as well as, mean scores for all of your students, over the last five years.

Critical Reading Trends



Skills Insight Paper Report for State Officials: Revised Designs

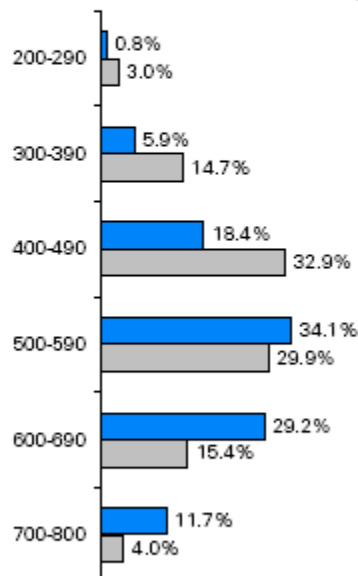
Step 3: Examine the charts below to develop an understanding of how your 2008 College-Bound Seniors performed on the SAT by score band.

➔ The charts below display the percentage of students within your state, and the Total Group, whose scores fell within each of the six score bands for Critical Reading, Mathematics, and Writing.

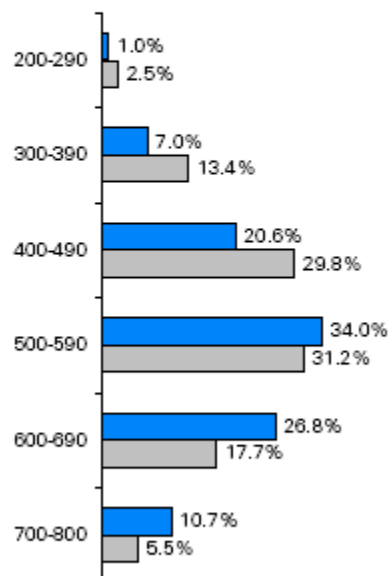
■ Sample State - Public Schools

■ Total Group - Public Schools

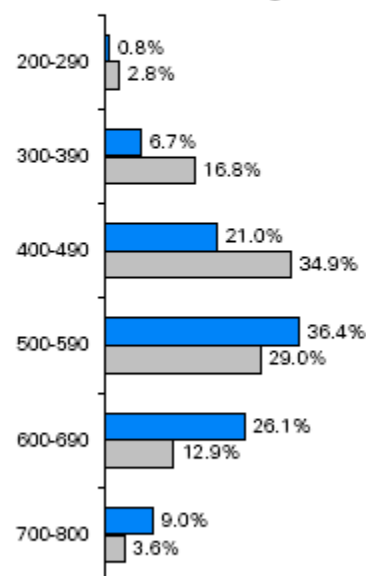
Critical Reading



Mathematics



Writing



Step 4: Review the academic skills tested within each score band of the SAT and the suggestions for improving to the next higher scoreband to understand the types of skills your students should master to be successful in college.

Skills Insight Paper Report for State Officials: Revised Designs

SAT SKILLS INSIGHT

Mathematics

Academic Skills at Each Score Band and Suggestions for Improvement

200–290

300–390

400–490

NUMBER AND OPERATIONS

Academic Skills*

A typical student in this score interval can do the following:

- Identify factors of whole numbers
- Solve word problems using addition, subtraction, multiplication, and division of whole numbers
- Recall basic mathematical facts/definitions about exponential notation, including scientific notation
- Identify a rule that describes a numerical pattern in a sequence

- Identify, use, and represent fractions and percents in arithmetic and algebraic settings
- Use properties of even and odd numbers, multiples, and factors
- Identify and use the names for place values in solving problems involving decimal representations (e.g., tenths and hundredths)
- Use properties of inequalities to compare and order numbers

Suggestions for Improvement

To advance to the next highest score band, students should focus on the following skills:

- Recall basic mathematical facts/definitions about exponential notation, including scientific notation
- Identify a rule that describes a numerical pattern in a sequence
- Identify, use, and represent fractions and percents in arithmetic and algebraic settings
- Use properties of even and odd numbers, multiples, and factors
- Identify and use the names for place values in solving problems involving decimal representations (e.g., tenths and hundredths)
- Use properties of inequalities to compare and order numbers
- Solve problems using ideas from basic set theory and basic number theory
- Recognize and apply ratio, proportion, or percent in solving problems
- Use properties of real number operations, ordering, and the zero-product property
- Solve problems involving counting techniques

500–590

600–690

700–800

- Solve problems using ideas from basic set theory and basic number theory
- Recognize and apply ratio, proportion, or percent in solving problems
- Use properties of real number operations, ordering, and the zero-product property
- Solve problems involving counting techniques

- Determine values or properties of numbers in a sequence when given a description of the sequence
- Create and use ratios, fractions, or percents in solving problems
- Solve more-complex counting problems (e.g., permutations, combinations, and inclusion/exclusion)

- Use n in algebraic and geometric contexts
- Create and use ratios, fractions, or percents, including algebraic expressions, in solving problems

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- Use n in algebraic and geometric contexts
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This is the top score band and students who score at this level will have likely mastered the skills listed at all other levels. However, students can always benefit from more practice. We encourage students to review the skills and examples listed in the 500–590 and 600–690 score bands.

Skills Insight Paper Report for State Officials: Revised Designs

Score Band 200–290

Number and Operations

Skill 1: Identify factors of whole numbers

Each of the following is a factor of 80 EXCEPT

- (A) 5
- (B) 8
- (C) 12
- (D) 16
- (E) 40

Answer: C

Lessons Learned

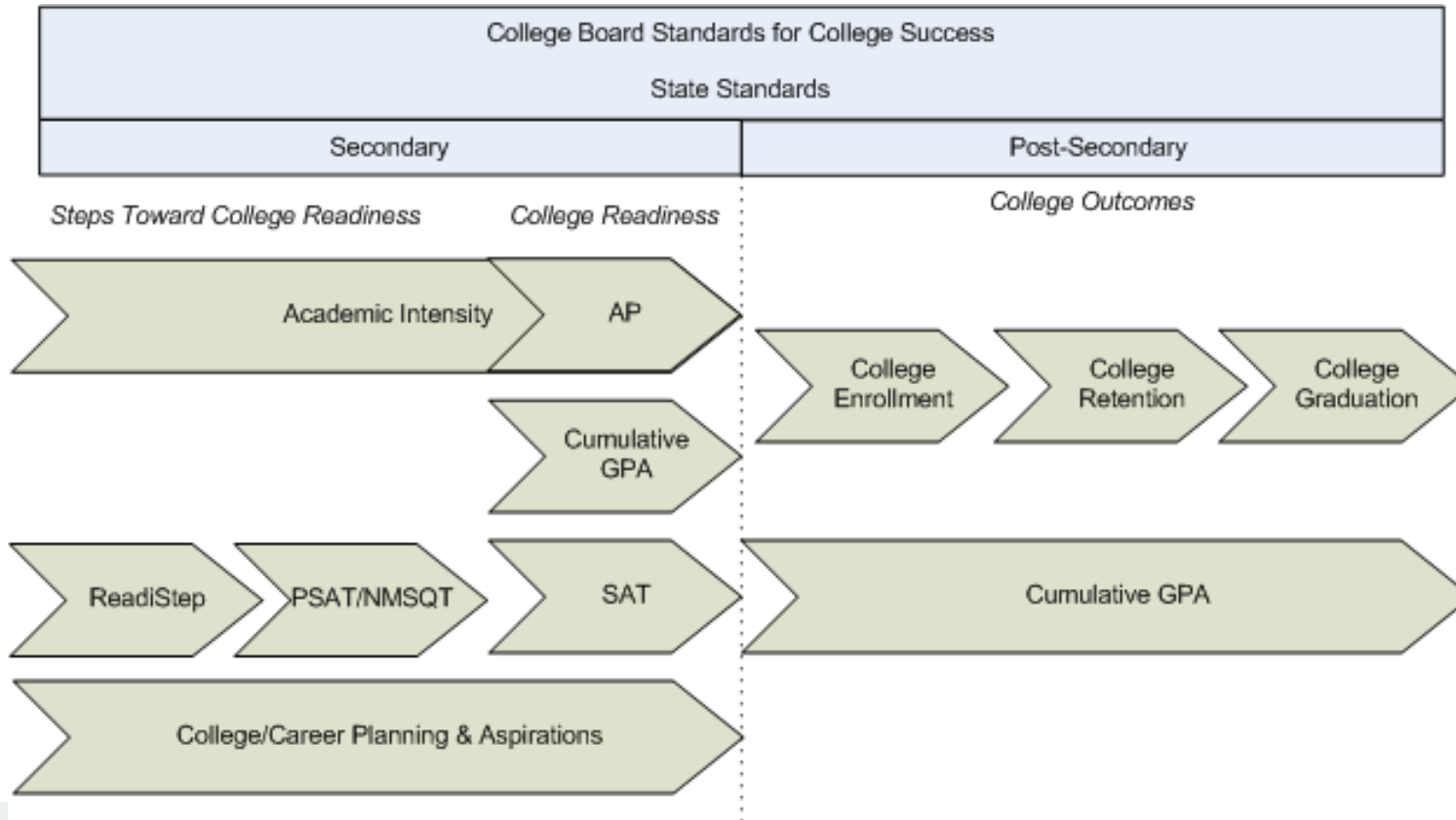
- Throughout the development process, we needed to have razor sharp focus on the purpose
 - It sometimes became easy to drift from the original purpose (and we did) or add more than what was originally planned.
- Must use empirical (scientific) methods to capture feedback
 - Don't assume...
 - Be careful of sampling issues
 - ✓ Don't just ask your friends!
- The manner in which questions are asked will influence the responses you get.
 - As Ron Hambleton and others have recommended, ask comprehension-type questions in addition to preference.
- Once delivered, need to assess how score reports are used.
- Need ongoing feedback loop to inform score report enhancements and improvements.

Immediate Next Steps

- Examine the validity of the information provides from multiple perspectives:
 - Examine the use of the SAT Skills Insight score reports by state officials.
 - Examine trends over time of student performance at each score anchor taking into account their curricular experience.
 - Examine whether interpretation is similar across different types of consumers.

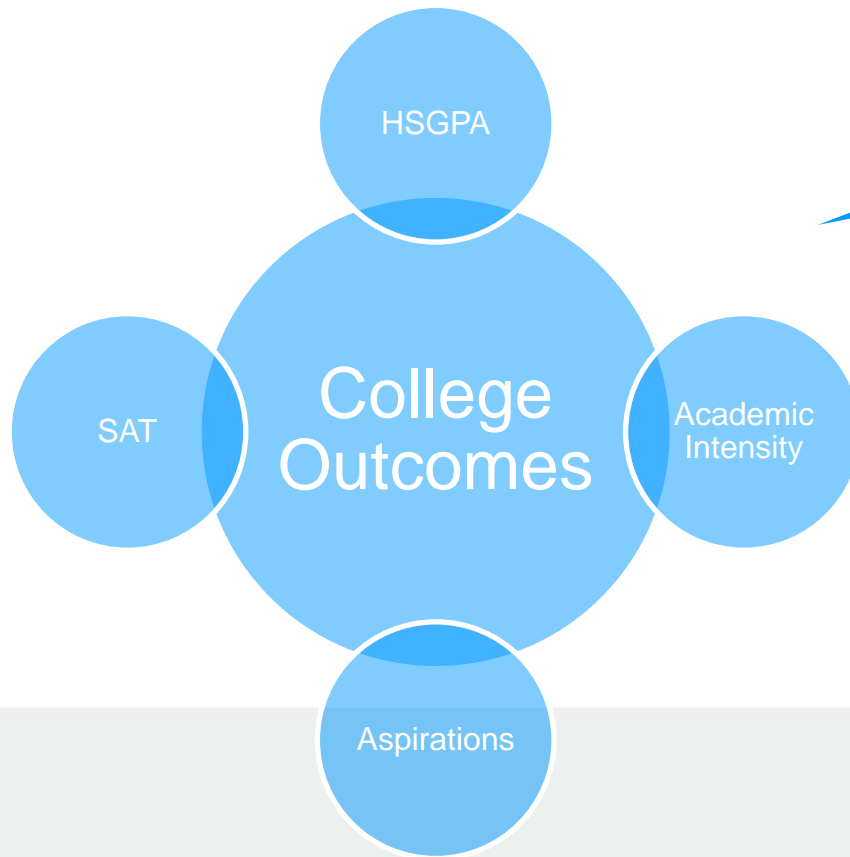
Vision

The College Board is focused on the integrated use of tests in helping educators make decisions about students.



Next Steps

The College Board is transforming its score reports building on current efforts to provide more comprehensive feedback to students and educators about examinees' readiness for college



The purpose of score reports is changing from performance on one of the College Board assessments to feedback on college readiness.

Goals of Report:

1. Provide the scores
2. Compare to others
3. Indicate stability of scores
4. Show growth
5. Offer meaning of the scores

Questions, Comments, Suggestions

- Researchers are encouraged to freely express their professional judgment. Therefore, points of view or opinions stated in College Board presentations do not necessarily represent official College Board position or policy.
- Please forward any questions, comments, and suggestions to: Thanos Patelis
tpatelis@collegeboard.org or 212-649-8435.

Thank you!!