



# Measures for a College and Career Indicator

Presented to the  
California PSAA Advisory Committee  
December 2, 2014  
David Conley, PhD  
Professor, University of Oregon  
President, EdImagine Strategy Group





# Project Context

Senate Bill 1458 changes accountability requirements from a near total reliance on state test scores to a broader range of measures, one of which is a college and career indicator.



The California Department of Education contracted with EPIC to provide a series of white papers highlighting the strengths and limitations of a wide range of potential measures.



# Project Overview

Date	White Paper
April 2014	1. College Admission Exams 2. Advanced Coursework
June 2014	3. Innovative Measures 4. Course-Taking Behavior
August 2014	5. Career Preparedness Assessments 6. Multiple Measures
December 2014	Final Report to PSAA
January 2014	Final Report to State Board of Education

- Six white papers and a final report summarizing the findings across each white paper
- Each paper evaluated a category of measures

# The College and Career Preparedness Measures





# College Admission Exams

## The SAT

- Measures developed reasoning
- Math, verbal, and writing sections
- 2016 revisions

## The ACT

- Measures student achievement
- Math, English, science, reading sections

### California test-takers from 2013 graduating cohort

- 38% took the SAT,
- 17% took the ACT,
- 15% took both exams



# Advanced Coursework

## Advanced Placement

- Curricular requirements for 34 subjects
- End-of-course exam scores used to earn college credit
- In 2013, 16% of the U.S. graduating cohort scored a 3 or higher on at least one AP exam



## International Baccalaureate

- Two-year university preparation program
- Coursework in five subject areas is required, art is optional
- End-of-course exam scores used to earn college credit
- Approximately 6% of California high schools offer the IB Diploma Programme



# Innovative Measures

- **Metacognitive skills/dispositions assessment**

- Measures learning strategies, dispositions
- Assessments are generally self- or teacher-report

- **Performance assessment**

- Task completion duration ranges from a single class period to a semester
- Students construct original responses to problems that require more sustained cognitive processing

- **State Seal of Biliteracy**

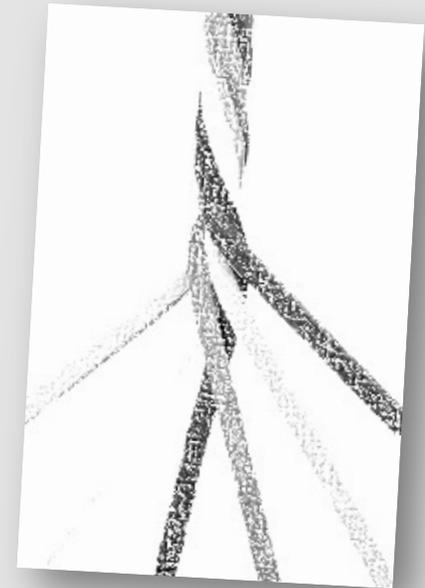
- Awarded to students who attain proficiency in two or more languages by high school graduation
- Gold seal that appears on the transcripts or diplomas





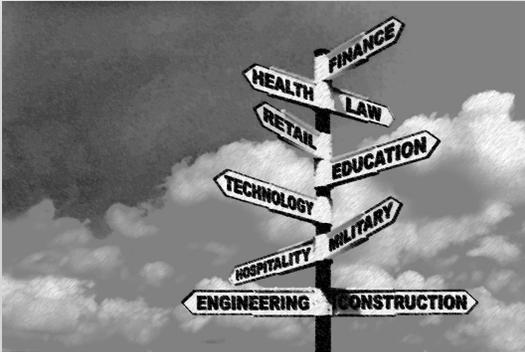
# Course-Taking Behavior

- **a–g subject requirements**
  - A set of 15 year-long high school courses required for admission to University of California (UC) and California State University (CSU) systems
- **Career Technical Education (CTE) course pathways**
  - A sequence or set of 3–4 courses aligned to the California CTE Model Curriculum standards
- **Integrated course pathways**
  - Course pathways that combine rigorous academics with career-based and workplace learning





# Career Preparedness Assessments



- **ACT's WorkKeys**
  - Job preparedness assessment system designed to meet employers' needs and signal students
- **National Occupational Competency Testing Institute (NOCTI)**
  - Pathway, job-ready, and employability assessments across 16 industry sectors
- **Armed Services Vocational Aptitude Battery (ASVAB)**
  - Measures overall suitability of recruits and their likely success in specific programs within the armed forces
- **Industry certifications**
  - Measures technical requirements for specific occupations or industries

# Comparisons Across and Within Measures





# Evaluative Framework



## A. Technical Quality

1. Has a **research base** demonstrating a relationship with postsecondary success
2. Allows for **fair comparisons**
3. Is **stable**

## B. Stakeholder Relevance

1. Has **value for students**
2. Is **publicly understandable**
3. Has **instructional sensitivity**
4. Emphasizes **student performance**, not educational processes

## C. System Utility

1. **Implementation/maintenance** costs and effort
2. Degree of potential **student participation**
3. Recognizes **various postsecondary pathways**



# Comparison Across Measures

	A1: Research base	A2: Fair comparisons	A3: Stability	B1: Value to students	B2: Publicly understandable	B3: Instructional sensitivity	B4: Student performance	C1: Minimizes burden	C2: Student coverage	C3: Various pathways
S = Strong, M = Moderate, W = Weak										
<b>College admission exams</b>	S	M	S	M	S	M	S	S	M	M
SAT	S	M	S	M	S	M	S	S	M	M
ACT	S	M	S	M	S	M	S	S	M	M
<b>Advanced coursework</b>	S	M	S	S	M	S	S	M	M	M
Advanced Placement	S	M	S	S	M	S	S	M	M	M
International Baccalaureate	M	M	S	S	W	S	S	W	W	M
<b>Innovative Measures</b>	M	M	M	S	M	S	S	M	S	S
Metacognitive assessment	M	M	W	S	M	M	M	M	S	S
Performance assessment	M	M	M	S	M	S	S	M	S	S
California State Seal of Biliteracy	W	W	M	M	M	S	S	M	W	S
<b>Course-taking behavior</b>	S	M	M	S	S	S	S	S	M	M
a-g subject requirements	S	M	M	S	S	S	S	S	M	M
CTE course pathway	M	M	M	M	S	S	S	S	M	M
Integrated course pathway	S	M	M	S	M	S	S	M	W	S
<b>Career preparedness assessments</b>	M	M	M	M	M	S	S	S	M	M
ACT's WorkKeys	M	M	M	M	M	M	S	S	M	M
ASVAB	W	M	S	W	W	W	S	S	M	M
NOCTI	M	M	M	M	M	S	S	M	M	M
Industry certifications	W	W	W	S	S	S	S	W	M	M



# Key Findings Across Measures

- SAT, ACT, and AP exams are technically strong
- Course-taking behavior is a strong stakeholder-relevant measure and produces minimal implementation costs/effort
- Innovative measures have strong potential to provide unique information on the performance of students on a wide range of college and career dimensions
- Integrated course pathways are potentially strong measures of preparedness that could apply to all students



# Constructing a College and Career Indicator





# Technical Considerations

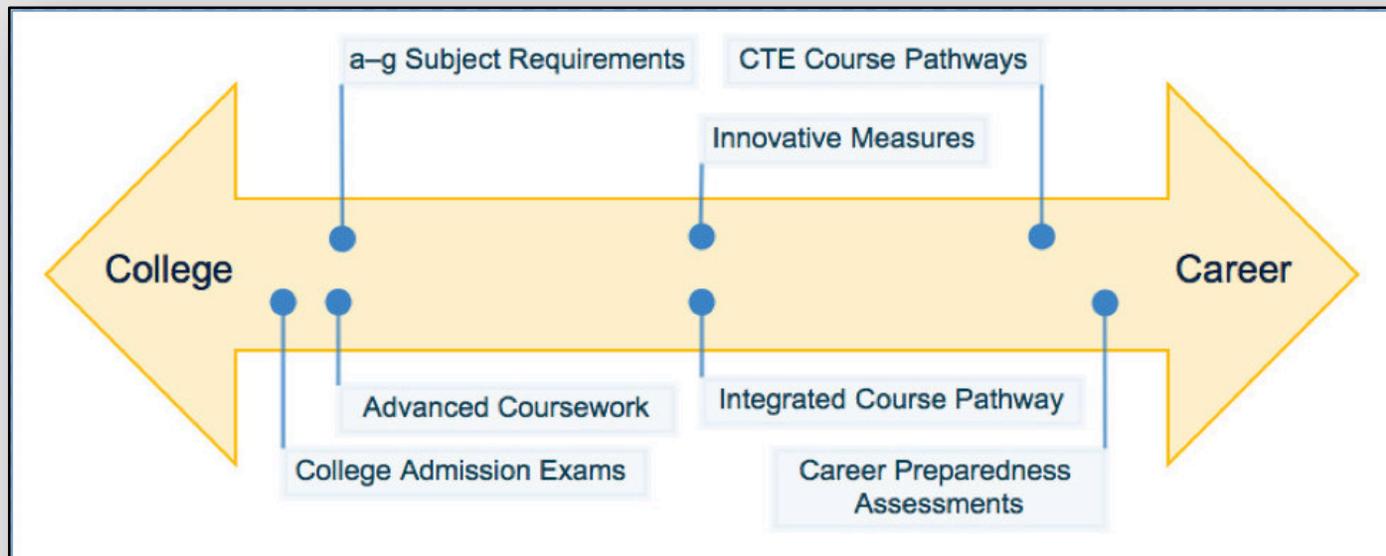


- Setting benchmarks
- Complementary (or compensatory), matrix, and conjunctive
- Aggregating student-level indicators to measure schools
- Implications of high- and low-stake measures



# Equity Considerations

- Biases of race, ethnicity, and socioeconomic status
- Access and opportunity to learn
- Biases that compel pathway choice





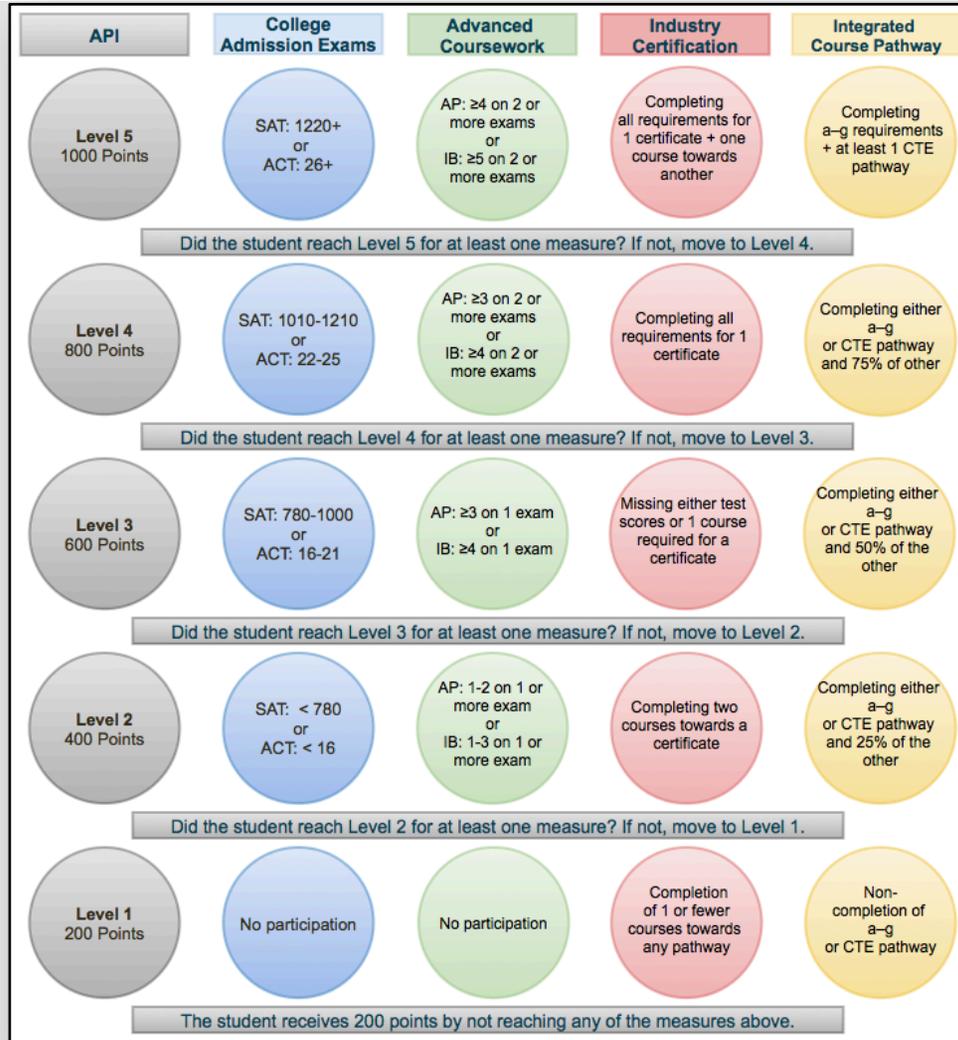
## Recommended Indicator

- If a single indicator must be selected, then course-taking behavior is the single best single indicator
  - Best predictor of college success
  - Relatively stable over time
  - Understood by educators and non-educators
  - Little additional impact on schools
  - Covers all students already

course base points +  
student LCFF weighting points +  
student grade weighting points =  
college and career indicator



# Considering a Multiple Measure System





# Considering a Multiple Measure System

- A multi-measure system would potentially:
  - capture both college- and career-preparedness
  - include performance and participation measures
  - set a standard at Level 3 for all measures
    - Score levels for SAT, AP, IB derived from reported means and standard deviations
    - Industry certifications, NOCTI, and integrated course pathway levels are for illustrative purposes only
  - employ a complementary approach at student level
  - employ a compensatory approach at the school level
  - offer greater possibilities for achieving accuracy, consistency, and reliability



# Evolutionary Possibilities

- Dual/concurrent enrollment
- Languages other than English coursework
- Culminating projects
- Graduating low-achieving 8th graders on time
- College remediation rates



# Creating a Coherent Accountability System





# Navigating Multiple Levels of Accountability

- Switching from compliance to goal-oriented mindset
- Interacting accountability components
  - Local Control Funding Formula and Local Control Accountability Plans
  - Smarter Balanced Assessment Consortium
  - California Collaborative for Excellence in Education





# A State/Local Model

- Combines state-level and LCAP indicators
  - State-level indicators are applied to all schools
  - Local schools have the ability to add measures
- Uses performance and trend scores
  - Performance score: approaches, meets, or exceeds
  - Trend score: improving, static, or declining
- Paints a more complex picture of a school
  - Information can be easily communicated to staff and community





# State/Local Model Example

## Sample School: Grade 11

## Performance Score

## Trend Score

State-level Indicator 1. Reading

Meets

Static

State-level Indicator 2. Mathematics

Approaches

Improving

State-level Indicator 3. Attendance

Meets

Improving

State-level Indicator 4. Graduation Rate

Approaches

Declining

State-level Indicator 5. Application Rate

Exceeds

Static

LCAP Indicator 1. College/Career Preparedness

Approaches

Improving

LCAP Indicator 2. Community Involvement

Meets

Improving

LCAP Indicator 3. English Language Acquisition

Approaches

Static

Questions or Comments?





Presented to the California PSAA Advisory  
Committee on December 2, 2014

by David Conley, PhD  
Professor, University of Oregon  
President, EdImagine Strategy Group  
2852 Willamette Street  
Eugene, OR 97405  
<http://edimagine.com/>

