



EDUCATION

***Value-Added Assessment in
Practice: Lessons from the Pennsylvania
Value-Added Assessment System Pilot
Project***

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Outline

- **Background and methods**
- Test score results
- Administrator survey responses
- Principal and teacher survey responses
- Summary

Testing the Value of Value-Added

- **Directly demonstrating that value-added estimates are valid is very hard or impossible**
 - **We cannot randomize students to schools**
 - **We do not have an alternative measure to use as gold standard**
- **An alternative is to test that value-added estimates contain useful information by testing that value-added systems improve education outcomes**
 - **Testing a system is a more traditional evaluation with established methods**

Research Objectives

- **Demonstrate the utility of a value-added analysis system using the Pennsylvania Value-Added Assessment System (PVAAS)**
 - **Effects on student achievement test scores**
 - **Effects on administrators', principals', and teachers' attitudes, knowledge, and practice**
- **Determine how educators were using the value-added information**

Methods

- **Match districts in the PVAAS pilot program to similar districts in the state not participating in the program**
 - **Match on aggregate student achievement, demographics, socio-economic measures, district business measures**
- **Compare grade 5 and grade 8 mathematics and reading scores on state's accountability test (PSSA)**
- **Compare survey results for superintendents (or central office staff), principals, and teachers**

PVAAS Pilot Program

- **Started in 2002 with 31 of the state's 501 school districts**
 - **Received first reports in the winter of 2003**
 - **Received second report in spring of 2004**
 - **Received additional reports in the late summer or fall from 2004 onward**
- **Added 19 more districts in 2004**
 - **Received first reports in the fall of 2004**
- **Added 50 additional districts in 2005 and rolled out to the entire state in 2006**
- **Cohorts 1 and 2 are used in our study**

PVAAS Reports

Five components:

- **Value-added Summary Report**
 - School's value-added to student growth
 - A value of zero indicates students made standard growth
 - Uses complex regression modeling
- **Diagnostic Report**
 - Estimates of average student growth by subgroups
- **Performance Diagnostic Report**
 - Similar to Diagnostic Report, but groups are defined by projected performance levels
- **Student Report**
 - Students' observed score trajectories compared to expected trajectories
- **Student Projection Report**
 - Predictions of students' performances on future tests

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Mathematics Results Show No Effect for PVAAS

Mathematics	Cohort 1			Cohort 2		
Grade 5	Pilot	Comparison	Difference	Pilot	Comparison	Difference
2003-2004	1368.2	1371.2	-3.0	1426.6	1397.0	29.6
2004-2005	1400.9	1402.3	-1.4	1447.7	1433.0	14.7
2005-2006	1405.4	1405.3	0.1	1455.0	1445.5	9.5
Grade 8						
2003-2004	1320.9	1334.2	-13.3	1381.1	1369.1	12.0
2004-2005	1344.1	1350.4	-6.3	1403.3	1369.7	33.6
2005-2006	1342.3	1349.9	-7.6	1401.3	1381.4	19.9

Reading Scores Show No PVAAS Effects

Reading	Cohort 1			Cohort 2		
Grade 5	Pilot	Comparison	Difference	Pilot	Comparison	Difference
2003-2004	1337.6	1358.5	-20.9	1419.1	1394.3	24.8
2004-2005	1294.1	1314.5	-20.4	1376.2	1342.5	33.7
2005-2006	1273.1	1292.8	-19.7	1349.8	1333.0	16.8
Grade 8						
2003-2004	1323.2	1343.4	-20.2	1397.3	1393.1	4.2
2004-2005	1306.6	1325.7	-19.1	1382.8	1381.5	1.3
2005-2006	1364.9	1387.6	-22.7	1458.9	1454.9	4.0

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Surveys on Attitudes Toward and Use of Test Score Data

Questions on:

- **Perceived utility of PSSA, interim testing, and growth data**
- **Use of achievement tests results**
- **Attitudes about NCLB and AYP**
- **Support for using test data and barriers to its use**
- **Knowledge about growth measures**

PVAAS Had Few Effects on Administrators

- **Administrators in pilot districts were more likely to report that**
 - **Reports on student growth were very useful for improving performance**
 - **State or intermediate unit did not provide information on data analysis systems**
 - **Technical assistance with data was useful**
 - **Insufficient technology was a hindrance to effective use of test score data**
- **Comparison district administrators were more likely to report that lack of access to information about growth was a hindrance to effective use of test score data**
- **Combines Cohorts 1 and 2**
- **No adjustment for multiple comparisons**
- **Small sample sizes, low power**

Administrators Positive About PVAAS But Use Is Limited

- **Large percentage reports it provides accurate measure of performance, helps communication with parents, helps staff see efforts paying off, and eliminates excuses**
- **Only small percentage actually uses it to communicate with parents, reward staff, set policies**

Standard Tests Are More Widely Used than PVAAS

	PVAAS	State or District test
Make changes to the district's curriculum and instructional materials	51%	93%
Develop a district improvement plan	40	81
Help individual schools develop school improvement plans	46	82
Make policy about how much time is spent on each academic subject	17	51
Assign or reassign staff	9	41
Monitor schools' implementation of curricula or use of resources	27	77
Focus principal and/or teacher professional development	50	93

Standard Tests Are More Widely Used than PVAAS (Cont.)

	PVAAS	State or District Test
Make decisions about budget or resource allocation	17%	77%
Evaluate the effectiveness of specific programs	38	85
Evaluate principal or teacher performance	12	29
Reward school staff for achieving strong performance (e.g., bonuses, awards)	11	22
Adjust the level of authority principals have over school decisions (e.g., curriculum, schedule, budget)	16	19
Communicate with parents or other community members	17	84

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Many Principals Had Limited Experiences with PVAAS

- **28% of surveyed principals did not know their school was participating in PVAAS**
- **An additional 14% never saw a report**
- **Principals were more likely to be engaged if:**
 - **they were from Cohort 2**
 - **their schools served mostly white students, and**
 - **they were not new to the school**
- **We focus on the 58% who were minimally engaged in the program**

PVAAS Had Little Effect on Principals

- **PVAAS principals were more likely than comparison principals to:**
 - **Receive training on how to use test score data for instructional planning**
 - **Receive information on data systems or guidance on selecting these systems**
- **Other resources, such as professional development to help principals analyze data or to meet the needs of low-achieving students, were available to similar percentages of principals in both groups**
- **57% of the comparison group principals reported that lack of data on student growth was a hindrance to data compared to 27% of the engaged pilot principals**

Pilot Principals Used Traditional Tests More than PVAAS

	PVAAS	State or District Test Results
Develop a school improvement plan	34%	74%
Identify low-performing students who need additional assistance	45	99
Identify high-performing students who need additional enrichment	42	80
Identify and correct gaps in the curriculum and instruction for all students	45	93
Communicate with parents	10	72

Pilot Principals Used Traditional Tests More than PVAAS (Cont.)

	PVAAS	State or District Test Results
Set different learning goals for different students or classes	29	96
Assign or reassign students to teachers or instructional groups	18	67
Focus teacher professional development	36	80
Identify teacher strengths and weaknesses	25	47
Evaluate the effectiveness of specific programs	35	64
Celebrate staff or student accomplishments	27	76

Few Teachers had Any Familiarity with PVAAS

- **Only 54% of responding teachers had ever heard of PVAAS**
- **Of these, 60% did not know their school was participating in PVAAS**
- **Teachers were more likely to be engaged if they were from:**
 - **Rural schools**
 - **Schools with predominantly white populations**
- **We focus on the engaged teachers**

PVAAS Engaged Teachers Are More Focused on Using Test Score Data Than Comparison Teachers

- **More likely to report having test results on percent of students reaching achievement levels and other state test results**
- **More likely to meet with school data team**
- **More likely to see reports on student growth**
- **Feel more confident interpreting test results**
- **Less likely to report lack of data support and training in use of data are a hindrance to effective use of data**

PVAAS Engaged Teachers Uncertain About PVAAS

- **50% report being uncertain how to use PVAAS to guide instructional practice**
- **48% report they are not sure they know how to interpret PVAAS school effect, 13% don't know how to respond to this item**
- **50% believe PVAAS is used for NCLB calculations, 35% don't know if this is true**
- **77% who saw reports find all the data from multiple sources confusing**
- **64% who saw reports find PVAAS focus on growth conflicting with state testing focus on proficiency levels**

PVAAS Engaged Teachers Rely More on State or District Tests than PVAAS

	PVAAS	State or District Test Results
Identify low-performing students who need additional assistance	42%	77%
Identify high-performing students who need additional enrichment	20	49
Identify and correct gaps in the curriculum and instruction for all students	32	71
Identify areas where I need to strengthen my own content knowledge or teaching skills	39	64
Assign or reassign students to instructional groups	31	59
Set different learning goals for different students	24	54
Improve or increase the involvement of parents in student learning	15	24

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Summary

- **The effect of a value-added system on student outcomes and educational practice is a key policy issue**
- **PVAAS pilot program provided a useful opportunity to study the effects**
- **No effects on student test scores**
- **Limited effects on educators**
 - **Educators relied more heavily on state and district test score data**
- **Effects did not increase with exposure**

Limitations

- **Studied pilot program only during its early years**
- **PVAAS pilot districts had district wide testing prior to pilot program we could not guarantee matches did**
- **Small samples of district administrators, principals, and teachers limits our ability to detect differences**
- **Engaged principals and teacher might differ from comparison group on factors we did not observe**

Implications

- **Several factors might have contributed to limited effects of PVAAS**
 - Little initial training
 - Limited training on the ways to use the data rather than the meaning of it
 - Little time to see effects
 - Educators are not accountable to PVAAS or growth measures
- **Enthusiasm for PVAAS appears to be growing with full state rollout**
 - Revamped the training
 - Changed the methodology