

National Center on Assessment and Accountability for Special Education

A State Overview of Pennsylvania

March 7, 2012

Washington, D.C.

Tom Corbett, Governor

Ronald J. Tomalis, Secretary of
Education

NCAASE: PA Team

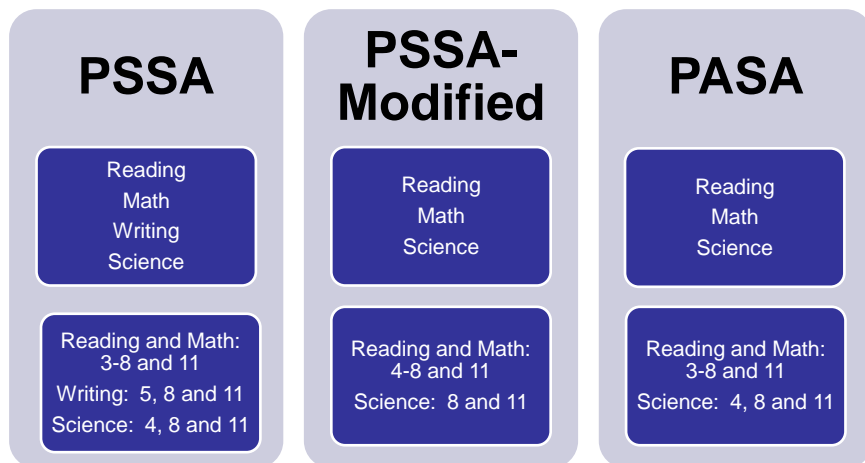
- Dan Ficca, PDE, IT Project Admin
- Dr. Kristen Lewald, PDE, PVAAS Director
- Lynda Lupp, PDE, Special Education
Adviser for Assessment
- Jodi Rissinger, PDE, Data Manager
- Dr. John White, Manager, Analytics
Development, SAS EVAAS for K-12

General State Assessment Overview

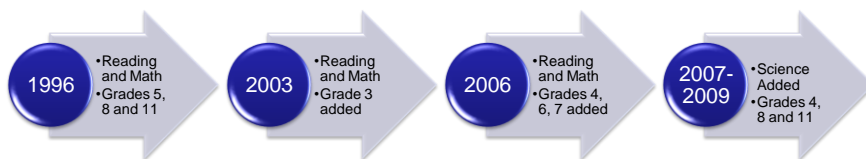
PA Assessment and Accountability System:

Legacy of Assessment Development

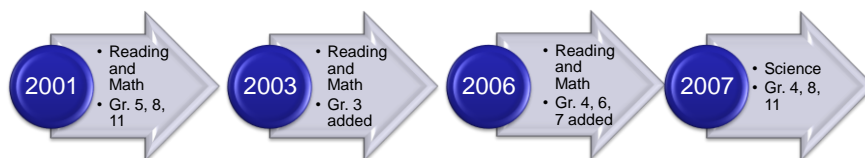
PA Assessment and Accountability System



Timeline for the Development of the PSSA



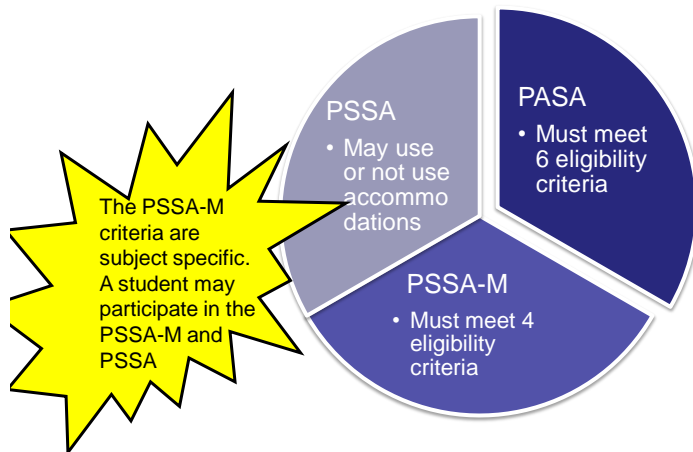
Timeline for the Development of the PASA



Pennsylvania Develops A Modified Assessment

- Pennsylvania developed an alternate assessment based on modified academic achievement standards
- The PSSA-Modified or PSSA-M **Math** assessment became operational in **2010**
- The PSSA-M **Reading and Science** became operational in **2011**

Assessment Participants



On-going Assessment Development

- Pennsylvania will *likely* be incorporating 3 end of course exams at the HS level
 - Algebra I, Biology, and Literature
 - Keystone Exams would serve as a graduation requirement **AND** AYP
 - If all goes as planned, exams will replace the PSSA in 11th grade beginning in 2012-2013

On-going Assessment Development

- The PSSA is being realigned to the PA Common Core.
- Transition will be as follows:
 - Grades 3-5 in 2014
 - Grades 6-8 in 2015
- The PSSA-M will be phased out with the transition to the realigned PSSA
- The PSSA Reading and Writing assessment may transition to an ELA test

Assessment Accommodations

- An Accommodations Manual for:
 - Students with IEPs and 504 Plans
 - ELL
 - All students
- Request for audio, electronic readers, and unique accommodations are reviewed at the department
 - IEP is considered

Retesting

- A 12th grade retest is offered to students in 12th grade who were not proficient on the PSSA in 11th grade
 - Window in in October

PSSA Math 2012

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Math 2012

- Criterion Referenced
- 5 Reporting Categories
 - Numbers and Operations
 - Measurement
 - Geometry
 - Algebra
 - Data Analysis

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Math 2012

2012 Math Test Format								
		Number of Multiple Choice Items per Student (1 point each)			Number of Open-Ended Items per Student (4 points each)			
Grade	Estimated Time of Test	Common Multiple Choice Items	Equating Block Items	Field Test Items	Common Open-Ended Items	Equating Block Items	Field Test Items	Total Number of Score Points
3-8 and 11	180 minutes 3 sessions	60	2	10	3	0	1	60+12= 72

Scores come from the COMMON ONLY.

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Math Test Blueprint

Reporting Category	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 11
Numbers and Operations	40-50%	43-47%	41-45%	28-32%	20-24%	18-22%	12-15%
Measurement	12-15%	12-15%	12-15%	12-15%	12-15%	12-15%	12-15%
Geometry	12-15%	12-15%	12-15%	15-21%	15-21%	15-20%	12-18%
Algebraic Concepts	12-15%	12-15%	13-17%	15-20%	20-27%	25-30%	36-42%
Data Analysis and Probability	13-16%	12-15%	12-15%	15-20%	15-20%	15-20%	12-18%
Total Points	72 Points	72 Points	72 Points	72 Points	72 Points	72 Points	72 Points

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Math Performance Level Cut Scores

Performance Level	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 11
Advanced	1370 and up	1445 and up	1483 and up	1476 and up	1472 and up	1446 and up	1509 and up
Proficient	1180-1369	1246-1444	1312-1482	1298-1475	1298-1471	1284-1445	1304-1508
Basic	1044-1179	1156-1245	1158-1311	1174-1297	1183-1297	1171-1283	1167-1303
Below Basic	750-1043	700-1155	700-1157	700-1173	700-1182	700-1170	700-1166

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PSSA-M Math Administration

- 2 sections, not 3
- 30 MC and 2 OE
- Recommended to be administered in a separate setting
- Recommended to administer all sections of one content area, then all sections of the other (e.g. all Math then all Reading)
- All accommodations available for the PSSA are also available for the PSSA-M

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Math PSSA-M Performance Level Cut Scores

Performance Level	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 11
Advanced	1356 and up	1374 and up	1381 and up	1364 and up	1395 and up	1403 and up
Proficient	1275-1355	1275-1373	1275-1380	1275-1363	1275-1394	1275-1402
Basic	1150-1274	1150-1274	1150-1274	1150-1274	1150-1274	1150-1274
Below Basic	1075-1149	1075-1149	1075-1149	1075-1149	1075-1149	1075-1149

PSSA READING 2012

Test Specifics

- Three Reading Sections on the PSSA
- Math and Reading sections alternate
 - Math: Sections 1, 3, 5
 - Reading: Sections 2, 4, 6
- Alignment with PA Academic Standards: Assesses knowledge and skills described in the Assessment Anchor Content Standards
- Target Passage Types
 - Eligible passage genres identified at each grade level

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Grade 3

- 3 sessions
- Sections 2, 4, & 6 (alternates w/Math)
- Approximately 50 - 70 minutes each
- Target Passage Types for Common Passages
 - 2 Stories
 - 1 Poem
 - 1 Informational
 - 1 Autobiography/Biography
or 1 Practical/How-to/Advertisement
- 58 Multiple-choice items (40 common items)
- 3 Open-ended items (2 common items)
- Students write **ALL** answers in test booklet

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Grade 3 Test Format

Approximate length	Number of Multiple-Choice Items (1 point each)			Number of Open-Ended Items (3 points each)		
	Common	Equating Block	Field Test	Common	Equating Block	Field Test
	40	8	10	2	0	1
Total 155 – 215 minutes	Student score (Common Only): 46 points Total points on each test: 67					

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Grades 4-8 & 11

- 3 sessions
- Sections 2, 4, & 6 (alternates w/Math)
- Approximately 50 –75 minutes each
- Target Passage Types (mix varies by grade)
 - Story (all grades)
 - Poem (all grades)
 - Informational (all grades)
 - Autobiography/Biography (eligible at all grades)
 - Practical/How-to/Advertisement
 - Essay/Editorial (grades 5, 6, 7, 8, & 11)
- 58 Multiple-choice items (40 common items)
- 5 Open-ended items (4 common items)
- Students write answers in answer booklet

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Grades 4–8 & 11 Test Format

Approximate length	Number of Multiple-Choice Items (1 point each)			Number of Open-Ended Items (3 points each)		
	Common	Equating Block	Field Test	Common	Equating Block	Field Test
50 - 75 minutes each section	40	8	10	4	0	1
Total 155 – 185 minutes	Student score (Common Only): 52 points Total points on each test: 73					

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Reading Reporting Clusters

Grade	Comprehension and Reading Skills (Category A)	Interpretation and Analysis (Category B)
3	60-80 %	20-40 %
4	60-80 %	20-40 %
5	60-80 %	20-40 %
6	50-70 %	30-50 %
7	50-70 %	30-50 %
8	40-60 %	40-60 %
11	40-60 %	40-60 %

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Reading Scale Score Ranges by Performance Level and Grade

Level	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 11
Advanced*	1442 and up	1469 and up	1497 and up	1456 and up	1470 and up	1473 and up	1492 and up
Proficient	1235-1441	1255-1468	1275-1496	1278-1455	1279-1469	1280-1472	1257-1491
Basic	1168-1234	1112-1254	1137-1274	1121-1277	1131-1278	1146-1279	1112-1256
Below Basic	1000-1167	700-1111	700-1136	700-1120	700-1130	700-1145	700-1111

*The highest possible score is determined yearly when raw-to-scale is determined. Upper limit for advanced is posted annually after public release of results.

PSSA-M READING 2012

Test Characteristics of the Reading PSSA-M

- 2 sessions
- Sections 1, 2 (separate content booklet; does not alternate w/Math)
- Approximately 50 –75 minutes each
- Target Passage Types - Same eligible passage genres as identified at each grade level for the general PSSA (mix varies by grade)
- 30 Multiple-choice items (all common items)
- 2 Open-ended items (all common items)
- Students write answers in test booklet

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2012 PSSA-M Reading Blueprint

Reporting Category	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 11
A. Comprehension and Reading Skills	60% - 80%	60% - 80%	50% - 70%	50% - 70%	40% - 60%	40% - 60%
B. Interpretation and Analysis of Fiction and Nonfiction Text	20% - 40%	20% - 40%	30% - 50%	30% - 50%	40% - 60%	40% - 60%

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Grades 4–8 & 11 PSSA-M Test Format

Number of Multiple-Choice Items (1 point each)	Number of Open-Ended Items (3 points each)
30	2
Total points on each test: 36 (approximately one-half the number on general PSSA)	

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PSSA-M Reading Scale Score Ranges by Performance Level and Grade

Level		Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 11
Advanced		1363 – and up	1391 – and up	1381 – and up	1385 – and up	1399 – and up	1433 – and up
Proficient		1275 – 1362	1275 – 1390	1275 – 1380	1275 – 1384	1275 – 1398	1275 – 1432
Basic		1150 – 1274	1150 – 1274	1150 – 1274	1150 – 1274	1150 – 1274	1150 – 1274
Below Basic		1075 – 1149	1075 – 1149	1075 – 1149	1075 – 1149	1050 – 1149	1000 – 1149

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PVAAS: Pennsylvania's Growth Model

PA Methodology for Growth and Value-Added: EVAAS

- EVAAS: Educational Value-Added Assessment System
 - SAS EVAAS for K-12, Cary, NC
 - PVAAS: Pennsylvania Value-Added Assessment System
- 2002-2005: Pilot with 100 Districts
- 2006: Statewide Implementation
- 2011: Public Reporting Added
- Annual Reporting provided to:
 - Districts
 - Charter Schools and Cyber charter Schools
 - Full Time Career and Technology Centers

Detailed History of PVAAS

- **Pilot from 2002-2005: 100 Districts**
- **Fall 2006: Reporting Grades 4 and 6 Reporting to all 501 Districts**
- **Fall 2007: Grades 4-8 Reporting to all Districts**
- **Fall 2008: Grades 4-8, 11 Reporting to all Districts**
- **Fall 2009: Full Reporting to 500 Districts, Charters, FT CTCs**
 - Math, Reading, Science, Writing; Grades 4-8, 11
 - Used as provision to meet AYP for NLCB – AYP Growth Model
- **Annual Fall Release**
- **Feb 23, 2011: 1st Public Site Release <https://pvaas.sas.com>**

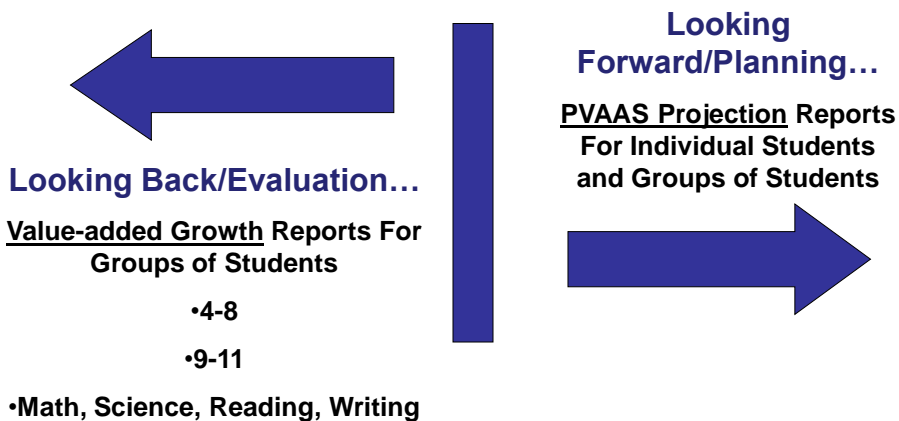
PVAAS Reporting

- Currently PVAAS analyzes PSSA
 - Not PSSA-M (2%) or PASA (1%)
 - Issue has been small number of students per district/school
- Grades and Subjects:
 - Math and Reading: Grades 4-8, 11
 - Science: Grades 4, 8, 11
 - Writing: Grades 5, 8, 11
- Future:
 - PSSA Aligned to PA Common Core
 - Reading/Writing
 - Keystone Exams: Algebra I, Bio, Eng Literature

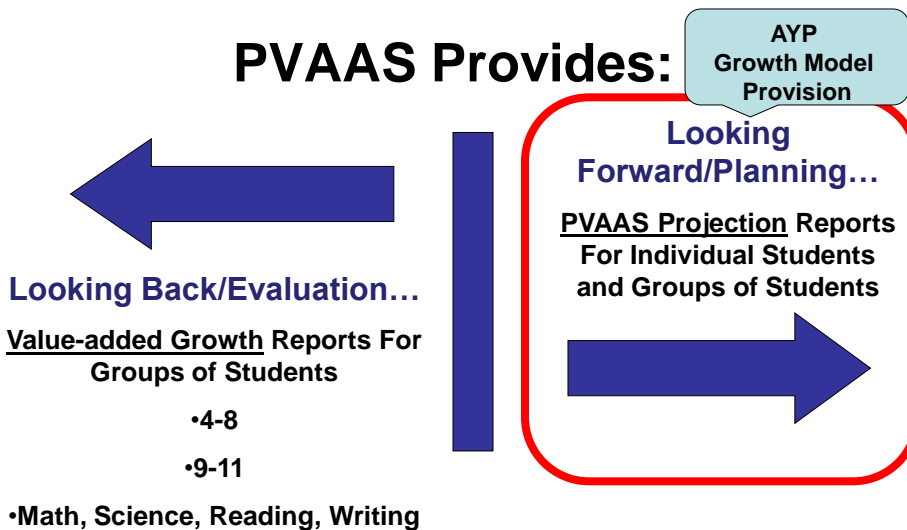
PVAAS Reporting

- Reporting Provided on:
 - District
 - School
 - Grade
 - Subgroups
 - Including Students with IEPs
 - Student

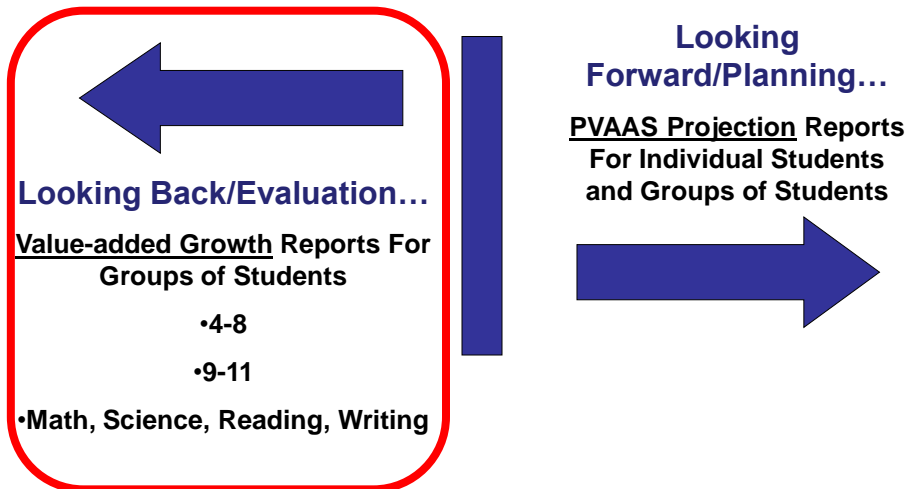
PVAAS Provides:



PVAAS Provides:



PVAAS Provides:



Calculation of Growth: PVAAS Methodologies

- **Consecutive Grades of Testing:**
 - Math and Reading, Grades 3-8
 - PVAAS: Growth Standard Methodology
 - Multivariate Response Model (MRM)
- **Non-Consecutive Grades of Testing:**
 - Math and Reading, Grades 9-11
 - Science, Grades 4, 8 and 11
 - Writing, Grades 5, 8 and 11
 - PVAAS: Predictive Methodology
 - Univariate Response Model (URM)

Calculation of Growth: Multivariate Response Model (MRM)

- Multivariate, longitudinal, linear mixed model, otherwise known as a repeated-measures model
- Entire set of observed test scores belonging to each student is fitted simultaneously
 - Measurement error is dampened/minimized
 - Demographics are inherently controlled for as students are serving as their own control
- Students are not excluded due to missing data
- *Note: When the data have been scaled or transformed to allow comparable expectations of progress, evaluated over many schools and/or districts, regardless of entering levels of groups of students, then the MRM approach is preferred. Done with NCEs in this methodology*

Calculation of Growth: Univariate Response Model (URM)

- Similar to traditional analysis of covariance (ANCOVA)
 - Response – A particular year/subject/grade
 - Covariates – All prior test scores for each student
 - Categorical – Educational entity (district, school, teacher)
- Differs from traditional ANCOVA in that
 - the categorical variable is treated as a random effect rather than a fixed
 - All possible prior scores are included for each student without excluding students with missing data

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Calculation of Growth: Univariate Response Model (URM) Cont'd

- URM has much in common with certain hierarchical linear models (HLMs) that have been used for value-added analyses.
- All available prior achievement test scores for each student are used
 - Students with missing data are not excluded to minimize the selection bias
 - Demographics are inherently controlled for as all prior data is used
 - Measurement error is dampened/minimized –
- *Note: To minimize bias caused by measurement error in the predictor variables, the URM requires that each student must have at least three prior scores in any subject and grade.*

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Common Challenges with Growth Models: PVAAS/EVAAS

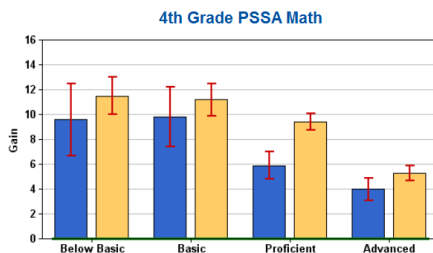
- Missing data and measurement error
- All PVAAS/EVAAS methodologies use all available data on each individual student with out excluding students with missing data
 - The inclusion of all test scores dampens the effect of measurement error
 - Selection bias is removed by not excluding students with missing data

PVAAS Reporting for Students with IEPs

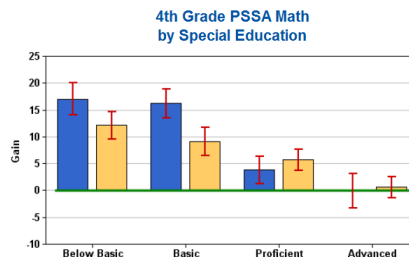
- PVAAS Performance Diagnostic Report
- PVAAS Custom Diagnostic Report- User Defined Group
- PVAAS Custom Analyses of Special Education for PA

PVAAS Performance Diagnostic

Same School – Same Grade – Same Subject



Entire grade level or
NON-group



Subgroup

Question for Educators:

How do our subgroups compare to the entire grade level?

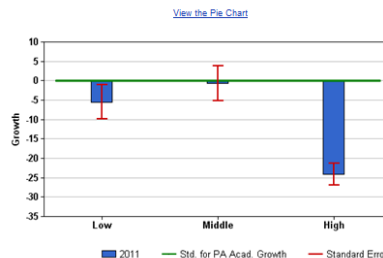
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2011 Custom Diagnostic Report
Jazzberry Jam Elementary School in Large Urban School District
5th Grade PSSA Math

PVAAS Custom Diagnostic Report: User Defined Group



Growth		
Low	Middle	High
-5.5	-0.6	-24.1

Students by Achievement Group		
Low	Middle	High
NADARA COURTLEY	TALIAFER DILDA	CEATHEA CATHER
KIRKEY DITTUS	SHENIEKA CONWAY	CALLIG AGANS
ARKEEL FILAROS	ANNIF BRADEEN	SHANESI EVANSKI
SATRINA GEORGET	SHURANDA AVILAYBARR	LAUNI BIRDIE
MONJOYA ALEXACER	ROBERTI FERRANC	TALLYNN GEMORANEWT
CAHDI ALAKINI	KANOGG ABDULLGAFO	TEALAK BODE

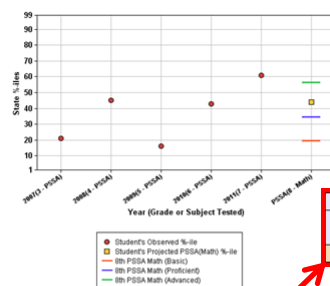
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Projection Report for ATRISHIA AGRRET 8th PSSA Math



Note: This projection assumes the average experience of the school the student will most likely attend given the student's current academic history.

PVAAS Student Projection Report

Projected State Percentile	Projection: 8th PSSA Math		
	Probability of Scoring in the Indicated Performance Level (or above)		
44	Basic or Above	Proficient or Above	Advanced
	92.8%	72.0%	26.5%

Projection: 8th PSSA Math		
Projected State Percentile	Probability of Scoring in the Indicated Performance Level (or above)	
44	Basic or Above	Proficient or Above
	92.8%	72.0%

Student's Testing History		
Year (Grade or Subject Tested)	PSSA Math	
	2007(1)	2008(1)
State NCE 1 Score	33	48
%ile	21	45

If the Projection Probability of scoring in the Proficient or above category is...		
Value	Interpretation	Recommendation
Greater than 70%	Scoring Proficient or above is likely.	Continue with student's current program, investigate what has worked - the student is on a path towards scoring Proficient or above.
Between 40% and 70%	Scoring Proficient or above may or may not occur.	Investigate and implement adjustments to student's program to increase likelihood of scoring Proficient or above.
Less than 40%	Scoring Proficient or above is unlikely.	Investigate and implement significant changes to student's program to increase likelihood of scoring Proficient or above.

PVAAS Custom Analyses: Special Education for PA

Purpose: Analyses to compare differences among schools in their effectiveness in teaching students with IEPs

2 Research Questions:

1. Was the progress of students with IEPs measurably different from non-IEP students within a school?
 - IEP > Non-IEP
 - IEP = Non-IEP
 - IEP < Non-IEP
2. For the students with IEPs within each grade and subject, is there variability in effectiveness among schools?
 - Progress Above the Average School
 - Progress Not Detectably Different from the Average School
 - Progress Below the Average School

Info Requested from PA

- **Scores on a Common Scale**
 - Not needed in EVAAS URM type methodologies
 - NCEs are used in EVAAS MRM type methodologies
- **How Student and School Level Growth Outcomes are Reported**
 - Growth reported at group level, not student level
 - Projections are reported at student level
- **Handling of Missing Data**
 - See previous slides
- **Calculation of Growth**
 - MRM and URM
 - Depends on grades of testing
- **Handling of Non-Linear Growth – NCEs**

Data Collection for Students with Disabilities: Assessment and Demographics