LOUISIANA DEPARTMENT OF EDUCATION

Louisiana's Value-Added Assessment Model for Educator Evaluations and Support

A Report in Response to LA. R.S. 17:3883(A)(8)

March 1, 2024

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Executive Summary

In response to Act 54 of the 2010 Regular Session, the Louisiana Department of Education (LDOE) engaged internal and external groups through pilot programs, presentations, workgroups, and focus groups to collectively develop and refine the educator support and evaluation program (now known as "Compass") and the Louisiana value-added model. This collaborative effort was aimed at building a system that would not simply rate teachers' performance but would provide teachers with important feedback and development opportunities needed to improve their professional practice and ultimately lead their students to achieve at higher levels.

Louisiana R.S. 17:3883(A)(8) requires the state Board of Elementary and Secondary Education (BESE) to, "Beginning in 2013 and thereafter, submit a written report to the Senate Committee on Education and the House Committee on Education, not later than March first of each year, and at such other times as requested by the committees, regarding the implementation, results, and effectiveness of the value-added assessment model as provided in this Part." This report provides detailed information regarding Louisiana's value-added model calculation method and highlights key findings for the 2022-2023 school year. Notable among the findings is a group of educators who are consistently among the teachers whose students have made either the weakest or strongest educational gains. This is consistent with the results of analysis conducted in previous years. Consistent cross-year results, when they were evident for a teacher, provide a basis for engaging in substantive work to improve outcomes for those who teach students at the lowest performing levels and retain and reward those whose students have achieved and improved at the highest levels.

2022-2023 Selected Results

Introduction

This technical document summarizes, in brief, the analytic process and selected aggregated results of student-teacher achievement outcomes for the 2022-2023 school year that were shared with teachers statewide during October 2023. Outcomes were assessed via a value-added model. The assessment used regression of student data (achievement, demographics, and attendance) to estimate typical student achievement, and then compared typical outcomes to actual outcomes.

In addition to the presentation of current year results, this document also summarizes the historical processes supporting the development of the value-added model in Appendix A and the technical process of the calculation of the value-added model in Appendix B. Subsequent appendices report the following for the current year: calendar of activities (Appendix C), source systems and data elements (Appendix D), exclusion reasons (Appendix E), eligible course codes (Appendix F), equations (Appendix G), coefficients (Appendix H), and student and classroom characteristics (Appendix I).

Stability of Results

In order to examine the degree of stability of teacher outcomes across years, two sets of analyses were conducted. These analyses were conducted with the full set of data across the 2021-2022 and 2022-2023 school years.

The first analysis examined the stability of overall teacher ranks across years. Within each year, teachers were ranked as having results that fell in the set standards of effectiveness ranges. The data were examined for the stability of these rankings across years with verified rosters. The degree of stability is illustrated in Table 1.

Table 1. Stability of the Overall Teacher Ranking

2021-2022 Overall Teacher Rank		2022-2023 Overall Teacher Rank			
		Ineffective 1% - 10%	Effective Emerging 11% - 49%	Effective Proficient 50% - 79%	Highly Effective 80% - 99%
Ineffective 1% - 10% (768)	#	219	401	110	38
	%	28.5%	52.2%	14.3%	4.9%
Effective Emerging 11% - 49% (3538)	#	337	1,852	1,044	305
	%	9.5%	52.3%	29.5%	8.6%
Effective Proficient 50% - 79% (2834)	#	104	950	1,197	583
	%	3.7%	33.5%	42.2%	20.6%
Highly Effective 80% - 99% (1979)	#	23	292	624	1,040
	%	1.2%	14.8%	31.5%	52.6%

The overall teacher results show moderate stability across years. Teachers were most likely to remain in the same effectiveness category or move to an adjacent category in the next year. Teachers who fell in the bottom 10th percentile in 2021-2022 were likely to fall in the bottom 10th percentile of results again or to move up one ranking to the 11th- 49th percentile range (80.7%). They were unlikely to move to the top of the distribution one year later. Teachers who were in the top 20th percentile in 2021-2022 were most likely to fall in the same range or drop by one range to the 50th - 89th percentile in 2022-2023 (84.1%). They were unlikely to move to the bottom of the distribution one year later.

Another way of examining stability is through the correlation coefficients in each content area. Table 2 below shows the correlation coefficients between teacher content results in the past three school years.

Table 2. Correlation of Content Teacher Effects

Content Area	Content Teacher Effects Correlation Coefficient			
	2016-2017 to 2017-2018 *(number of teachers)*	**2017-2018 to 2018-2019** *(number of teachers)*	**2018-2019 to 2021-2022*** *(number of teachers)*	**2021-2022 to 2022-2023** *(number of teachers)*
English Language Arts	0.415 (3,276)	0.417 (3,207)	0.378 (1,984)	0.513 (2,678)
Mathematics	0.573 (2,781)	0.557 (2,796)	0.510 (1,838)	0.632 (2,561)
Science	N/A	N/A	N/A	0.473 (1,946)
Social Studies	N/A	0.481 (2,297)	0.426 (1,372)	0.554 (1,978)
Algebra I	0.583 (524)	0.638 (502)	0.596 (310)	0.706 (469)
Geometry	0.552 (332)	0.595 (329)	0.504 (197)	0.720 (288)
English I	N/A	0.490 (388)	0.471 (251)	0.582 (403)
English II	N/A	N/A	0.359 (209)	0.470 (356)

**Correlations of content teacher effects are typically calculated between the current year and first prior year. The correlations for the 2021-2022 school year are compared to the third prior year of 2018-2019. Due to COVID-19 school closures in March 2020, Spring 2020 assessments were not administered, and there was no teacher VAM in the 2019-2020 (lack of current year test) and 2020-2021 (lack of first prior year test) school years.*

Overall, the content teacher results demonstrate moderate stability across years. Increasing correlations were evident in the 2022-2023 school year with the most recent prior year available. A lower correlation in the 2021-2022 school year was seen in all content areas, though still moderate, due to the school years in comparison spanning three years instead of the most recent year. Due to COVID-19 school closures in March 2020, Spring 2020 assessments were not administered, and there was no teacher VAM in the 2019-2020 (lack of current year test) and 2020-2021 (lack of first prior year test) school years.

Historically, lower correlations were seen following the transition from previous Louisiana state assessments to assessments aligned with adopted state academic standards in the 2014-2015 school year. Lower correlations have been seen in other states' transition to newer tests in the past, with the correlation increasing once a consistent assessment has been in use. With the exception of the three-year correlation in the 2022-2023 school year, an increasing correlation is expected in the school years utilizing a consistent assessment.

While the overall and content teacher results demonstrate moderate stability, the level of correlation across consecutive years suggests using caution in reaching conclusions from any single year's data. Further, the rank stability data in Table 1 suggests that there is a group of teachers who will remain in the top or bottom 10 percent of teachers over consecutive years, and about whom substantive efforts to either improve the results for their students (bottom 10 percent) or to retain those teachers (top 10 percent) may be warranted.

Estimated Average Levels of Achievement

A frequent question among educators inquired why some students have higher or lower expected growth than others. The value-added model anticipates how well students will perform on the test in comparison to their peers with similar prior test scores and demographic characteristics. Students may have different expected scores because they have different prior test histories and/or background characteristics.

A related concern of educators is that value-added results will not be fair to teachers of students who have historically been poorly performing. This is an incorrect assumption, as the model recognizes gains in student achievement when students score higher than expected compared to similar peers. Instead of meeting a static growth target (e.g., Mastery achievement level on the LEAP 2025 assessment), student-expected scores are calculated based on their prior test history and demographic factors.

In contrast, another concern of educators is that value-added results will not be fair to teachers of historically high-performing students because the more advanced a student is, the more difficult it is to make additional gains. This, too, is an incorrect assumption. In addition to the model recognizing gains compared to similar peers, the model also accounts for exceptionally high performance at or near the ceiling of the assessment (e.g., less than 0.03% of students in grades 4-8 and less than 0.3% in high school students, score near the ceiling of the assessments). Since Louisiana's state assessments have a ceiling of 850, it is not possible to score beyond the ceiling. As a result, an adjustment is made to the statistical model to address this ceiling. For students whose scores fall between 835 and 850, the VAM model automatically adjusts the expected score to 835 so that the students contribute positively to a teacher result.

One indicator of the extent to which these concerns emerge in the data is the correlations between the teachers' students' mean achievement levels and the teacher effects. If there was a substantial disadvantage in teaching historically poor-performing students, there would be a strong positive correlation between typical achievement and teacher effects. In contrast, if there was a disadvantage in teaching advanced students, there would be a strong negative correlation. Ideally, there would be a very small to no correlation between typical student achievement and teacher effects. The data presented in Table 3 demonstrate a nearly zero or very small correlation between typical achievement and teacher effects for all content areas, indicating no disadvantage for teaching historically poor-performing or historically high-performing students. Similar correlations were also demonstrated in previous years.

Table 3. Correlation of Student Prior Mean Achievement and Teacher Effect

Content Area	Student Prior Mean Achievement and Teacher Effect Correlation					
	2017-2018	2018-2019	2019-2020*	2020-2021*	2021-2022	2022-2023
English Language Arts	-0.030	-0.030	N/A	N/A	-0.018	-0.016
Mathematics	-0.038	-0.044	N/A	N/A	-0.055	0.029
Science	N/A	N/A	N/A	N/A	-0.025	0.056
Social Studies	-0.025	-0.036	N/A	N/A	-0.023	0.008
Algebra I	0.072	-0.040	N/A	N/A	0.140	0.094
Geometry	0.224	0.118	N/A	N/A	0.267	0.130
English I	-0.033	-0.076	N/A	N/A	-0.016	-0.077
English II	N/A	0.252	N/A	N/A	0.179	0.107

**Due to COVID-19 school closures in March 2020, Spring 2020 assessments were not administered, and there was no teacher VAM in the 2019-2020 (lack of current year test) and 2020-2021 (lack of first prior year test) school years.*

Distribution of Student-Teacher Achievement Outcomes

The distribution of teacher outcomes for the current year and historical are presented. Figures 1-8 present the distribution of teacher outcomes across content areas for 2022-2023. The graphs depict the number of teachers (y-axis) with each magnitude of teacher effect (x-axis), as well as the minimum and maximum teacher effect. The mean and standard deviation for each content effect are also noted within the upper right-hand box of the figures.

Similar to the graphical presentation, tables 4-11 present descriptive statistics for the current year and the most recent prior years. The tables depict the count of teachers, as well as mean, standard deviation, minimum, and maximum teacher effect. While the past five years are presented, data for two prior school years is unavailable for all content areas. Due to COVID-19 school closures in March 2020, Spring 2020 assessments were not administered, and there was no teacher VAM in the 2019-2020 (lack of current year test) and 2020-2021 (lack of first prior year test) school years.

Figure 1. English Language Arts Value-Added Distribution for 2022-2023

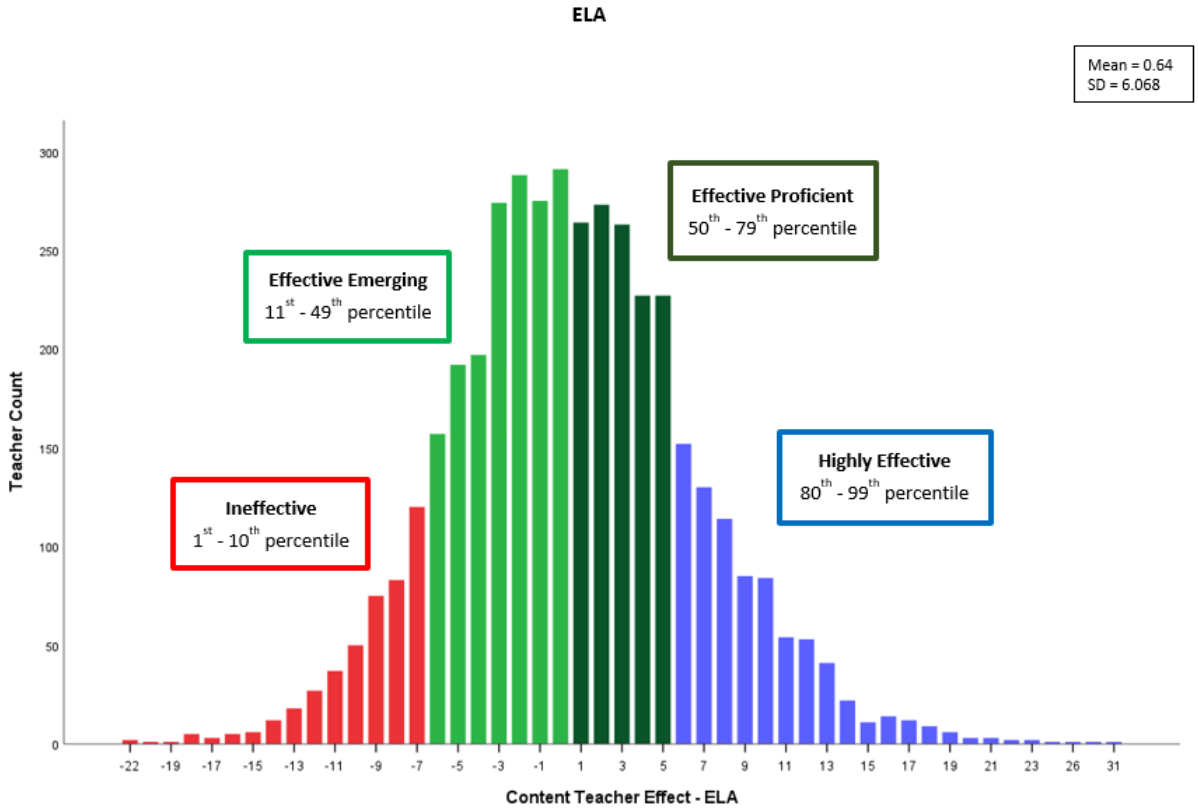

Table 4. Historical English Language Arts Value-Added Descriptive Statistics

School Year	Teacher Count	Teacher Effect - English Language Arts			
		Mean	Standard Deviation	Minimum	Maximum
2022-2023	4,174	0.64	6.07	-22	31
2021-2022	3,939	0.82	6.19	-25	26
2020-2021	N/A	N/A	N/A	N/A	N/A
2019-2020	N/A	N/A	N/A	N/A	N/A
2018-2019	4,526	0.53	5.32	-26	22

Figure 2. Mathematics Value-Added Distribution for 2022-2023

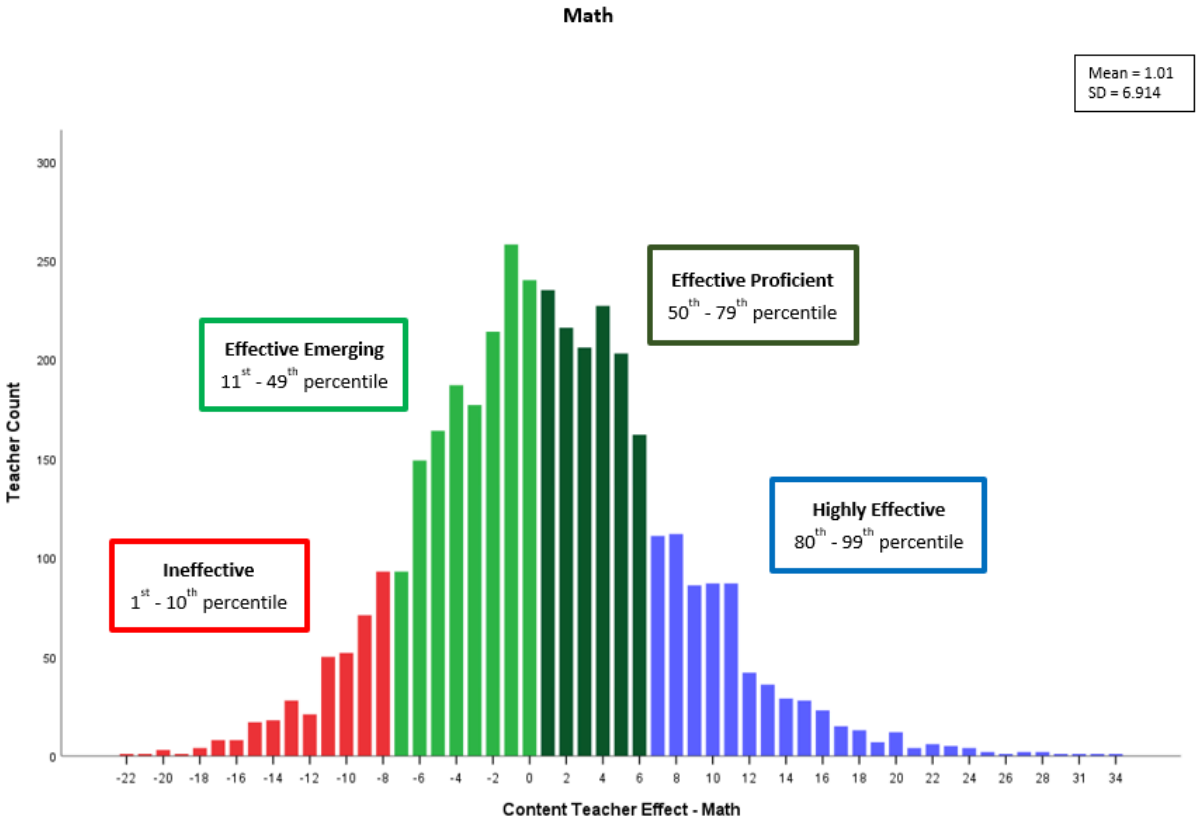

Table 5. Historical Mathematics Value-Added Descriptive Statistics

School Year	Teacher Count	Teacher Effect - Math			
		Mean	Standard Deviation	Minimum	Maximum
2022-2023	3,825	1.01	6.91	-22	34
2021-2022	3,727	1.26	7.17	-22	33
2020-2021	N/A	N/A	N/A	N/A	N/A
2019-2020	N/A	N/A	N/A	N/A	N/A
2018-2019	3,918	1.01	6.68	-26	36

Figure 3. Science Value-Added Distribution for 2022-2023

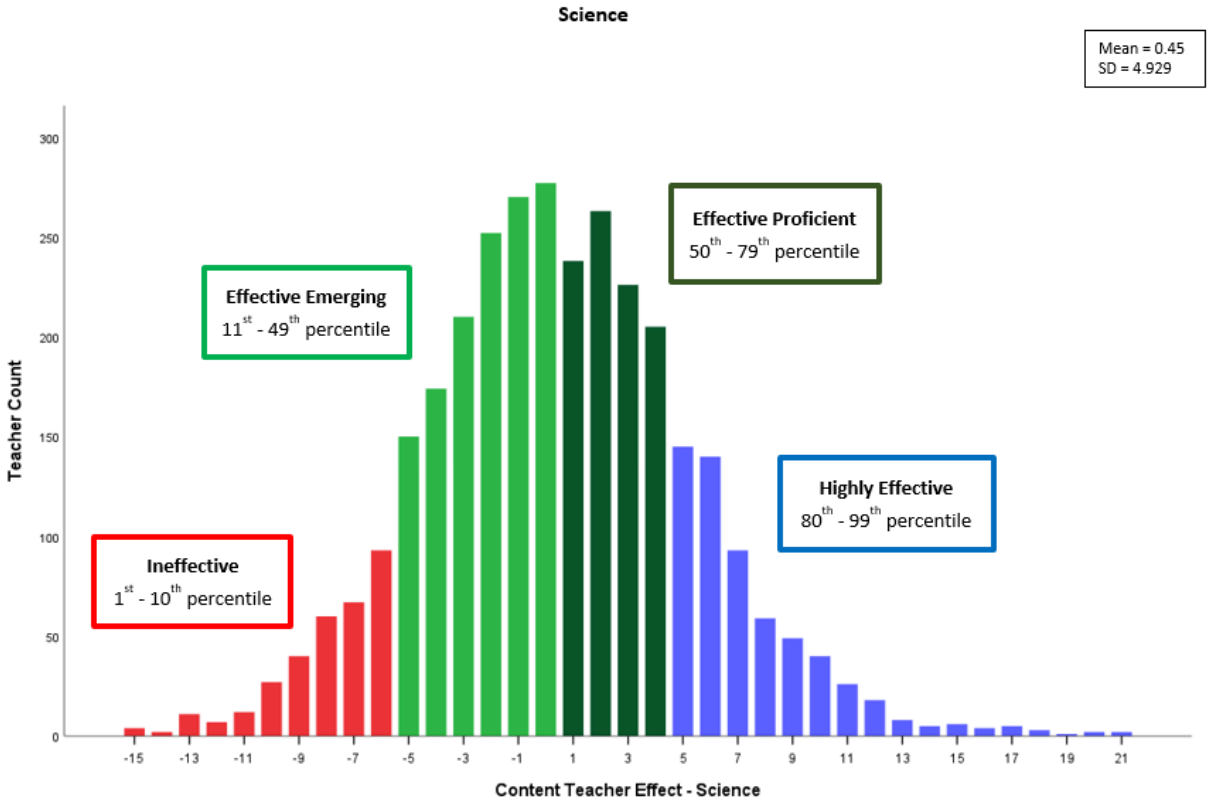

Table 6. Historical Science Value-Added Descriptive Statistics

School Year	Teacher Count	Teacher Effect - Science			
		Mean	Standard Deviation	Minimum	Maximum
2022-2023	3,194	0.45	4.93	-15	21
2021-2022	3,072	0.44	4.79	-18	18
2020-2021	N/A	N/A	N/A	N/A	N/A
2019-2020	N/A	N/A	N/A	N/A	N/A
2018-2019	N/A	N/A	N/A	N/A	N/A

Figure 4. Social Studies Value-Added Distribution for 2022-2023

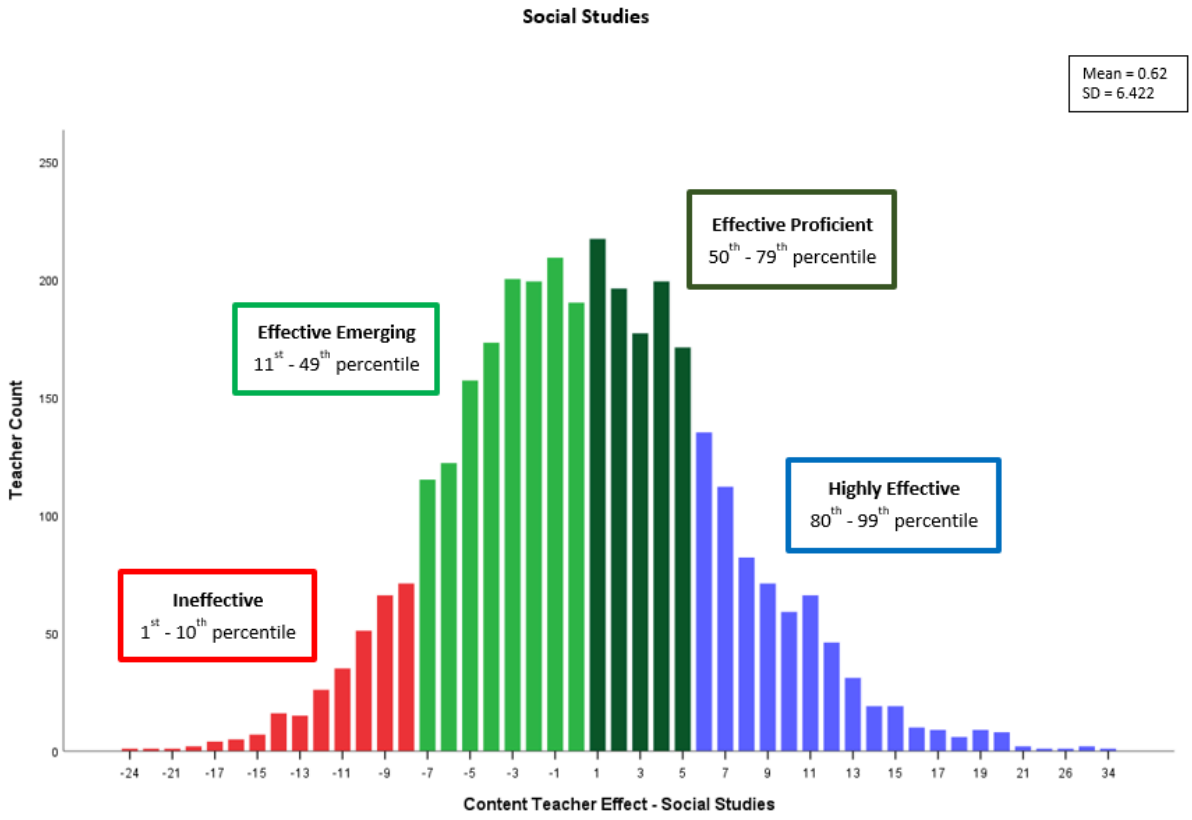

Table 7. Historical Social Studies Value-Added Descriptive Statistics

School Year	Teacher Count	Teacher Effect – Social Studies			
		Mean	Standard Deviation	Minimum	Maximum
2022-2023	3,315	0.62	6.42	-24	34
2021-2022	3,224	0.82	6.56	-25	30
2020-2021	N/A	N/A	N/A	N/A	N/A
2019-2020	N/A	N/A	N/A	N/A	N/A
2018-2019	3,617	0.59	6.54	-27	36

Figure 5. Algebra I Value-Added Distribution for 2022-2023

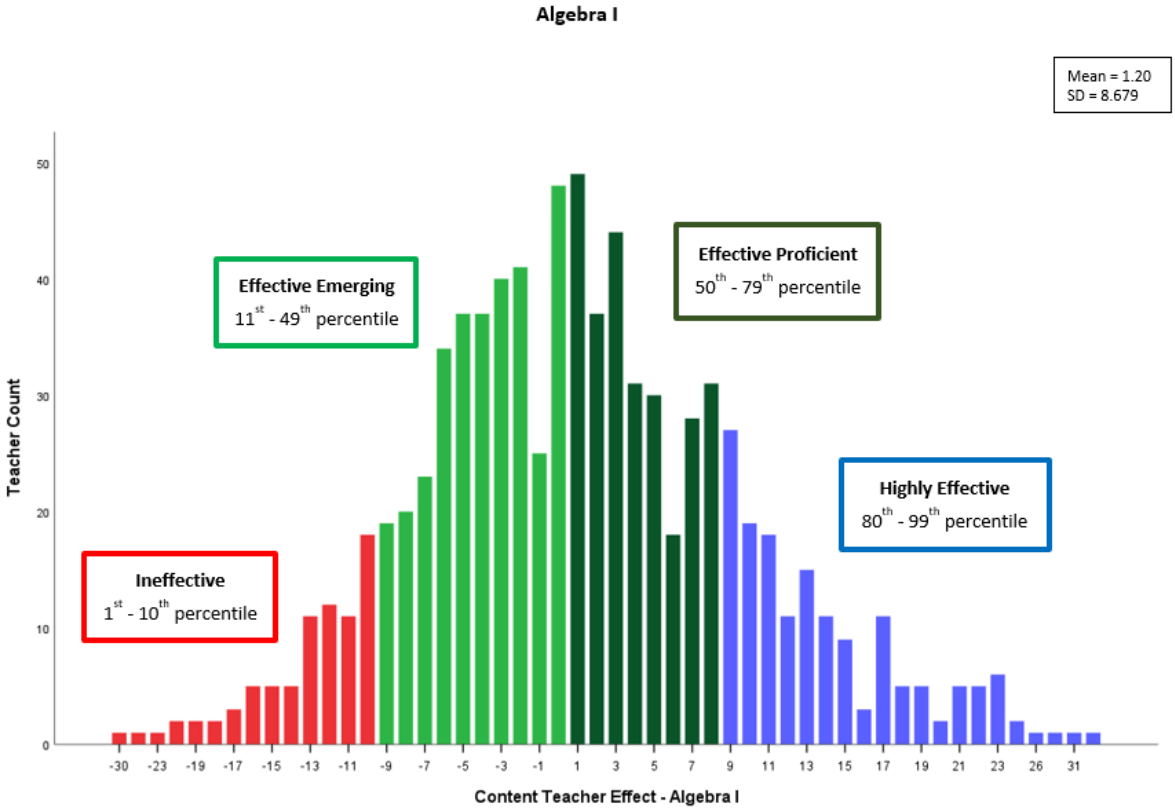

Table 8. Historical Algebra I Value-Added Descriptive Statistics

School Year	Teacher Count	Teacher Effect – Algebra I			
		Mean	Standard Deviation	Minimum	Maximum
2022-2023	829	1.20	8.68	-30	33
2021-2022	770	1.27	8.04	-25	29
2020-2021	N/A	N/A	N/A	N/A	N/A
2019-2020	N/A	N/A	N/A	N/A	N/A
2018-2019	787	0.98	7.84	-26	30

Figure 6. Geometry Value-Added Distribution for 2022-2023

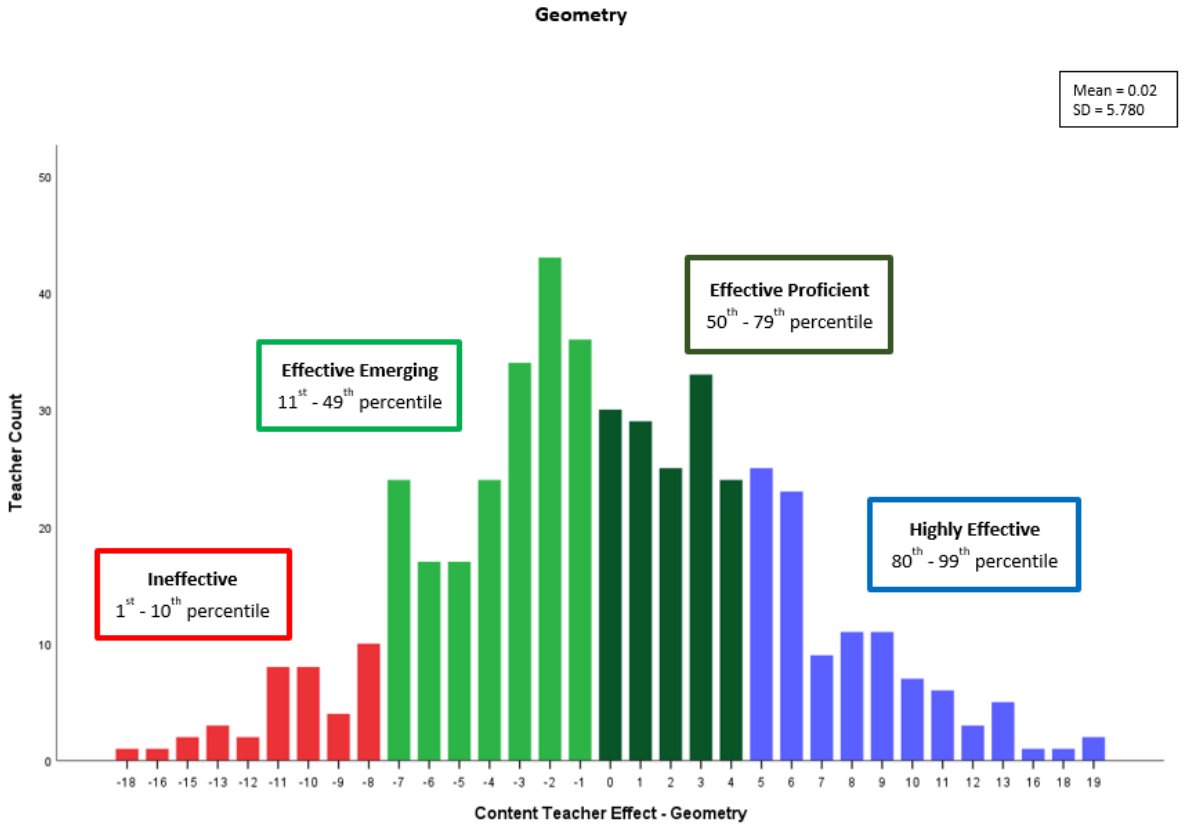

Table 9. Historical Geometry Value-Added Descriptive Statistics

School Year	Teacher Count	Teacher Effect – Geometry			
		Mean	Standard Deviation	Minimum	Maximum
2022-2023	479	0.02	5.78	-18	19
2021-2022	439	0.87	6.04	-16	18
2020-2021	N/A	N/A	N/A	N/A	N/A
2019-2020	N/A	N/A	N/A	N/A	N/A
2018-2019	493	0.29	4.41	-13	13

Figure 7. English I Value-Added Distribution for 2022-2023

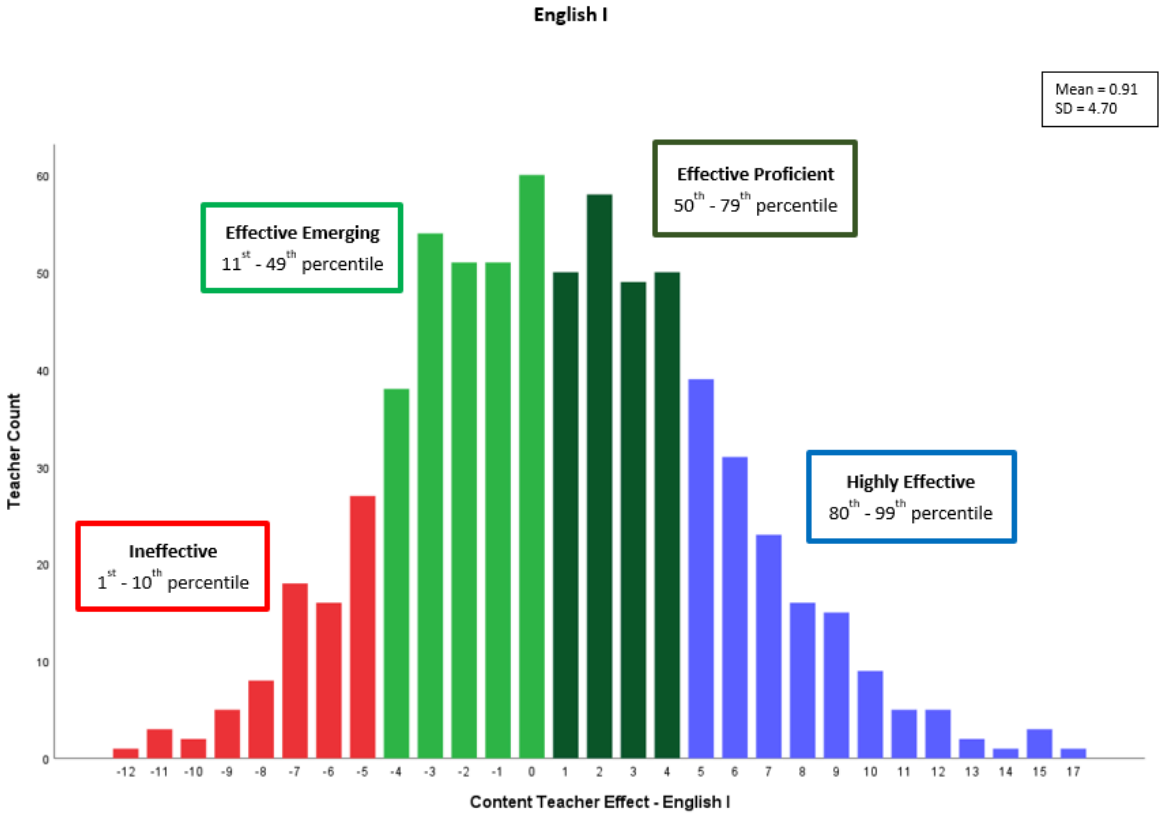

Table 10. Historical English I Value-Added Descriptive Statistics

School Year	Teacher Count	Teacher Effect – English I			
		Mean	Standard Deviation	Minimum	Maximum
2022-2023	691	0.91	4.70	-12	17
2021-2022	685	0.66	4.81	-18	18
2020-2021	N/A	N/A	N/A	N/A	N/A
2019-2020	N/A	N/A	N/A	N/A	N/A
2018-2019	659	0.61	5.15	-15	28

Figure 8. English II Value-Added Distribution for 2022-2023

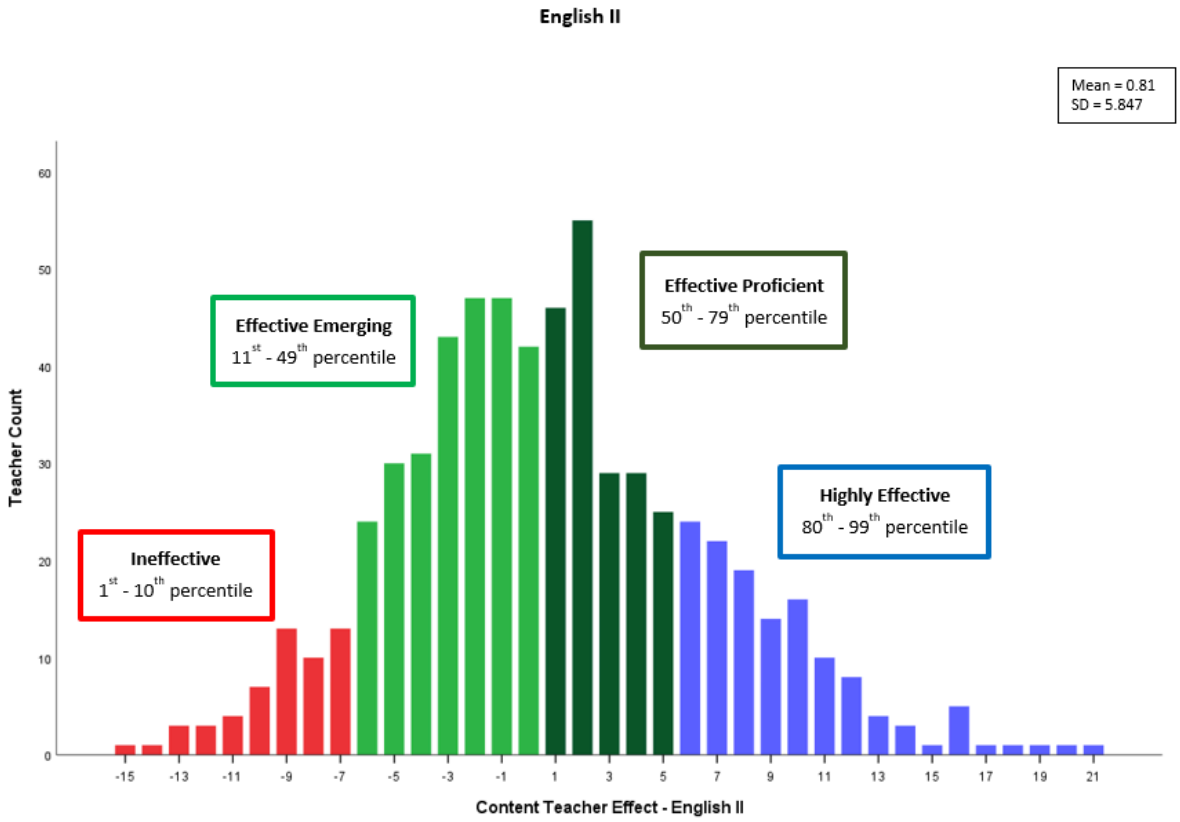

Table 11. Historical English II Value-Added Descriptive Statistics

School Year	Teacher Count	Teacher Effect – English II			
		Mean	Standard Deviation	Minimum	Maximum
2022-2023	634	0.81	5.85	-15	21
2021-2022	573	0.76	5.97	-20	17
2020-2021	N/A	N/A	N/A	N/A	N/A
2019-2020	N/A	N/A	N/A	N/A	N/A
2018-2019	597	0.30	5.52	-16	18

Appendix

Appendix A: Processes Supporting Development of the Value-Added Model

After the passage of Act 54 in 2010, BESE established the Advisory Committee on Educator Evaluations (ACEE) to fulfill the requirements set forth in law. Of its thirty-three members, nineteen were teachers, meeting the legal requirement for educators to comprise at least half of the panel. Other members included parents, legislators, school board members, BESE representatives, educator association representatives, and other school association representatives. The committee convened its first meeting in September 2010. ACEE members were charged to make recommendations to BESE regarding the value-added model, evaluations for non-tested grades and subjects, and setting standards of effectiveness for educators. Recommendations regarding these topics were presented to BESE in December 2011.

Second, the LDOE developed and implemented the Curriculum Verification and Reporting Portal (CVR), a secure online site where teachers can verify the accuracy of their student rosters and class schedules before the data are used in the value-added assessment. The CVR was developed to address two key concerns. The first was that a number of scholars had observed that data quality was a critical barrier to accurately estimating teacher contributions to student progress and the consistency of that contribution. The second was the need to create as much transparency as practical into the process of deriving value-added scores. With the launch of the CVR, teachers have the opportunity to know exactly which students are contributing to their results and correct data errors. The CVR also gives teachers, principals, and school system leaders access to the value-added results. Generally, the CVR portal is simple and follows common Internet conventions, with the expectation that most teachers would be able to use the portal without formal instruction. Live online training on the use of the CVR's features was provided at the request of educators. Technical support was provided for both data review and the statewide roster verification period. The portal had been tested with a small subset of pilot schools and districts for the 2008-2009 and 2009-2010 school data. Statewide pilot testing took place during the 2010-2011 and 2011-2012 school years, with full statewide implementation during 2012-2013.

The third process supporting the value-added component of the law was the field testing of the educator professional development, materials, and training. In 2010-2011, 19 volunteer school districts and two charter schools, for a total of 328 schools, participated in this process. During 2013-2014, value-added guidance was incorporated into Compass professional development, materials, and training. This included printed materials and PowerPoint presentations related to the verification process, Compass scoring process, and end-of-year guidance to reviewing and interpreting value-added results.

The fourth process supporting the deployment of the value-added model was the analytic work used to derive the results provided to the teachers. The analytic work was conducted by the LDOE staff, led by two Ph.D. level researchers with extensive experience with value-added models and their application to data in Louisiana, and in consultation with Dr. George Noell, a national expert on value-added models, at the time a psychology professor at Louisiana State University, currently with Old Dominion University.

Appendix B: Technical Process

1. Overview

In the context of this report, value-added analysis (VAA) describes the use of demographics, discipline, attendance, and prior achievement history to estimate typical outcomes for students in a specific content (e.g., mathematics), based on a longitudinal data set derived from all students who took state-mandated tests in grades 4 through 12 in Louisiana. The analysis uses a relatively complex model that includes the grouping of students within classrooms.

The current model, where feasible, was developed to address concerns raised by researchers and policymakers regarding variable selection/inclusion and data quality, as they emerged in the application of value-added models. This included the use of a model process that permitted the inclusion of all students with prior achievement data (described below). The high level of test participation in Louisiana results in a substantially more complete database than is commonly available. The predictor variables were expanded to include non-test variables, such as attendance, disability diagnosis, and discipline history. The predictor variables were expanded to include class composition variables to address peer influences on achievement, as requested by the Advisory Committee on Educator Evaluation (ACEE).

2. Database Merging Process

Data were drawn from the standardized test files (LEAP 2025 assessments for grades 3-8 and high school, and Innovative Assessment Program assessments for grades 5-8 at participating sites) in the current year (2022-2023) and the most recent three years prior (2021-2022, 2020-2021, 2018-2019); the data system for student and teacher course schedules that links students to teachers; and supplemental student databases. Data analyses for the prior three school years were also conducted to supplement the current year work and provide a point of comparison. The testing and supplemental databases provided data regarding attendance, enrollment, mobility, exceptionality diagnosis, English Language Learner, economically disadvantaged status, Section 504 status, and disciplinary infractions. Data regarding teachers were drawn from the state's teacher demographic database. A multistage process was used to create longitudinal records for students describing achievement, attendance, and demographic factors across years. The student and teacher databases were then linked. A list of data sources and elements is included in Appendix D.

Initially, duplicate records and multiple, partially complete records that described the same student within separate databases were resolved. Following this work, data files were merged in a series of steps and a further round of duplication resolution was undertaken. Students' data were linked across years based upon unique matches on the students' unique identification number developed pursuant to La. R.S. 17:3914 to maintain student privacy. Table 12 presents the number of records available in each content area.

Table 12. Student and Teacher Counts by Overall and Content Area Results for 2022-2023

	Overall	ELA	Math	Science	Social Studies	Algebra I	Geometry	English I	English II
Students	291,348	184,369	177,405	183,361	183,878	36,163	28,372	37,750	38,319
Teachers	12,979	4,174	3,825	3,194	3,315	829	479	691	634

Several important decision points are noteworthy. Initial records were limited to students who completed one assessment in grades 4-12 to permit the availability of one-year prior achievement data. In order to be included in the analyses, a student was required to be enrolled in the same school from October 1st or January start (for spring block courses) to the start of testing. A specific date of testing was not utilized due to varied start dates among districts with the use of computer-based testing.

Updates to the value-added model for the 2022-2023 school year were noted. Students in grades 6-8 in participating sites taking the Innovative Assessment Program's assessment for English Language Arts (ELA) were eligible for inclusion in the ELA analysis. Additional grades and sites participating in the Innovative Assessment Program are expected to be added in subsequent years. Additionally, a student exclusion was removed to allow for the inclusion of students with eligible assessment data at the request of educators in the field. Previously, students simultaneously taking both the Math grades 3-8 LEAP 2025 and Algebra I LEAP 2025 for High School assessments in the current year would only be eligible for the Algebra I analysis. A similar pattern was also present for ELA and English I. Starting in 2022-2023, students with this test-taking pattern would be eligible for both content analyses.

Value-added model results from English Language Arts (ELA), Mathematics, Science, Social Studies, Algebra I, Geometry, English I, and English II contents were included Compass teacher evaluations. Contents become unavailable in years without statewide administration of assessments in either the current or prior year of the analysis. The historical availability of contents included in the value-added analysis were presented in Table 13.

Table 13. Historical Content Availability in the Value-Added Model

Content	Inclusion in Value-Added Model							
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020*	2020-2021*	2021-2022	2022-2023
ELA	Yes	Yes	Yes	Yes	N/A	N/A	Yes	Yes
Math	Yes	Yes	Yes	Yes	N/A	N/A	Yes	Yes
Science	Yes	Yes	No	No	N/A	N/A	Yes	Yes
Social Studies	No	No	Yes	Yes	N/A	N/A	Yes	Yes
Algebra I	Yes	Yes	Yes	Yes	N/A	N/A	Yes	Yes
Geometry	Yes	Yes	Yes	Yes	N/A	N/A	Yes	Yes
English I	N/A	N/A	Yes	Yes	N/A	N/A	Yes	Yes
English II	No	No	No	Yes	N/A	N/A	Yes	Yes

**Due to COVID-19, there was no statewide spring administration of LEAP 2025 assessments. With no statewide Spring 2020 assessments, value-added could not be calculated for the 2019-2020 (lack of current year test) and 2020-2021 (lack of first prior year test) school years.*

Further inclusionary criteria included that the students' attendance and achievement records be matched to the course offerings data to identify which courses the students took and who taught those courses. Additionally, the attendance and course databases were used to confirm that the student was enrolled in the same site. Descriptions of all exclusionary criteria are included in Appendix E.

Course codes were collapsed into groups that were associated with specific test areas (ELA, Mathematics, Science, Social Studies, Algebra I, Geometry, English I, and English II). Courses that did not fit these specific test areas, such as band, were dropped from the database. Eligible course codes used in the value-added model are included in Appendix F.

Additional work was conducted to complete the datasets. Student achievement scores were re-standardized to the mean and standard deviation across grade, school year, and content. Student records were placed into promotional paths, which refer to how many consecutive years a student had been promoted and had predictor data (i.e., Path 3 means the student was promoted for three consecutive years; Path 2 means the student was promoted for two consecutive years, and so on). A graphical display of promotional paths is presented in Figure 9.

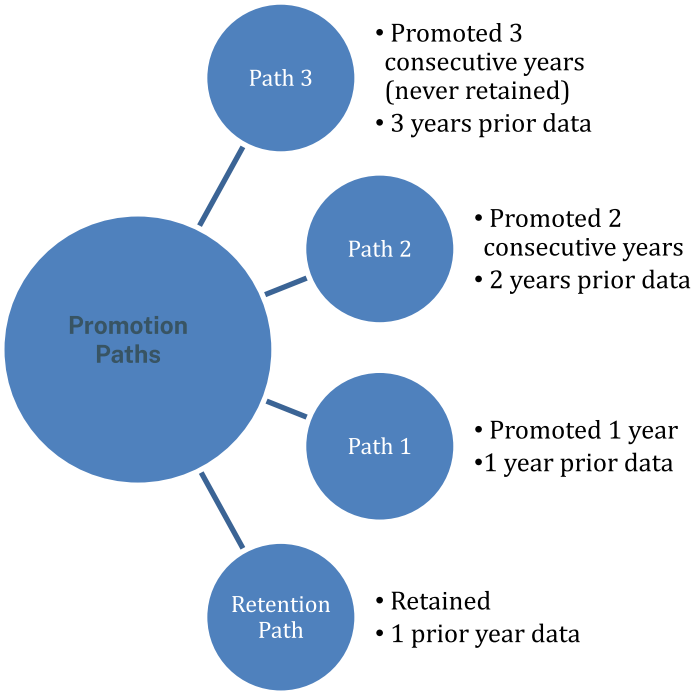

Figure 9. Diagram of promotional paths

Table 14 describes the number of students in each path for each content area. This process was adopted for three reasons. First, it allowed retention of all student records with at least two consecutive years of testing. Second, the approach takes students' promotion histories into account. Third, it addressed a phenomenon that emerged in the data in which teachers in specific grade levels appeared to be systematically more or less effective than teachers in neighboring grades and the phenomenon appeared to be attributable to the pattern of promotions and

retention being grade-specific. For example, the percentage of retention in 4th grade is the highest among the grade spans assessed both in school years where previous state promotion policies applied and in school years where it is no longer applied. Additionally, placement into paths was also required by the social context of test administration. For example, until recently, 8th grade had been a high-stakes examination year in which promotion to high school was dependent on test performance. There remains a consistent (across students and years) positive shift in performance in the 8th grade compared to all neighboring grades, whether high stakes are applied or not. Failure to attend to this phenomenon would result in teachers in the 7th and 9th grades being consistently found to be substantially less effective than teachers in the 8th grade, as a result of the social context of test administration.

Table 14. Student Record Counts in Each Promotional Path by Content Area for 2022-2023

	ELA	Math	Science	Social Studies	Algebra I	Geometry	English I	English II
Grade level	**Grades 4-8**	**Grades 4-8**	**Grades 4-8**	**Grades 4-8**	**Grades 6-12**	**Grades 7-12**	**Grades 6-12**	**Grades 7-12**
Retention Path	1,913	1,849	1,844	1,828	1,212	303	1,210	674
Path 1	49,232	47,894	47,426	46,887	2,043	3,638	2,187	5,057
Path 2	76,187	73,853	73,705	73,272	2,190	1,411	2,325	1,925
Path 3	64,743	57,960	63,457	64,452	31,501	23,515	32,901	31,554

Indicator variables were created to identify student characteristics. Indicator codes identified student characteristics using 0s and 1s. If a student has a 1 for an indicator variable, it means the student has any one of these characteristics. The final data structure contained a number of variables used to estimate typical student achievement outcomes and links students to teachers based on the course. Table 15 displays the student-level variables used in analyses that were included in the databases.

Table 15. Student Level Variables Examined

Variable
Emotional Disturbance
Speech and Language Impairment
Mild Intellectual Disability
Specific Learning Disability
Other Health Impairment
Autism
Special Education - Other

Gifted
Section 504
English Language Learner
Supplemental Nutrition Assistance Program (SNAP)
Temporary Assistance for Needy Families (TANF)
Medicaid
Free Lunch
Reduced-price Lunch
Economically Disadvantaged - Other
Mobility
Student Absences
Suspensions
Expulsions
Prior English Language Arts Test (1-3 years based on path)
Prior Mathematics Test (1-3 years based on path)
Prior Science Test (1-3 years based on path)
Prior Social Studies Test (1-3 years based on path)
Squares and Cubes of all prior predictors were also entered

3. Value-Added Analysis

Once the databases were constructed, the assessment of student-teacher achievement outcomes was calculated. Students who had multiple teachers in a content area were retained in the dataset for their promotional path for each teacher, but were weighted in proportion to the number of teachers they had in that subject. For example, if a student had two mathematics teachers, the student would have a 0.5 weight in contributing to each teacher's assessment result. Analysis for each content area was conducted separately. The analysis was conducted in three steps. The first two steps were implemented separately for each promotion path and the final step brought all of the data together to obtain student-teacher achievement outcomes.

Step 1. In this step, data within each path were analyzed using a linear regression model with classroom centering to obtain the regression coefficients for each predictor. Separate intercepts were derived for each path. Descriptions of the equations and coefficients are located in Appendix G and Appendix H.

The possibility of crossing grade by path to obtain unique grade by path coefficients was examined and did not appear to be viable, due to the small number of students with some of the low-incidence predictors in some of the low population paths. In some atypical paths (e.g., 7th grade students with only one year of predictor data), there might be only 0, 1, or 2 students with a specific disability, opening up the possibility to severely distorted and unstable coefficients.

Step 2. The next step in the analysis used the coefficients within each path to derive the difference between each student's typical achievement and the actual measured achievement. It is a measure of whether the student met, exceeded, or failed to meet what was expected.

This was accomplished arithmetically by multiplying the student's predictor scores by the coefficients derived in Step 1 and summing to achieve the typical student achievement score. A capitation method was employed to prevent ceiling effects, thus preventing these scores from being beyond the results of the assessment. The capitation method was used to lower any predicted scores that were beyond an obtainable score on the assessment. The expected score was then subtracted from the actual achievement score to obtain the deviation score, called a student residual. If actual achievement for a student was higher than typical achievement for a student with that history (e.g., actual: 725; expected: 700), then the residual would be positive (e.g., residual: 25). In contrast, if the actual score was less than the expected score, the residual would be negative.

Step 3. The final step in the assessment was to apply Bayesian shrinkage to the result. This step is commonly used in value-added analyses to reduce the impact of extreme variability across students in some teachers' classes, and to account for the fact that some teachers' results are based on a relatively small number of students. To complete this step, the residual data were fit as the outcome with the nesting structure, as illustrated in Figure 10.

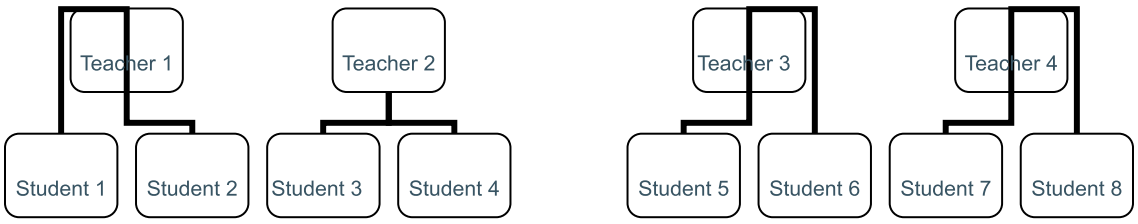

Figure 10. Two Level Model Nesting Structure of Students within Classrooms

Class composition variables were included in the Hierarchical Linear Modeling (HLM) analysis in order to account for peer-to-peer effects within classes. Specifically, class composition effects were modeled at Level 2 (teacher) by the class mean prior achievement in the content area (standard deviation units), mean suspensions, proportion of students with an economic disadvantage, and proportion of students diagnosed with a disability. Descriptions of student and classroom characteristics are located in Appendix I.

Classroom composition estimates and Bayesian shrinkage were averaged for students with multiple teachers in the same content area. Each teacher's shrunken Bayes intercept was extracted and became the student-teacher achievement outcome, teacher effect, for the content. The teacher effect shows, on average, how well students met expected scores for a given teacher. A positive teacher effect indicates that, on average, students in a teacher's classroom met or exceeded their expected scores. A negative teacher effect indicates that, on average, students in a teacher's classroom did not meet their expected scores. Teacher effects were percentile ranked to produce a content percentile result for each teacher.

Along with teacher value-added results by content, an overall composite percentile was calculated for the teacher. To calculate the composite percentile, the number of students a teacher instructs in each content area, along with the teacher's specific content area percentile, was compiled into one database with all teachers statewide, regardless of content. The percentile rankings for each content area were converted into a normal curve equivalent (NCE) score. A normal curve equivalent score is a score that ranges from 1 to 99 and is expressed on an equal-interval scale. This step must take place because percentiles are not on an equal-interval scale and therefore do not allow for arithmetic computations, such as averaging. A weighted average for the NCE provided the results for the teacher. Weighting was based on the proportion of all student results available for that teacher that each NCE represented. Once the weighted average was calculated, the NCE score was then converted back to a percentile ranking. If a teacher only teaches in one content area, that teacher's final composite percentile will not change. However, if a teacher has multiple content areas, the teacher's final composite percentile will reflect a weighted average of how he/she scored in all content areas. This composite percentile ranking will be the final value-added evaluation score that is used to determine the teacher's level of effectiveness.

Teachers' content and overall results were reported in the Compass Information System (CIS). Additionally, student-level reports were included for each teacher showing the students' expected and actual scaled scores, as well as demographic information.

4. Standards of Effectiveness

The ACEE committee was responsible for recommending standards of effectiveness for teacher evaluations. These recommendations were submitted and accepted by BESE in December 2011. The current standards of effectiveness were modified and accepted by BESE in 2012. For teachers where value-added results are available, the composite percentile will be converted to a 1.0-4.0 scale to use in the teacher's final evaluation. Table 16 outlines the ranges for each rating.

Table 16. Ranges for Standards of Effectiveness

Effectiveness Level	Effectiveness Rating	Composite Percentile
Ineffective	1	1-10
Effective: Emerging	2	11-49
Effective: Proficient	3	50-79
Highly Effective	4	80-99

Appendix C: 2022-2023 Value-Added Model Calendar

October 2022
SEE Quarter 1 Enrollment collection period
Innovative Assessment Program Fall assessment window
November 2022
Edlink October Enrollment snapshot
December 2022
Fall LEAP 2025 for high school assessment window
SEE Quarter 2 Enrollment collection period
January 2023
Edlink October CLASS snapshot
Innovative Assessment Program Winter assessment window
February 2023
Innovative Assessment Program Winter assessment window
Edlink February Enrollment snapshot
SER February MFP collection period
April 2023
LEAP 2025 assessment window
Spring LEAP 2025 for high school assessment window
Innovative Assessment Program Spring assessment window
CVR View Only Period 3/20/23 – 4/28/23
SEE Quarter 3 Enrollment collection period
May 2023
CVR Roster Verification 5/8/23 – 5/26/23
Spring LEAP 2025 for high school assessment window
Innovative Assessment Program Spring assessment window
SEE Quarter 4 Enrollment collection period
June 2023

Assessment online clean-up of data
Assessment quality review
July 2023
Edlink Discipline End of Year snapshot
August 2023
LEAP 2025/LEAP 2025 for high school data is available
VAM analysis
October 2023
Release of teacher VAM results in Compass
November 2023
Compass teacher evaluations close

Appendix D: 2022-2023 Source Systems and Elements Used in Value-Added Model

The ELA, Mathematics, Science, Social Studies, Algebra I, Geometry, English I, and English II content data elements presented in the following tables for each LDOE source data system are used in the value-added model based on their availability.

Edlink 360

Table	Year	Processing Period	Data Elements
FTBL_ENROLLMENTS_DERIVATION_LDOE	Current Year	1, 3	BegSchSessYr
			LASID
			SiteCd
			EntryDt
			ExitDt
			AggrDaysAbsCnt
			MfpCountFlg_Oct1
			MfpCountFlg_Feb1
FTBL_DISCIPLINE_DERIVATION_LDOE	Current Year	9	BegSchSessYr
			ProcPeriodCd
			LASID
			ActionInterventionCd
DTBL_COURSES	Current Year	n/a	COURSE_KEY
			COURSE_CODE
			COURSE_NAME
			COURSE_STATUS
			SYS_PARTITION_VALUE
			CUR_VAM_ELIGIBLE_FLAG
			CUR_COURSE_CATEGORY_CODE
			SYS_DUMMY_IND
			SYS_DELETE_IND

Table	Year	Processing Period	Data Elements
LRS_STUDENT_VAM	Current Year	9	BegSchSessYr
			ProcPeriodCd
			VersionNum
			SponsorCd
			SiteCd
			ClassCd
			CourseCd
			CourseName
			CourseCategoryCd
			CourseCategoryDesc
			TeacherSocSecNum
			TeacherLastName
			TeacherFirstName
			CVRCoreCourseFlag
			ClassBeginDate
			ClassEndDate
			COURSE_OFFERINGS_KEY
LRS_CLASS_VAM	Current Year	9	BegSchSessYr
			ProcPeriodCd
			VersionNum
			SponsorCd
			SiteCd
			ClassCd
			CourseCd
			StudentIdNum
			CorrectedIDNum
			STUDENT_ANNUAL_GRADE_CODE

Table	Year	Processing Period	Data Elements
			CVRCoreCourseFlg
			SYS_PARTITION_VALUE
			COURSE_OFFERINGS_KEY

Curriculum Verification Results and Reporting Portal (CVR) https://leads13.doe.louisiana.gov/cvr/

Table	Year	Processing Period	Data Elements
VerifiedDataDownload.txt Extract from CVR Portal pulled by Research team	Current year	4	BegSchSessYr
			ProcPeriodCd
			SponsorCd
			SiteCd
			TeacherSocSecNum
			CourseCd
			CourseName
			TeacherDidNotTeachThisClassFlag
			LASID
			StudentNotInClassFlag
			ClassBeginDate
			ClassEndDate
TeacherVerificationStatus.txt Extract from CVR Portal pulled by Research team	Current year	4	BegSchSessYr
			SchoolYear
			ProcPeriodCd
			NetworkNumber
			SponsorCd
			SponsorName
			SiteCd
			SiteName

Table	Year	Processing Period	Data Elements
			TeacherSocSecNum
			TeacherName
			Verified
			VerificationCompleteDate

LDOE Assessment for Accountability Analysis-Pre-Data Certification

Table	Year	Processing Period	Data Elements
File extract provided by Accountability	Current year	n/a	TestSiteCode
			LASID
			TestType
			TestMonth
			TestDateYear
			OriginalDocumentGrade
			DocumentGrade
			SISGrade
			ELFlag
			EconomicallyDisadvantaged
			Section504Flag
			MigrantFlag
			SummarizedMcKinneyVentoActHomeless
			MilitaryAffiliated
			FosterCare
			Gender
			EthnicityRace
			TestTakenFlag_ELA
			TestTakenFlag_MTH
			TestTakenFlag_SCI

Table	Year	Processing Period	Data Elements
			TestTakenFlag_SST
			VoidFlag_ELA
			VoidFlag_MTH
			VoidFlag_SCI
			VoidFlag_SST
			AccountabilityCode_ELA
			AccountabilityCode_MTH
			AccountabilityCode_SCI
			AccountabilityCode_SST
			ELASS
			ELALVL
			MTHSS
			MTHLVL
			SCISS
			SCILVL
			SSTSS
			SSTLVL
			Subject_ALG
			Subject_GEO
			Subject_EN1
			Subject_EN2
			TestTakenFlagALG
			TestTakenFlagGEO
			TestTakenFlagEN1
			TestTakenFlagEN2
			VoidFlagALG
			VoidFlagGEO

Table	Year	Processing Period	Data Elements
			VoidFlagEN1
			VoidFlagEN2
			ALGAdministrativeError
			GEOAdministrativeError
			EN1AdministrativeError
			EN2AdministrativeError
			AccountabilityCode_ALG
			AccountabilityCode_GEO
			AccountabilityCode_EN1
			AccountabilityCode_EN2
			PreviouslyBankedALG
			PreviouslyBankedEN2
			EOCALGBankFlag
			EOCGEOBankFlag
			EOCEN1BankFlag
			EOCEN2BankFlag
			ALGSS
			ALGLVL
			GEOSS
			GEOLVL
			EN1SS
			EN1LVL
			EN2SS
			EN2LVL

LDOE Assessment for Accountability Analysis-Post Appeal

Table	Year	Processing Period	Data Elements
File extract provided by Accountability	1st prior year; 2nd prior year; 2nd prior year	n/a	LASID
			TestType
			TestMonth
			TestDateYear
			OriginalDocumentGrade
			DocumentGrade
			SISGrade
			TestTakenFlag_ELA
			TestTakenFlag_MTH
			TestTakenFlag_SCI
			TestTakenFlag_SST
			VoidFlag_ELA
			VoidFlag_MTH
			VoidFlag_SCI
			VoidFlag_SST
			AccountabilityCode_ELA
			AccountabilityCode_MTH
			AccountabilityCode_SCI
			AccountabilityCode_SST
			ELASS
			ELALVL
			MTHSS
			MTHLVL
			SCISS
			SCILVL
			SSTSS

Table	Year	Processing Period	Data Elements
			SSTLVL
			TestTakenFlagALG
			TestTakenFlagGEO
			TestTakenFlagEN1
			TestTakenFlagEN2
			VoidFlagALG
			VoidFlagGEO
			VoidFlagEN1
			VoidFlagEN2
			AccountabilityCode_ALG
			AccountabilityCode_GEO
			AccountabilityCode_EN1
			AccountabilityCode_EN2
			PreviouslyBankedALG
			PreviouslyBankedEN2
			EOCALGBankFlag
			EOCGEOBankFlag
			EOCEN1BankFlag
			EOCEN2BankFlag
			ALGSS
			ALGLVL
			GEOSS
			GEOLVL
			EN1SS
			EN1LVL
			EN2SS
			EN2LVL

Scholarships for Educational Excellence (SEE)

Table	Year	Processing Period	Data Elements
dbo_Enrollment File extract provided by Data Strategy and Governance	Current year	Q1, Q2, Q3, Q4	BegSchSessYr
			LASID
			SiteCd
			FirstQuarterFlg
			SecondQuarterFlg
			ThirdQuarterFlg
			FourthQuarterFlg

Special Education Reporting (SER)

Table	Year	Processing Period	Data Elements
SER MFP Summary External Contractor derived report from MFP count provided by Data Strategy and Governance	Current year	February	LASID
			CountedExcept1
			CountedExcept2
			CountedExcept3
			CountedExcept4
			CountedExcept5

Economically Disadvantaged Status

Table	Year	Processing Period	Data Elements
FTBL_ENROLLMENTS_DERIVATION_LDOE	Current year	1, 3	SCHOOL_KEY
			STUDENT_KEY
			STUDENT_ANNUAL_ATTRIBS_KEY
			SYS_PARTITION_VALUE
			BegSchSessYr
			ProcPeriodCd
			SponsorCd
			SiteCd
			StudentIdNum
			FreeReducedLunchCd
			EnglishProficiencyCd
			HomelessCd
			EconomicallyDisFlg
DTBL_STUDENT_ANNUAL_ATTRIBS	Current year	N/A	SCHOOL_YEAR
			STUDENT_KEY
			STUDENT_ANNUAL_ATTRIBS_KEY
			SYS_PARTITION_VALUE
			STUDENT_MIGRANT_ED_INDICATOR
			STUDENT_FOSTER_INDICATOR
DTBL_PROGRAMS FTBL_PROGRAM_MEMBERSHIP	Current year	N/A	STUDENT_KEY
			PROGRAM_KEY
			PROGRAM_GROUP
			PROGRAM_NAME
			MEMBERSHIP_STATUS
DTBL_SCHOOL_TYPES	Current year	N/A	SCHOOL_YEAR

Table	Year	Processing Period	Data Elements
FTBL_ENROLLMENTS_DERIVATION_LDOE	Current year	1, 3	SCHOOL_KEY
			STUDENT_KEY
			STUDENT_ANNUAL_ATTRIBS_KEY
			SYS_PARTITION_VALUE
			BegSchSessYr
			ProcPeriodCd
			SponsorCd
			SiteCd
			StudentIdNum
			FreeReducedLunchCd
			EnglishProficiencyCd
			HomelessCd
			EconomicallyDisFlg
			SCHOOL_KEY
			SYS_PARTITION_VALUE
			SCHOOL_TYPE

Appendix E: 2022-2023 Value-Added Exclusion Reasons

In order to ensure validity and reliability of the model, as recommended by experts, records must meet certain criteria for inclusion in the value-added model. The following is a list of exclusion reasons and descriptions.

1. Teacher did not teach class: The principal or CVR data manager selected the "Teacher did not teach class" button during roster verification, which removes the teacher-student link required for analysis. This designation is selected for the following reasons: the teacher moved between October 1 and testing (full-year courses), October 1 – December EOC testing (fall semester courses), January start – May EOC testing (spring semester courses), had more than 60 approved absences at the time of verification, or never taught the class.
2. Student not in class: The teacher, principal, or CVR data manager selected the "Student not in class" button during roster verification, which removes the student from the class. This designation is selected for the following reasons: the student moved from the class, was absent for 20 or more consecutive days between October 1 and testing (full year courses), October 1 – December EOC testing (fall semester courses), January start – May EOC testing (spring semester courses), or was never in the teacher's class. Students may also be removed if they had 10 or more unexcused (does not have to be consecutive) absences within any school semester in that year (Act 515).
3. Current and prior tests taken simultaneously: Students taking Algebra I and Geometry tests simultaneously are excluded from the Geometry analysis because they are taking the current and prior tests in the same testing cycle. The student is eligible for the Algebra I analysis. Students taking English I and English II tests simultaneously are excluded from the English II analysis because they are taking the current and prior tests in the same testing cycle. The student is eligible for the English I analysis.
4. Did not take current year test in content: Student test records are coded with Test Taken Flag = N in the appropriate content in the current school year.
5. Content test score voided in current year: Student test records are coded with any void flag in the appropriate content in current school year. This also includes student test records that are coded as "illness: student intends to return to school" (Accountability Code = 03) or "the student is absent for entire test period or does not take all of the subtests due to short-term illness" (Accountability Code = 80) in the appropriate content in current school year.
6. Student listed in multiple grades in current year test file: Students having more than one grade level listed in the test file, each with its own test record in the current school year.
7. Did not take prior year test in content: Student test records are coded with Test Taken Flag = No in the appropriate content in the prior school year.
8. Content test score voided in prior year: Student test records are coded with any void flag in the appropriate content in prior school year. This also includes student test records that are coded as "illness: student intends to return to school" (Accountability Code = 03) or "the

student is absent for entire test period or does not take all of the subtests due to short-term illness" (Accountability Code = 80) in the appropriate content in prior school year.

9. Student listed in multiple grades in prior year test file: Students having more than one grade level listed in the test file, each with its own test record in the prior year school year.
10. Unable to match current year test record: Student's unique ID on their enrollment record does not match to the same unique ID on a current year test record.
11. Ineligible grade in content: Students in certain grade levels or students without a grade level populated on their test record are ineligible for analysis. For example, a grade 3 student may have eligible test scores in the current year, but there is no statewide grade 2 test administered.
12. Unable to match prior year test record: Student's unique ID on their enrollment record does not match to the same unique ID on a prior year test record.
13. Duplicate student-teacher link in content: Students assigned to the same teacher more than once in the same content. For example, a student may be enrolled in separate ELA and Reading courses with the same teacher. Only one student-teacher link is included in the ELA analysis.
14. Ineligible enrollment: Students not present at the same site code on October 1, February 1, and testing.
15. Ineligible grade progression: Students with non-sequential grade progression. Grade progression must also include the availability of valid tests in all content areas in the prior year. For example, a student with an 8th grade test in the current year and 6th grade tests in the first prior year is excluded.
16. Insufficient number of cases for calculation: Students are ineligible when there are an insufficient number of cases for a Path to complete value-added calculations. For example, students are excluded if there are fewer than 1,000 records for Path R (repeating a grade). Students are also excluded if they are the only student in their grade/path in the content.
17. Teacher with fewer than 10 eligible students: Teachers with fewer than 10 eligible student records have all student records ineligible for analysis. For example, a teacher has 12 Math students verified in the CVR. Two students were excluded due to ineligible enrollment and two students were excluded due to not taking the prior year test. The eight remaining student records are excluded because the teacher is left with fewer than 10 eligible student records.

Appendix F: 2022-2023 Course Codes Eligible for the Value-Added Model

Course Code	Course Name	Content	Grade
120300	LANGUAGE ARTS; ELEMENTARY GRADES	ELA	4-8
120306	ENGLISH; 6TH GRADE DEPT.	ELA	4-8
120310	READING; ELEMENTARY GRADES	ELA	4-8
120311	READING; 6TH, 7TH, AND 8TH GRADES DEPT.	ELA	4-8
120315	ENGLISH AS A SECOND LANGUAGE; ELEMENTARY	ELA	4-8
120331	ENGLISH I	English I	All grades
120332	ENGLISH II	English II	All grades
120378	ENGLISH; 7TH AND 8TH GRADES DEPT.	ELA	4-8
120411	NOCCA INTEGRATED ENGLISH I	English I	All grades
120412	NOCCA INTEGRATED ENGLISH II	English II	All grades
120519	LASMSA COMPOSITION AND LITERATURE (EN 210)	English II	All grades
120521	LASMSA INTRODUCTION TO WRITING AND LITERATURE (EN 110)	English I	All grades
120617	English Language (Part 1): Cambridge IGCSE	English I	All grades
120618	English Language (Part 2): Cambridge IGCSE	English II	All grades
120619	English Literature (Part 1): Cambridge IGCSE	English I	All grades
120620	English Literature (Part 2): Cambridge IGCSE	English II	All grades
120996	PK-5 French Immersion Social Studies	Social Studies	4-8
120997	PK-5 French Immersion Math	Math	4-8
120998	PK-5 French Immersion Science	Science	4-8
121020	6th grade French Immersion Social Studies	Social Studies	4-8
121021	7th grade French Immersion Social Studies	Social Studies	4-8
121022	8th grade French Immersion Social Studies	Social Studies	4-8
121023	6th grade French Immersion Math	Math	4-8
121024	7th grade French Immersion Math	Math	4-8
121025	8th grade French Immersion Math	Math	4-8
121026	6th grade French Immersion Science	Science	4-8
121027	7th grade French Immersion Science	Science	4-8
121028	8th grade French Immersion Science	Science	4-8
122493	PK-5 Spanish Immersion Math	Math	4-8
122494	PK-5 Spanish Immersion Science	Science	4-8
122495	PK-5 Spanish Immersion Social Studies	Social Studies	4-8
122520	6th grade Spanish Immersion Social Studies	Social Studies	4-8
122521	7th grade Spanish Immersion Social Studies	Social Studies	4-8

Course Code	Course Name	Content	Grade
122522	8th grade Spanish Immersion Social Studies	Social Studies	4-8
122523	6th grade Spanish Immersion Math	Math	4-8
122524	7th grade Spanish Immersion Math	Math	4-8
122525	8th grade Spanish Immersion Math	Math	4-8
122526	6th grade Spanish Immersion Science	Science	4-8
122527	7th grade Spanish Immersion Science	Science	4-8
122528	8th grade Spanish Immersion Science	Science	4-8
123112	6th grade Mandarin Immersion Social Studies	Social Studies	4-8
123113	7th grade Mandarin Immersion Social Studies	Social Studies	4-8
123114	8th grade Mandarin Immersion Social Studies	Social Studies	4-8
123115	6th grade Mandarin Immersion Math	Math	4-8
123116	7th grade Mandarin Immersion Math	Math	4-8
123117	8th grade Mandarin Immersion Math	Math	4-8
123118	6th grade Mandarin Immersion Science	Science	4-8
123119	7th grade Mandarin Immersion Science	Science	4-8
123120	8th grade Mandarin Immersion Science	Science	4-8
123125	PK-5 Mandarin Immersion Science	Science	4-8
123126	PK-5 Mandarin Immersion Social Studies	Social Studies	4-8
123127	PK-5 Mandarin Immersion Math	Math	4-8
150800	SCIENCE; ELEMENTARY GRADES	Science	4-8
150806	SCIENCE; 6TH GRADE DEPT.	Science	4-8
150807	LIFE SCIENCE; 7TH GRADE DEPT.	Science	4-8
150808	LIFE SCIENCE; 8TH GRADE DEPT.	Science	4-8
150878	SCIENCE; 7TH AND 8TH GRADES DEPT.	Science	4-8
150879	INTEGRATED SCIENCE (GRADES 6-8)	Science	4-8
150907	EARTH SCIENCE; 7TH GRADE DEPT.	Science	4-8
150908	EARTH SCIENCE; 8TH GRADE DEPT.	Science	4-8
160300	MATHEMATICS; ELEMENTARY GRADES	Math	4-8
160306	MATHEMATICS; 6TH GRADE DEPT.	Math	4-8
160321	ALGEBRA I	Algebra I	All grades
160323	GEOMETRY	Geometry	All grades
160331	APPLIED ALGEBRA I	Algebra I	All grades
160332	APPLIED GEOMETRY	Geometry	All grades
160338	ALGEBRA I - PART II	Algebra I	All grades
160340	INTEGRATED MATHEMATICS II	Algebra I	All grades
160341	INTEGRATED MATHEMATICS III	Geometry	All grades
160342	APPLIED MATHEMATICS I	Math	4-8
160361	NOCCA INTEGRATED MATHEMATICS I	Algebra I	All grades
160362	NOCCA INTEGRATED MATHEMATICS II	Geometry	All grades

Course Code	Course Name	Content	Grade
160377	GRADE 7 MATH-ADVANCED COURSE	Math	4-8
160378	MATHEMATICS; 7TH AND 8TH GRADES DEPT.	Math	4-8
160380	ALGEBRA I; 6TH, 7TH, 8TH DEPT.	Algebra I	All grades
220000	SOCIAL STUDIES; ELEMENTARY GRADES	Social Studies	4-8
220006	SOCIAL STUDIES; 6TH GRADE DEPT.	Social Studies	4-8
220078	SOCIAL STUDIES 7TH AND 8TH GRADES DEPT.	Social Studies	4-8
700011	FLOATING TEACHER (ELEM.)	ELA, Math, Science, Social Studies	4-8
900000	TITLE I (MATHEMATICS PULL-OUT CLASS)	Math	4-8
900010	TITLE I (READING/LANGUAGE ARTS PULL-OUT CLASS)	ELA	4-8
900016	HOSPITAL/HOMEBOUND REG ED	ELA, Math, Science, Social Studies	4-8
700011	FLOATING TEACHER (ELEM.)	ELA, Math, Science, Social Studies	4-8

Appendix G: 2022-2023 Value-Added Model Equations

Retention Path R:

Typical Score = Intercept +
(Emotional Disturbance * Emotional Disturbance coefficient) +
(Specific Learning Disability * Specific Learning Disability coefficient) +
(Mild Intellectual Disability * Mild Intellectual Disability coefficient) +
(Other Health Impairment * Other Health Impairment coefficient) +
(Speech or Language Impairment * Speech or Language Impairment coefficient) +
(Autism * Autism coefficient) +
(Disability Other * Disability Other coefficient) +
(SNAP * SNAP coefficient) +
(TANF * TANF coefficient) +
(Medicaid * Medicaid coefficient) +
(Free Lunch * Free Lunch coefficient) +
(Reduced-price Lunch * Reduced-price Lunch coefficient) +
(Economically Disadvantaged – Other * Economically Disadvantaged – Other coefficient) +
(English Language Learner * English Language Learner coefficient) +
(Gifted * Gifted coefficient) +
(Section 504 Status * Section 504 Status coefficient) +
(Student Absences * Student Absences coefficient) +
(Suspension Count * Suspension Count coefficient) +
(Expulsion Count * Expulsion Count coefficient) +
(Mobility * Mobility coefficient) +
(1st prior ELA * 1st prior ELA coefficient) +
(1st prior MTH * 1st prior MTH coefficient) +
(1st prior SCI * 1st prior SCI coefficient) +
(1st prior SST * 1st prior SST coefficient) +
(1st prior ELA square * 1st prior ELA square coefficient) +
(1st prior MTH square * 1st prior MTH square coefficient) +
(1st prior SCI square * 1st prior SCI square coefficient) +
(1st prior SST square * 1st prior SST square coefficient) +
(1st prior ELA cube * 1st prior ELA cube coefficient) +
(1st prior MTH cube * 1st prior MTH cube coefficient) +
(1st prior SCI cube * 1st prior SCI cube coefficient) +
(1st prior SST cube * 1st prior SST cube coefficient).

Promotional Path 1:

Typical Score = Intercept +
(Emotional Disturbance * Emotional Disturbance coefficient) +
(Specific Learning Disability * Specific Learning Disability coefficient) +
(Mild Intellectual Disability * Mild Intellectual Disability coefficient) +
(Other Health Impairment * Other Health Impairment coefficient) +
(Speech or Language Impairment * Speech or Language Impairment coefficient) +
(Autism * Autism coefficient) +
(Disability Other * Disability Other coefficient) +
(SNAP * SNAP coefficient) +
(TANF * TANF coefficient) +
(Medicaid * Medicaid coefficient) +
(Free Lunch * Free Lunch coefficient) +
(Reduced-price Lunch * Reduced-price Lunch coefficient) +
(Economically Disadvantaged – Other * Economically Disadvantaged – Other coefficient) +
(English Language Learner * English Language Learner coefficient) +
(Gifted * Gifted coefficient) +
(Section 504 Status * Section 504 Status coefficient) +
(Student Absences * Student Absences coefficient) +
(Suspension Count * Suspension Count coefficient) +
(Expulsion Count * Expulsion Count coefficient) +
(Mobility * Mobility coefficient) +
(1st prior ELA * 1st prior ELA coefficient) +
(1st prior MTH * 1st prior MTH coefficient) +
(1st prior SCI * 1st prior SCI coefficient) +
(1st prior SST * 1st prior SST coefficient) +
(1st prior ELA square * 1st prior ELA square coefficient) +
(1st prior MTH square * 1st prior MTH square coefficient) +
(1st prior SCI square * 1st prior SCI square coefficient) +
(1st prior SST square * 1st prior SST square coefficient) +
(1st prior ELA cube * 1st prior ELA cube coefficient) +
(1st prior MTH cube * 1st prior MTH cube coefficient) +
(1st prior SCI cube * 1st prior SCI cube coefficient) +
(1st prior SST cube * 1st prior SST cube coefficient).

Promotional Path 2:

Typical Score = Intercept +
(Emotional Disturbance * Emotional Disturbance coefficient) +
(Specific Learning Disability * Specific Learning Disability coefficient) +
(Mild Intellectual Disability * Mild Intellectual Disability coefficient) +
(Other Health Impairment * Other Health Impairment coefficient) +
(Speech or Language Impairment * Speech or Language Impairment coefficient) +
(Autism * Autism coefficient) +
(Disability Other * Disability Other coefficient) +
(SNAP * SNAP coefficient) +
(TANF * TANF coefficient) +
(Medicaid * Medicaid coefficient) +
(Free Lunch * Free Lunch coefficient) +
(Reduced-price Lunch * Reduced-price Lunch coefficient) +
(Economically Disadvantaged – Other * Economically Disadvantaged – Other coefficient) +
(English Language Learner * English Language Learner coefficient) +
(Gifted * Gifted coefficient) +
(Section 504 Status * Section 504 Status coefficient) +
(Student Absences * Student Absences coefficient) +
(Suspension Count * Suspension Count coefficient) +
(Expulsion Count * Expulsion Count coefficient) +
(Mobility * Mobility coefficient) +
(1st prior ELA * 1st prior ELA coefficient) +
(1st prior MTH * 1st prior MTH coefficient) +
(1st prior SCI * 1st prior SCI coefficient) +
(1st prior SST * 1st prior SST coefficient) +
(2nd prior ELA * 2nd prior ELA coefficient) +
(2nd prior MTH * 2nd prior MTH coefficient) +
(2nd prior SCI * 2nd prior SCI coefficient) +
(2nd prior SST * 2nd prior SST coefficient) +
(1st prior ELA square * 1st prior ELA square coefficient) +
(1st prior MTH square * 1st prior MTH square coefficient) +
(1st prior SCI square * 1st prior SCI square coefficient) +
(1st prior SST square * 1st prior SST square coefficient) +
(1st prior ELA cube * 1st prior ELA cube coefficient) +
(1st prior MTH cube * 1st prior MTH cube coefficient) +
(1st prior SCI cube * 1st prior SCI cube coefficient) +
(1st prior SST cube * 1st prior SST cube coefficient) +
(2nd prior ELA square * 2nd prior ELA square coefficient) +
(2nd prior MTH square * 2nd prior MTH square coefficient) +
(2nd prior SCI square * 2nd prior SCI square coefficient) +
(2nd prior SST square * 2nd prior SST square coefficient) +
(2nd prior ELA cube * 2nd prior ELA cube coefficient) +
(2nd prior MTH cube * 2nd prior MTH cube coefficient) +
(2nd prior SCI cube * 2nd prior SCI cube coefficient) +
(2nd prior SST cube * 2nd prior SST cube coefficient).

Promotional Path 3:

Typical Score = Intercept +
(Emotional Disturbance * Emotional Disturbance coefficient) +
(Specific Learning Disability * Specific Learning Disability coefficient) +
(Mild Intellectual Disability * Mild Intellectual Disability coefficient) +
(Other Health Impairment * Other Health Impairment coefficient) +
(Speech or Language Impairment * Speech or Language Impairment coefficient) +
(Autism * Autism coefficient) +
(Disability Other * Disability Other coefficient) +
(SNAP * SNAP coefficient) +
(TANF * TANF coefficient) +
(Medicaid * Medicaid coefficient) +
(Free Lunch * Free Lunch coefficient) +
(Reduced-price Lunch * Reduced-price Lunch coefficient) +
(Economically Disadvantaged – Other * Economically Disadvantaged – Other coefficient) +
(English Language Learner * English Language Learner coefficient) +
(Gifted * Gifted coefficient) +
(Section 504 Status * Section 504 Status coefficient) +
(Student Absences * Student Absences coefficient) +
(Suspension Count * Suspension Count coefficient) +
(Expulsion Count * Expulsion Count coefficient) +
(Mobility * Mobility coefficient) +
(1st prior ELA * 1st prior ELA coefficient) +
(1st prior MTH * 1st prior MTH coefficient) +
(1st prior SCI * 1st prior SCI coefficient) +
(1st prior SST * 1st prior SST coefficient) +
(2nd prior ELA * 2nd prior ELA coefficient) +
(2nd prior MTH * 2nd prior MTH coefficient) +
(2nd prior SCI * 2nd prior SCI coefficient) +
(2nd prior SST * 2nd prior SST coefficient) +
(4th prior ELA * 4th prior ELA coefficient) +
(4th prior MTH * 4th prior MTH coefficient) +
(4th prior SCI * 4th prior SCI coefficient) +
(4th prior SST * 4th prior SST coefficient) +
(1st prior ELA square * 1st prior ELA square coefficient) +
(1st prior MTH square * 1st prior MTH square coefficient) +
(1st prior SCI square * 1st prior SCI square coefficient) +
(1st prior SST square * 1st prior SST square coefficient) +
(1st prior ELA cube * 1st prior ELA cube coefficient) +
(1st prior MTH cube * 1st prior MTH cube coefficient) +
(1st prior SCI cube * 1st prior SCI cube coefficient) +
(1st prior SST cube * 1st prior SST cube coefficient) +
(2nd prior ELA square * 2nd prior ELA square coefficient) +
(2nd prior MTH square * 2nd prior MTH square coefficient) +
(2nd prior SCI square * 2nd prior SCI square coefficient) +
(2nd prior SST square * 2nd prior SST square coefficient) +

(2nd prior ELA cube * 2nd prior ELA cube coefficient) +
(2nd prior MTH cube * 2nd prior MTH cube coefficient) +
(2nd prior SCI cube * 2nd prior SCI cube coefficient) +
(2nd prior SST cube * 2nd prior SST cube coefficient) +
(4th prior ELA square * 4th prior ELA square coefficient) +
(4th prior MTH square * 4th prior MTH square coefficient) +
(4th prior SCI square * 4th prior SCI square coefficient) +
(4th prior SST square * 4th prior SST square coefficient) +
(4th prior ELA cube * 4th prior ELA cube coefficient) +
(4th prior MTH cube * 4th prior MTH cube coefficient) +
(4th prior SCI cube * 4th prior SCI cube coefficient) +
(4th prior SST cube * 4th prior SST cube coefficient).

Key

Abbreviation	Variable
ELA	Prior English Language Arts Test Restandardized Scaled Score
MTH	Prior Mathematics Test Restandardized Scaled Score
SCI	Prior Science Test Restandardized Scaled Score
SST	Prior Social Studies Test Restandardized Scaled Score
(content area) square or (content area) cube	Squares and Cubes of all prior predictors

Appendix H: 2022-2023 Value-Added Model Coefficients

2022-2023 ELA All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
Intercept	-20.25	-2.19	-0.66	0.89
Emotional Disturbance	-7.83	-7.67	-5.22	-3.63
Specific Learning Disability	-9.93	-8.90	-6.49	-6.09
Mild Intellectual Disability	-11.93	-12.65	-12.07	-10.14
Other Health Impairment	-7.78	-7.35	-6.66	-6.34
Speech or Language Impairment	-0.34	-2.09	-2.31	-1.38
Autism	-3.65	-9.06	-6.41	-6.01
Special Education - Other	-6.67	-3.68	-4.51	-3.02
SNAP	-2.18	-0.96	-0.33	0.33
TANF	7.61	-0.21	0.06	-0.34
Medicaid	3.29	-0.59	0.13	-0.42
Free lunch	-2.88	-0.06	0.11	-0.01
Reduced-price lunch	-0.64	0.17	-0.05	-0.05
Economically Disadvantaged - Other	-1.12	-1.52	-1.18	0.74
English Language Learner	-16.37	-8.48	-3.84	-2.11
Gifted	NA	5.15	2.15	0.73
Section 504	-6.11	-5.20	-3.62	-3.83
Student Absences	-0.04	-0.08	-0.10	-0.11
Suspensions	-0.24	-0.29	-0.14	-0.23
Expulsions	-0.12	-0.05	-0.08	-0.08
Mobility	1.85	-0.31	-0.23	0.02
1st prior ELA	19.19	14.70	12.32	15.25
1st prior MTH	4.33	5.55	2.19	3.00
1st prior SCI	5.25	5.87	3.22	2.06
1st prior SST	5.78	5.92	4.21	4.82
2nd prior ELA	NA	NA	5.97	6.77
2nd prior MTH	NA	NA	-0.66	-0.85
2nd prior SCI	NA	NA	0.89	-0.06
2nd prior SST	NA	NA	1.60	0.49
4th prior ELA	NA	NA	NA	NA
4th prior MTH	NA	NA	NA	NA
4th prior SCI	NA	NA	NA	NA
4th prior SST	NA	NA	NA	NA
1st prior ELA square	-2.41	0.14	0.37	0.62
1st prior MTH square	-0.11	-0.21	-0.02	0.09
1st prior SCI square	0.02	0.36	-0.14	-0.24
1st prior SST square	1.18	1.15	0.67	0.61
1st prior ELA cube	-2.06	-0.59	-0.40	-0.42

2022-2023 ELA All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
1st prior MTH cube	-0.11	-0.02	0.14	-0.03
1st prior SCI cube	-0.27	-0.27	-0.19	0.04
1st prior SST cube	-0.10	-0.05	-0.10	-0.16
2nd prior ELA square	NA	NA	0.11	0.43
2nd prior MTH square	NA	NA	-0.28	-0.39
2nd prior SCI square	NA	NA	-0.12	-0.47
2nd prior SST square	NA	NA	-0.03	-0.10
2nd prior ELA cube	NA	NA	-0.16	-0.16
2nd prior MTH cube	NA	NA	0.21	0.21
2nd prior SCI cube	NA	NA	0.03	0.14
2nd prior SST cube	NA	NA	-0.03	0.09
4th prior ELA square	NA	NA	NA	NA
4th prior MTH square	NA	NA	NA	NA
4th prior SCI square	NA	NA	NA	NA
4th prior SST square	NA	NA	NA	NA
4th prior ELA cube	NA	NA	NA	NA
4th prior MTH cube	NA	NA	NA	NA
4th prior SCI cube	NA	NA	NA	NA
4th prior SST cube	NA	NA	NA	NA

2022-2023 Math All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
Intercept	-17.99	-1.70	-0.30	0.56
Emotional Disturbance	-16.82	-0.05	0.79	0.09
Specific Learning Disability	-5.05	-2.41	-2.63	-1.43
Mild Intellectual Disability	-4.77	-6.22	-3.52	-2.81
Other Health Impairment	0.75	-1.92	-1.91	-1.60
Speech or Language Impairment	-3.58	0.86	-0.65	-0.16
Autism	12.35	-0.50	-1.12	2.20
Special Education - Other	-12.43	-0.42	-1.97	-1.71
SNAP	-0.65	-0.40	-0.12	-0.15
TANF	6.16	-1.03	-0.34	0.77
Medicaid	1.17	-0.99	-0.24	-0.58
Free lunch	-0.79	-0.44	-0.18	-0.09
Reduced-price lunch	-0.65	-0.84	-0.28	-0.61
Economically Disadvantaged - Other	-2.24	-0.22	-0.27	0.29
English Language Learner	-4.14	-1.49	-0.22	1.67
Gifted	NA	4.48	3.38	0.64
Section 504	-2.32	-2.38	-2.05	-1.00
Student Absences	-0.13	-0.15	-0.16	-0.11

2022-2023 Math All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
Suspensions	-0.13	-0.25	-0.14	-0.15
Expulsions	-0.02	-0.05	-0.08	-0.06
Mobility	2.32	-1.20	-1.07	-0.30
1st prior ELA	0.68	1.45	2.35	1.52
1st prior MTH	22.49	23.86	15.41	14.90
1st prior SCI	8.26	3.86	3.13	3.25
1st prior SST	1.13	0.48	1.13	2.13
2nd prior ELA	NA	NA	-0.32	-1.07
2nd prior MTH	NA	NA	7.16	5.38
2nd prior SCI	NA	NA	0.55	1.56
2nd prior SST	NA	NA	-0.54	0.23
4th prior ELA	NA	NA	NA	NA
4th prior MTH	NA	NA	NA	NA
4th prior SCI	NA	NA	NA	NA
4th prior SST	NA	NA	NA	NA
1st prior ELA square	-2.00	0.09	-0.16	-0.37
1st prior MTH square	0.21	0.95	1.08	2.03
1st prior SCI square	2.83	0.68	0.29	0.55
1st prior SST square	0.21	0.34	0.17	0.60
1st prior ELA cube	-0.96	0.06	-0.02	-0.04
1st prior MTH cube	-1.36	-1.14	-0.66	-0.67
1st prior SCI cube	0.17	-0.14	-0.05	-0.01
1st prior SST cube	0.12	0.19	0.10	-0.05
2nd prior ELA square	NA	NA	-0.24	-0.33
2nd prior MTH square	NA	NA	0.34	0.39
2nd prior SCI square	NA	NA	0.06	0.08
2nd prior SST square	NA	NA	-0.10	-0.05
2nd prior ELA cube	NA	NA	0.09	0.20
2nd prior MTH cube	NA	NA	-0.20	-0.22
2nd prior SCI cube	NA	NA	0.07	-0.12
2nd prior SST cube	NA	NA	0.09	-0.06
4th prior ELA square	NA	NA	NA	NA
4th prior MTH square	NA	NA	NA	NA
4th prior SCI square	NA	NA	NA	NA
4th prior SST square	NA	NA	NA	NA
4th prior ELA cube	NA	NA	NA	NA
4th prior MTH cube	NA	NA	NA	NA
4th prior SCI cube	NA	NA	NA	NA
4th prior SST cube	NA	NA	NA	NA

2022-2023 Science All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
Intercept	-16.68	-1.26	-0.06	0.93
Emotional Disturbance	-11.03	-0.61	4.83	2.50
Specific Learning Disability	-7.47	-3.81	-4.40	-2.03
Mild Intellectual Disability	-10.69	-9.99	-10.67	-4.22
Other Health Impairment	2.73	-3.20	-3.88	-0.70
Speech or Language Impairment	4.37	0.69	-0.25	1.26
Autism	-6.66	-4.87	-3.31	3.10
Special Education - Other	5.97	-1.28	-3.05	-1.02
SNAP	-3.36	-1.22	-0.79	-0.36
TANF	1.69	-0.75	0.48	-0.57
Medicaid	4.31	-0.78	-0.40	-0.52
Free lunch	-1.71	-0.24	-0.05	-0.11
Reduced-price lunch	0.71	0.30	-0.78	0.02
Economically Disadvantaged - Other	-3.10	-1.06	-0.48	0.71
English Language Learner	-5.45	-3.61	-0.47	-0.96
Gifted	NA	4.47	2.18	1.83
Section 504	-2.26	-1.18	-1.05	-0.48
Student Absences	-0.08	-0.05	-0.07	-0.06
Suspensions	-0.17	-0.29	-0.13	-0.23
Expulsions	0.01	0.04	-0.05	-0.04
Mobility	1.84	-0.62	-0.11	-0.20
1st prior ELA	3.96	5.81	5.14	2.73
1st prior MTH	10.00	6.42	5.83	5.39
1st prior SCI	12.48	9.49	9.31	7.66
1st prior SST	11.07	6.12	5.13	6.76
2nd prior ELA	NA	NA	2.68	-0.07
2nd prior MTH	NA	NA	0.32	-0.27
2nd prior SCI	NA	NA	4.90	4.89
2nd prior SST	NA	NA	0.70	1.63
4th prior ELA	NA	NA	NA	NA
4th prior MTH	NA	NA	NA	NA
4th prior SCI	NA	NA	NA	NA
4th prior SST	NA	NA	NA	NA
1st prior ELA square	-6.17	-0.31	-0.54	-0.60
1st prior MTH square	2.68	0.01	0.16	0.24
1st prior SCI square	1.17	1.57	1.09	0.98
1st prior SST square	1.34	1.23	0.88	0.79
1st prior ELA cube	-2.48	-0.23	-0.24	-0.02
1st prior MTH cube	0.62	-0.18	-0.32	-0.18
1st prior SCI cube	-0.74	-0.41	-0.32	-0.37

2022-2023 Science All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
1st prior SST cube	-1.67	-0.17	-0.31	-0.41
2nd prior ELA square	NA	NA	-0.18	-0.39
2nd prior MTH square	NA	NA	-0.03	-0.28
2nd prior SCI square	NA	NA	0.56	0.38
2nd prior SST square	NA	NA	0.29	0.12
2nd prior ELA cube	NA	NA	-0.21	0.07
2nd prior MTH cube	NA	NA	0.13	0.15
2nd prior SCI cube	NA	NA	-0.15	-0.24
2nd prior SST cube	NA	NA	0.10	-0.03
4th prior ELA square	NA	NA	NA	NA
4th prior MTH square	NA	NA	NA	NA
4th prior SCI square	NA	NA	NA	NA
4th prior SST square	NA	NA	NA	NA
4th prior ELA cube	NA	NA	NA	NA
4th prior MTH cube	NA	NA	NA	NA
4th prior SCI cube	NA	NA	NA	NA
4th prior SST cube	NA	NA	NA	NA

2022-2023 Social Studies All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
Intercept	-21.05	-1.60	-0.04	1.45
Emotional Disturbance	-14.45	-4.25	1.26	2.18
Specific Learning Disability	-9.63	-6.23	-4.08	-1.85
Mild Intellectual Disability	-20.08	-12.25	-6.08	-3.26
Other Health Impairment	-7.41	-5.41	-3.71	-1.26
Speech or Language Impairment	-5.49	0.21	0.41	3.05
Autism	-3.10	-8.79	-1.22	1.71
Special Education - Other	-3.21	-2.68	-2.87	0.85
SNAP	-3.24	-1.30	-0.68	-0.02
TANF	1.68	0.16	-0.66	-0.31
Medicaid	-0.51	-0.93	-0.42	-0.51
Free lunch	0.82	0.01	0.10	-0.18
Reduced-price lunch	3.27	0.07	-0.26	0.43
Economically Disadvantaged - Other	3.31	0.33	-0.92	0.64
English Language Learner	-10.33	-2.33	0.80	1.27
Gifted	NA	5.28	1.51	0.67
Section 504	-5.97	-3.09	-1.95	-1.76
Student Absences	-0.05	-0.09	-0.10	-0.11
Suspensions	-0.18	-0.31	-0.22	-0.21
Expulsions	-0.10	-0.01	-0.08	-0.07

2022-2023 Social Studies All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
Mobility	-1.10	-0.51	-0.60	-0.43
1st prior ELA	7.17	10.07	8.74	7.28
1st prior MTH	7.65	7.27	2.83	2.89
1st prior SCI	13.92	8.53	7.47	4.42
1st prior SST	18.86	11.74	9.65	14.84
2nd prior ELA	NA	NA	3.64	1.86
2nd prior MTH	NA	NA	-1.43	-1.64
2nd prior SCI	NA	NA	2.75	1.39
2nd prior SST	NA	NA	4.09	7.75
4th prior ELA	NA	NA	NA	NA
4th prior MTH	NA	NA	NA	NA
4th prior SCI	NA	NA	NA	NA
4th prior SST	NA	NA	NA	NA
1st prior ELA square	-2.00	-0.51	-0.27	-0.50
1st prior MTH square	-0.37	0.01	0.00	-0.05
1st prior SCI square	0.17	0.98	0.40	0.16
1st prior SST square	2.36	2.25	2.25	2.55
1st prior ELA cube	-0.59	-0.60	-0.42	-0.32
1st prior MTH cube	-1.10	-0.30	-0.10	-0.04
1st prior SCI cube	-1.31	-0.45	-0.45	-0.09
1st prior SST cube	-2.26	-0.50	-0.37	-0.91
2nd prior ELA square	NA	NA	-0.15	-0.50
2nd prior MTH square	NA	NA	-0.35	-0.48
2nd prior SCI square	NA	NA	0.10	-0.20
2nd prior SST square	NA	NA	0.69	1.26
2nd prior ELA cube	NA	NA	-0.21	0.06
2nd prior MTH cube	NA	NA	0.20	0.20
2nd prior SCI cube	NA	NA	-0.11	0.03
2nd prior SST cube	NA	NA	-0.11	-0.47
4th prior ELA square	NA	NA	NA	NA
4th prior MTH square	NA	NA	NA	NA
4th prior SCI square	NA	NA	NA	NA
4th prior SST square	NA	NA	NA	NA
4th prior ELA cube	NA	NA	NA	NA
4th prior MTH cube	NA	NA	NA	NA
4th prior SCI cube	NA	NA	NA	NA
4th prior SST cube	NA	NA	NA	NA

2022-2023 Algebra I All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
Intercept	-12.92	-5.65	-3.63	1.29
Emotional Disturbance	-11.22	NA	NA	2.19
Specific Learning Disability	-7.19	2.09	-0.09	2.32
Mild Intellectual Disability	-5.55	NA	NA	5.00
Other Health Impairment	-5.93	-2.05	-2.76	1.32
Speech or Language Impairment	NA	NA	NA	-0.16
Autism	NA	NA	NA	1.58
Special Education - Other	-7.27	3.71	-2.82	0.11
SNAP	-0.99	1.24	0.65	-0.07
TANF	-0.80	NA	NA	1.34
Medicaid	-0.81	-1.48	-1.06	-0.71
Free lunch	-0.35	-1.05	-0.79	-0.08
Reduced-price lunch	0.69	0.46	0.41	-0.41
Economically Disadvantaged - Other	0.70	-2.77	0.03	-1.01
English Language Learner	-9.59	6.88	7.08	2.24
Gifted	24.48	7.81	2.39	3.06
Section 504	-3.78	-1.91	-4.14	-1.57
Student Absences	-0.10	-0.20	-0.12	-0.17
Suspensions	-0.18	-0.22	-0.25	-0.16
Expulsions	-0.09	-0.08	-0.09	-0.08
Mobility	-1.30	1.73	-4.73	-0.72
1st prior ELA	NA	3.56	2.94	3.31
1st prior MTH	8.53	15.63	11.55	12.25
1st prior SCI	NA	2.77	1.94	2.79
1st prior SST	NA	5.23	1.58	2.14
2nd prior ELA	NA	NA	-1.26	-0.36
2nd prior MTH	NA	NA	7.68	5.54
2nd prior SCI	NA	NA	2.62	1.61
2nd prior SST	NA	NA	0.86	0.62
4th prior ELA	NA	NA	NA	NA
4th prior MTH	NA	NA	NA	NA
4th prior SCI	NA	NA	NA	NA
4th prior SST	NA	NA	NA	NA

2022-2023 Geometry All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
Intercept	-12.72	-3.48	0.79	1.43
Emotional Disturbance	NA	NA	NA	NA
Specific Learning Disability	-7.68	-5.79	NA	-0.54
Mild Intellectual Disability	NA	NA	NA	NA
Other Health Impairment	NA	-6.84	NA	-3.08
Speech or Language Impairment	NA	NA	NA	4.83
Autism	NA	NA	NA	1.52
Special Education - Other	-4.02	-1.67	-0.11	-1.69
SNAP	-1.59	-0.58	-2.57	-0.24
TANF	NA	0.92	NA	-2.53
Medicaid	0.58	-2.72	-0.78	-0.10
Free lunch	-1.00	-0.44	1.13	-0.75
Reduced-price lunch	NA	0.95	-0.22	-0.32
Economically Disadvantaged - Other	3.53	-1.03	2.02	-0.72emotional
English Language Learner	-2.57	-8.58	3.06	2.20
Gifted	NA	15.85	-1.23	3.27
Section 504	-3.24	-6.14	-1.80	-0.98
Student Absences	-0.04	-0.11	-0.20	-0.12
Suspensions	-0.46	-0.32	-0.15	-0.12
Expulsions	-0.01	0.03	-0.06	-0.06
Mobility	-2.09	-0.22	2.74	-0.57
1st prior MTH	6.59	12.84	12.97	13.47
2nd prior ELA	NA	NA	1.06	-0.47
2nd prior MTH	NA	NA	8.40	5.02
2nd prior SCI	NA	NA	2.94	2.72
2nd prior SST	NA	NA	-1.60	-0.35
4th prior ELA	NA	NA	NA	NA
4th prior MTH	NA	NA	NA	NA
4th prior SCI	NA	NA	NA	NA
4th prior SST	NA	NA	NA	NA

2022-2023 English I All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
Intercept	-16.85	-8.30	-5.53	2.64
Emotional Disturbance	-3.82	NA	NA	0.33
Specific Learning Disability	-7.71	-0.12	-3.40	-3.38
Mild Intellectual Disability	-8.94	NA	NA	-2.09
Other Health Impairment	-5.88	-1.74	-1.32	-3.33
Speech or Language Impairment	-7.20	NA	NA	-1.48
Autism	-5.16	NA	NA	-3.28
Special Education - Other	-3.17	6.66	-8.26	-3.25
SNAP	-1.21	-2.95	2.40	0.52
TANF	4.66	NA	NA	0.56
Medicaid	-0.13	-0.31	1.23	-0.42
Free lunch	0.12	2.61	-2.69	-0.11
Reduced-price lunch	0.18	0.33	-1.95	-0.06
Economically Disadvantaged - Other	0.56	0.01	1.92	-2.07
English Language Learner	-6.29	-0.32	3.24	-0.35
Gifted	12.02	-1.41	-8.61	2.24
Section 504	-4.37	-4.10	-1.72	-1.96
Student Absences	-0.11	-0.10	-0.10	-0.11
Suspensions	-0.17	-0.32	-0.31	-0.23
Expulsions	-0.07	-0.04	0.08	-0.09
Mobility	-2.16	1.42	-1.74	0.02
1st prior ELA	17.65	16.93	10.91	12.04
1st prior MTH	NA	3.08	3.37	1.92
1st prior SCI	NA	5.10	3.38	3.08
1st prior SST	NA	8.06	4.83	4.46
2nd prior ELA	NA	NA	7.78	7.15
2nd prior MTH	NA	NA	0.13	-0.41
2nd prior SCI	NA	NA	2.32	0.81
2nd prior SST	NA	NA	3.39	1.40
4th prior ELA	NA	NA	NA	NA
4th prior MTH	NA	NA	NA	NA
4th prior SCI	NA	NA	NA	NA
4th prior SST	NA	NA	NA	NA

2022-2023 English II All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
Intercept	-23.53	-12.82	-2.71	4.95
Emotional Disturbance	NA	NA	NA	2.09
Specific Learning Disability	-9.42	-13.38	-4.53	-4.29
Mild Intellectual Disability	-9.43	-14.28	NA	-7.98
Other Health Impairment	-14.73	-8.03	-5.03	-2.45
Speech or Language Impairment	NA	NA	NA	0.01
Autism	NA	-7.35	NA	0.83
Special Education - Other	-11.69	-7.54	-2.87	-2.48
SNAP	-2.01	-0.86	1.25	-0.22
TANF	6.34	-4.15	NA	-0.32
Medicaid	2.74	-4.45	-1.91	-0.30
Free lunch	-0.05	-0.43	-0.30	0.04
Reduced-price lunch	0.62	1.38	3.73	-0.87
Economically Disadvantaged - Other	-3.23	2.68	-4.84	0.14
English Language Learner	-8.66	-18.97	-5.19	-0.82
Gifted	5.44	9.64	-2.16	0.19
Section 504	-6.99	-11.43	-1.61	-2.82
Student Absences	-0.06	-0.06	-0.09	-0.19
Suspensions	-0.24	-0.56	-0.69	-0.33
Expulsions	-0.13	-0.08	-0.34	-0.11
Mobility	-0.95	-2.27	-4.58	-1.07
1st prior ELA	22.84	25.09	21.52	18.20
2nd prior ELA	NA	NA	11.72	10.11
2nd prior MTH	NA	NA	1.92	0.47
2nd prior SCI	NA	NA	3.71	1.99
2nd prior SST	NA	NA	4.18	4.32
4th prior ELA	NA	NA	NA	NA
4th prior MTH	NA	NA	NA	NA
4th prior SCI	NA	NA	NA	NA
4th prior SST	NA	NA	NA	NA

Appendix I: 2022-2023 Value-Added Student and Classroom Characteristics

Act 54 requires that the value-added model take into account "important student factors, which includes but is not limited to special education, eligibility for free or reduced price meals, student attendance, and student discipline." Student and classroom characteristics are controlled for statistically in the value-added model, which helps to facilitate fair comparisons of teachers with different student groups. The following is a list of characteristics and descriptions.

Student Characteristics

1. Prior year assessment scores: Up to three years of prior scaled scores from Louisiana's statewide regular assessment. Scaled scores for each content and year are converted to z-scores by grade and test year. The following content areas were utilized where available:
    a. English Language Arts
    b. Mathematics
    c. Science
    d. Social Studies
    e. Algebra I
    f. Geometry
    g. English I
    h. English II

2. Disability status: Seven dichotomous variables, indicating the presence or absence of the disability, were derived from data reported by districts via all exceptionality data elements (not limited to the primary exceptionality only) in the February 1 Special Education Reporting (SER) Summary File. Seven disability categories were derived:
    a. Emotional Disturbance
    b. Speech and Language Impairment
    c. Mild Intellectual Disability
    d. Specific Learning Disability
    e. Other Health Impairment
    f. Autism
    g. Special Education – Other (all other special education exceptionalities not included above due to low incidence in the state)

3. Gifted status: A dichotomous variable, indicating whether or not the student has a gifted exceptionality, was derived from data reported by districts via all exceptionality data elements (not limited to the primary exceptionality only) in the February 1 SER Summary File.

4. Section 504 status: A dichotomous variable, indicating whether or not the student receives Section 504 accommodations, was derived from data pre-coded or bubbled in the current year assessment file.

5. English Language Learner status: A dichotomous variable, indicating whether or not the student has a limitation of English proficiency, was derived from data pre-coded or bubbled in the current year assessment file.

6. Economically Disadvantaged status: Six dichotomous variables, indicating the presence or absence of an economic disadvantage, were derived from a report provided by the Data Strategy and Governance team. Six indicators were derived:

    a. Supplemental Nutrition Assistance Program (SNAP), including the Disaster-Supplemental Nutrition Assistance Program (DSNAP)
    b. Temporary Assistance for Needy Families (TANF)
    c. Medicaid
    d. Free lunch
    e. Reduced-price lunch
    f. Economically Disadvantaged – Other, which includes the indicators not included above due to low incidence in the state:
        i. Homeless
        ii. Migrant
        iii. Awaiting foster care
        iv. Incarcerated children

7. Mobility status: A dichotomous variable, indicating whether or not the student changed schools, was derived from data submitted by districts as of the Edlink Enrollment February 1 snapshot. Students with enrollment at more than one site code were designated as mobile.

8. Student absences: The count of student absences submitted by districts as of the February 1 Enrollment Edlink snapshot.

9. Suspensions: The count of student suspensions submitted by districts as of the Discipline end-of-year Edlink snapshot.

10. Expulsions: The count of student expulsions submitted by districts as of the Discipline end-of-year Edlink snapshot.

Classroom/Teacher Characteristics

11. Prior year content score average: The average student z-scores in the first prior year of the content analyzed per teacher.

12. Economically disadvantaged proportion: The proportion of students with an economic disadvantage per teacher.

13. Special education proportion: The proportion of students with a disability per teacher.

14. Suspensions average: The average of student suspension counts per teacher.