LOUISIANA'S VALUE-ADDED ASSESSMENT MODEL FOR EDUCATOR EVALUATIONS AND SUPPORT: A REPORT IN RESPONSE TO R.S. 17:3883(A)(8)

March 1, 2020

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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.

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. Notable among the findings are 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. Another encouraging finding is that cross-year consistency is improving as local school systems are improving the quality of data collected and reported.

Processes Supporting Development of the Value-Added Model

After the passage of Act 54 in 2010, the state board 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, professor of psychology at Louisiana State University. The remainder of this document summarizes, in brief, the analytic process and selected aggregated results from the 2018-2019 school year, for which the most recent data are available.

Technical Process and Findings

1. Introduction

This technical document summarizes the examination of student-teacher achievement outcomes for the 2018-2019 school year that were shared with teachers statewide during August 2019. 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. The calendar of activities related to the value-added model for the 2018-2019 school year is included in Appendix A.

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 policy makers 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) for Spring 2016, 2017, 2018, and 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 (Personnel Education Profile/PEP). 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 B.

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 R.S. 17:3914 to maintain student privacy. Table 1 presents the number of records available in each content area.

Table 1. Student and Teacher Counts by Overall and Content Area Results for 2018-2019

	Overall	ELA	Mathematics	Social Studies	Algebra I	Geometry	English I	English II
Students	338872	204204	196684	202863	55449	42385	53362	49084
Teachers	11837	4526	3918	3617	1078	658	856	761

      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. Additionally, because the student-teacher-course nexus data are collected only once per year, once a student changes schools within that time period it is not possible to ascribe achievement measured at the end of that period to a particular teacher.

      Updates to the value-added analysis for the 2018-2019 school year are noted. Value-added analysis results from English Language Arts (ELA), Mathematics, Social Studies, Algebra I, Geometry, English I, and English II contents were included Compass teacher evaluations. Content areas eligible for the value-added analysis also changed in the 2018-2019 school year. The availability of a statewide English I assessment in the prior year allowed for the inclusion of English II in the value-added analysis in the 2018-2019 school year. The first full statewide administration of the new Science assessment occurred in the 2018-2019 school year, which allows for the inclusion of Science in the value-added analysis in the 2019-2020 school year. The availability of contents included in the value-added analysis during the past five years are presented in Table 2.

Table 2. Historical Content Availability in the Value-Added Analysis

Content	Inclusion in Value-Added Analysis				
	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
ELA	Yes	Yes	Yes	Yes	Yes
Math	Yes	Yes	Yes	Yes	Yes
Science	Yes	Yes	Yes	No	No
Social Studies	Yes	No	No	Yes	Yes
Algebra I	Yes	Yes	Yes	Yes	Yes
Geometry	Yes	Yes	Yes	Yes	Yes
English I	N/A	N/A	N/A	Yes	Yes
English II	No	No	No	No	Yes

Further inclusionary criteria included that the students' attendance and achievement records be matched to the LEADS curriculum 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 C.

Course codes were collapsed into groups that were associated with specific test areas (ELA, Mathematics, 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 analysis are included in Appendix D.

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 1.
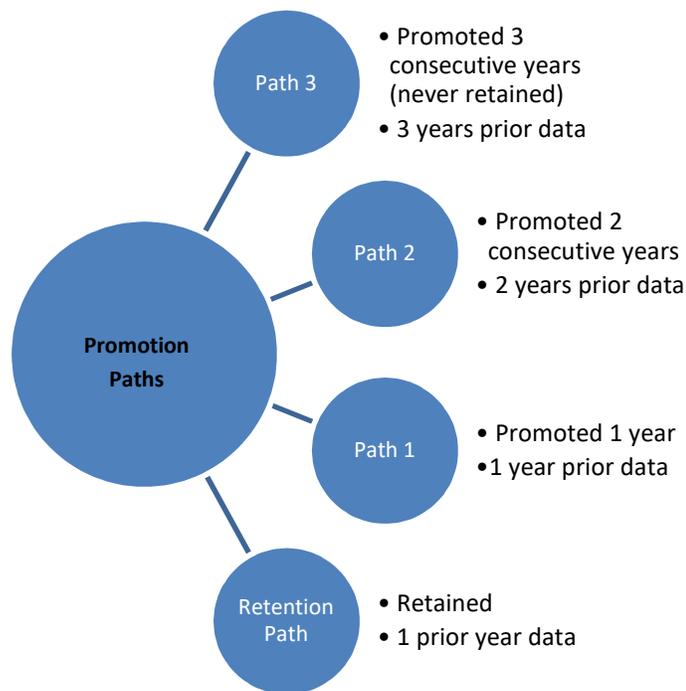

Figure 1. Diagram of promotional paths

Table 3 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 3. Student Record Counts in Each Promotional Path by Content Area for 2018-2019

	ELA	Mathematics	Social Studies	Algebra I	Geometry	English I	English II
Grade level		Grades 4-8		Grades 6-12	Grades 7-12	Grades 6-12	Grades 7-12
Retention Path	2466	2376	2342	1337	458	999	741
Path 1	51729	50170	49170	1452	3634	1658	3482
Path 2	48625	45913	46048	1543	1114	1740	1508
Path 3	110885	100875	106706	30070	24467	33895	30925

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 4 displays the student-level variables used in analyses that were included in the databases.

Table 4. Student Level Variables Examined

Variable
Emotional Disturbance
Speech and Language Impairment
Mild Intellectual Disability
Specific Learning Disability
Other Health Impairment
Special Education - Other
Gifted
Section 504
English Language Learner
Economically Disadvantaged
Mobility
Student Absences
Suspensions (current year)
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 formula and coefficients are located in Appendix E and Appendix F.

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. This score was then subtracted from the actual achievement score to obtain the deviation score. If actual achievement for a student was higher than typical achievement for a student with that history (e.g., actual: 725; typical: 700), then the result 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 2.
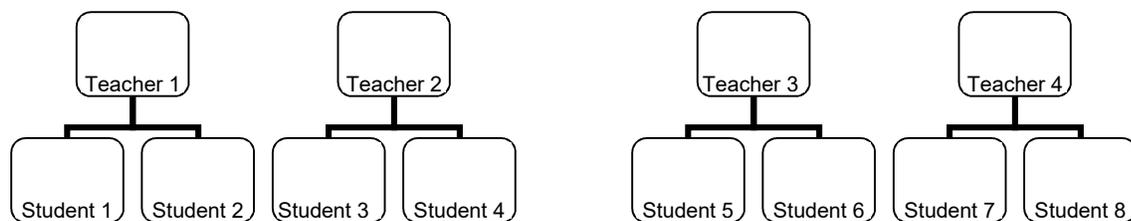
Figure 2. Two Level Model Nesting Structure of Students within Classrooms

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 G.

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 that was then reported to that teacher via 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.

Along with student residuals and individual value-added results by content, an overall composite percentile was provided 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.

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 data are available, the composite percentile will be converted to a 1.0-4.0 scale to use in the teacher's final evaluation. Table 5 outlines the ranges for each rating.

Table 5. 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

5. Selected Results

Stability of Teacher 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 2017-2018 and 2018-2019.

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 6.

Table 6. Stability of the Overall Teacher Ranking

2017-2018 Overall Teacher Rank		2018-2019 Overall Teacher Rank			
		Ineffective 1% - 10%	Effective Emerging 11% - 49%	Effective Proficient 50% - 79%	Highly Effective 80% - 99%
Ineffective 1% - 10% (632)	#	176	316	104	36
	%	27.8%	50.0%	16.5%	5.7%
Effective Emerging 11% - 49% (2919)	#	327	1434	846	312
	%	11.2%	49.1%	29.0%	10.7%
Effective Proficient 50% - 79% (2304)	#	91	790	899	524
	%	3.9%	34.3%	39.0%	22.7%
Highly Effective 80% - 99% (1580)	#	29	262	520	769
	%	1.8%	16.6%	32.9%	48.7%

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 2017-2018 were likely to fall in the bottom 10th percentile of results again or to move up one ranking to the 11th-49th percentile range (77.8%). They were unlikely to move to the top of the distribution one year later. Teachers who were in the top 20th percentile in 2017-2018 were most likely to fall in the same range or drop by one range to the 50th-89th percentile in 2018-2019 (81.6%). 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 7 below shows the correlation coefficients between teacher content results in the past three school years.

Table 7. Correlation of Content Teacher Effects

Content Area	Content Teacher Effects Correlation Coefficient		
	2015-2016 to 2016-2017 *(number of teachers)*	2016-2017 to 2017-2018 *(number of teachers)*	2017-2018 to 2018-2019 *(number of teachers)*
English Language Arts	0.371 (3,375)	0.415 (3,276)	0.417 (3,207)
Mathematics	0.585 (2,824)	0.573 (2,781)	0.557 (2,796)
Social Studies	n/a	n/a	0.481 (2,297)
Algebra I	0.634 (486)	0.583 (524)	0.638 (502)
Geometry	0.574 (360)	0.552 (332)	0.595 (329)
English I	n/a	n/a	0.490 (388)
English II	n/a	n/a	n/a

   Overall, the content teacher results demonstrate moderate stability across years. A lower correlation was seen from 2013-2014 to 2014-2015, particularly in ELA (0.325), which may be due to the transition from previous Louisiana state assessments to assessments aligned with most recently adopted state academic standards. 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. An increasing correlation is evident in ELA in the school years following the introduction of a new 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 Tables 5 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

Some educators have expressed the concern that value-added will not be fair because teachers will be penalized for teaching 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 based on prior performance. In contrast, after learning about how value-added works, other teachers have expressed concern that value-added will be unfair to teachers of high performing students because the more advanced the student is, the more difficult it is to make additional gains. This, too, is an incorrect assumption because the model accounts for students who score at the highest levels of state assessments. 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 positive correlation between typical achievement and teacher effects. In contrast, if there was a disadvantage in teaching advanced students, there would be a negative correlation. Ideally, there would be a very small to no correlation between typical achievement and teacher effects. The data presented in Table 8 demonstrate a nearly zero correlation between typical achievement and teacher effects for all content areas, indicating no disadvantage for teaching historically poor performing or historically high performing students. A nearly zero correlation is also demonstrated in previous years.

Table 8. Correlation of Student Prior Mean Achievement and Teacher Effect

Content Area	Student Prior Mean Achievement and Teacher Effect Correlation		
	2016-2017	2017-2018	2018-2019
English Language Arts	-0.020	-0.030	-0.030
Mathematics	-0.025	-0.038	-0.044
Social Studies	n/a	-0.025	-0.036
Algebra I	-0.053	0.072	-0.040
Geometry	0.114	0.224	0.118
English I	n/a	-0.033	-0.076
English II	n/a	n/a	0.252

The following figures present the distribution of outcomes across content areas for 2018-2019. The graphs depict the number of teachers (y-axis) with each magnitude of teacher effect (x-axis).

Figure 3. English Language Arts Value-Added Distribution for 2018-2019
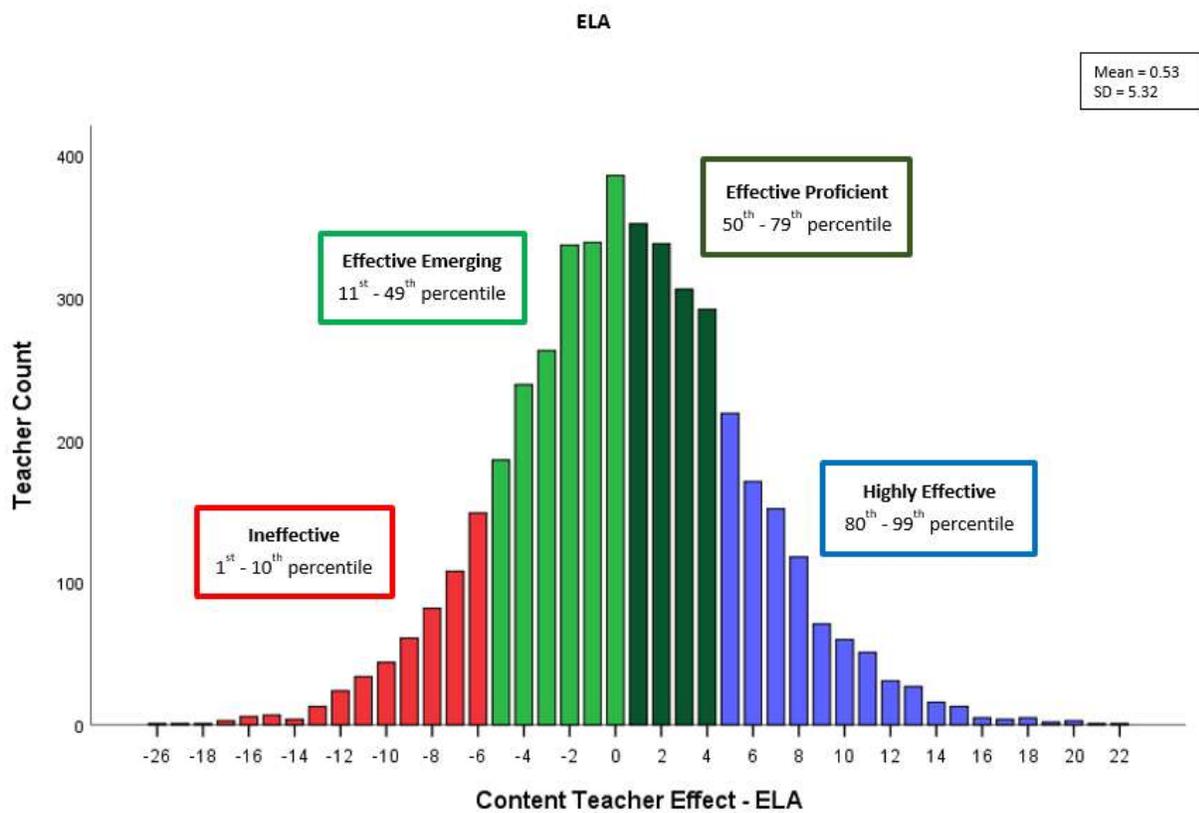
Figure 4. Mathematics Value-Added Distribution for 2018-2019
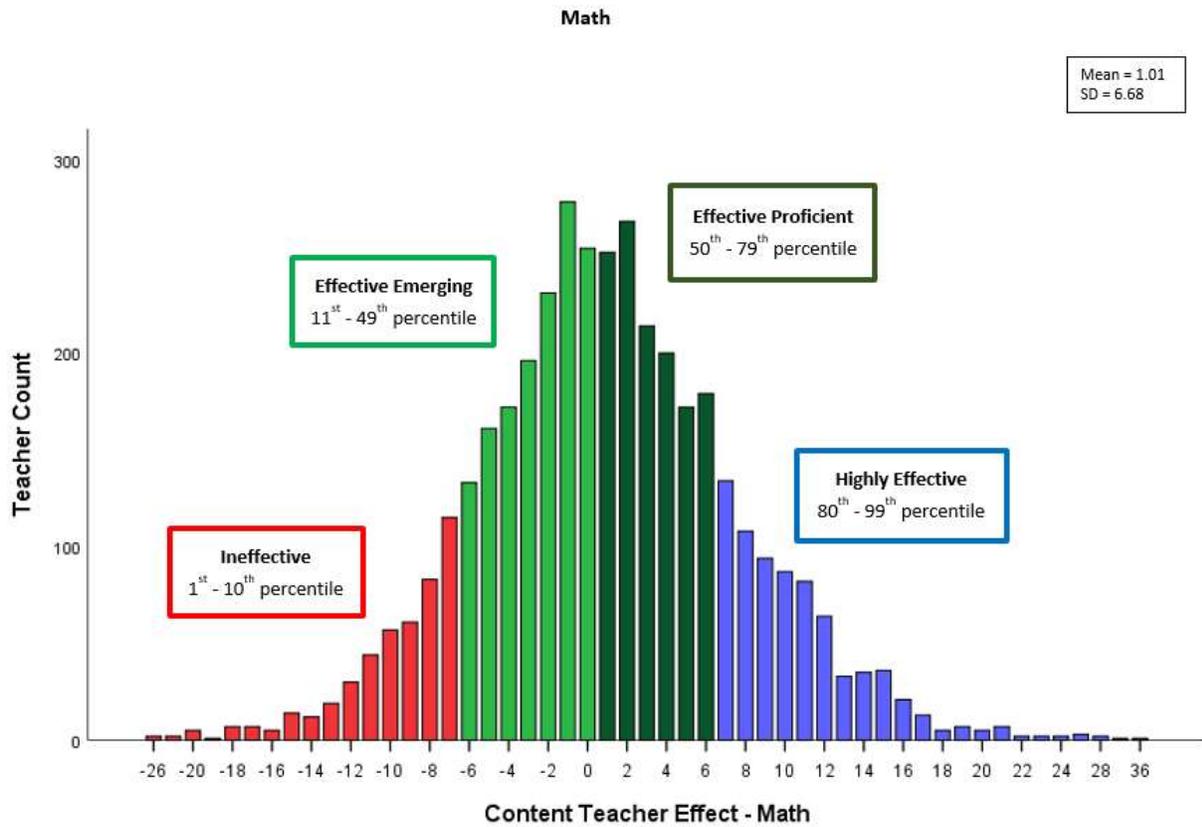
Figure 5. Social Studies Value-Added Distribution for 2018-2019
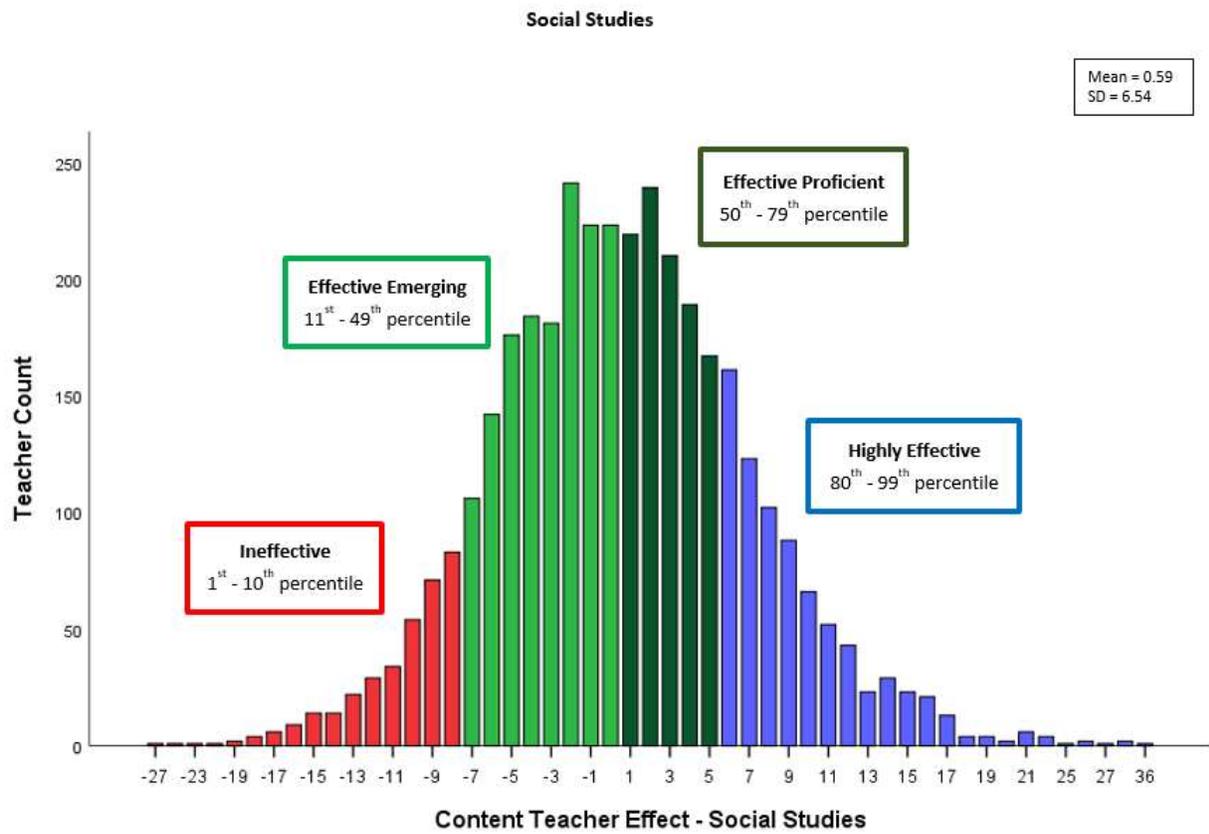
Figure 6. Algebra I Value-Added Distribution for 2018-2019
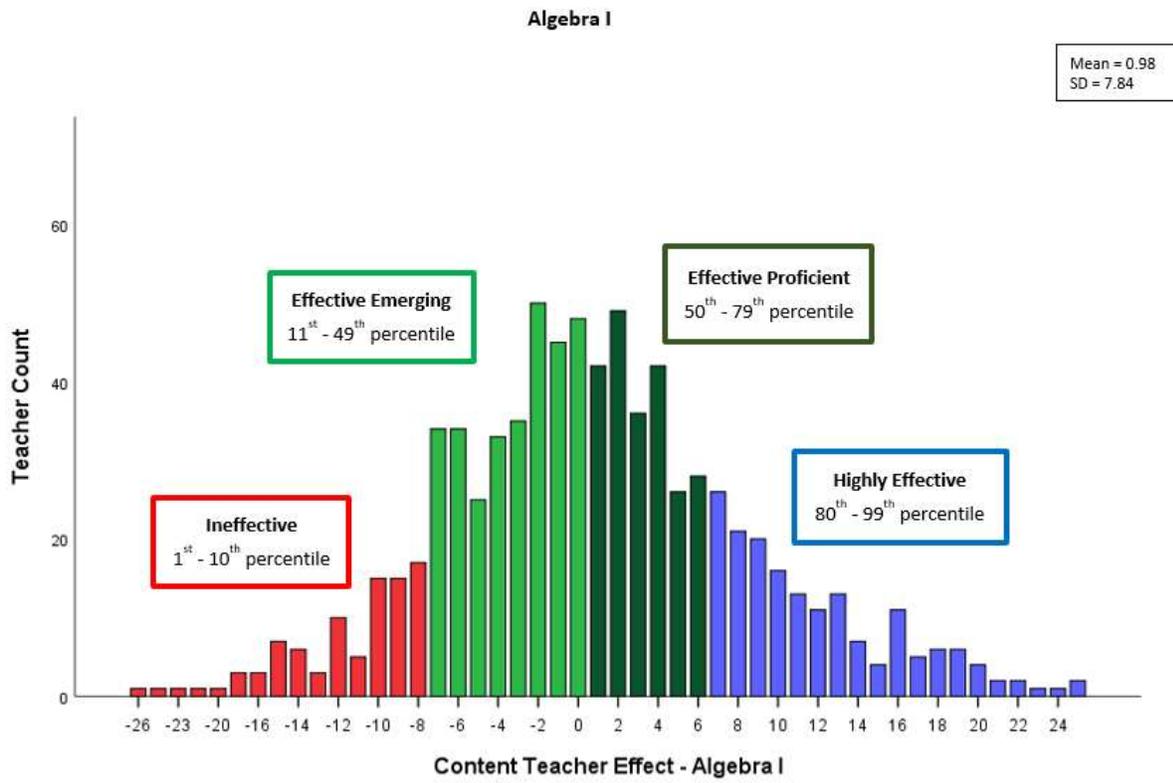
Figure 7. Geometry Value-Added Distribution for 2018-2019
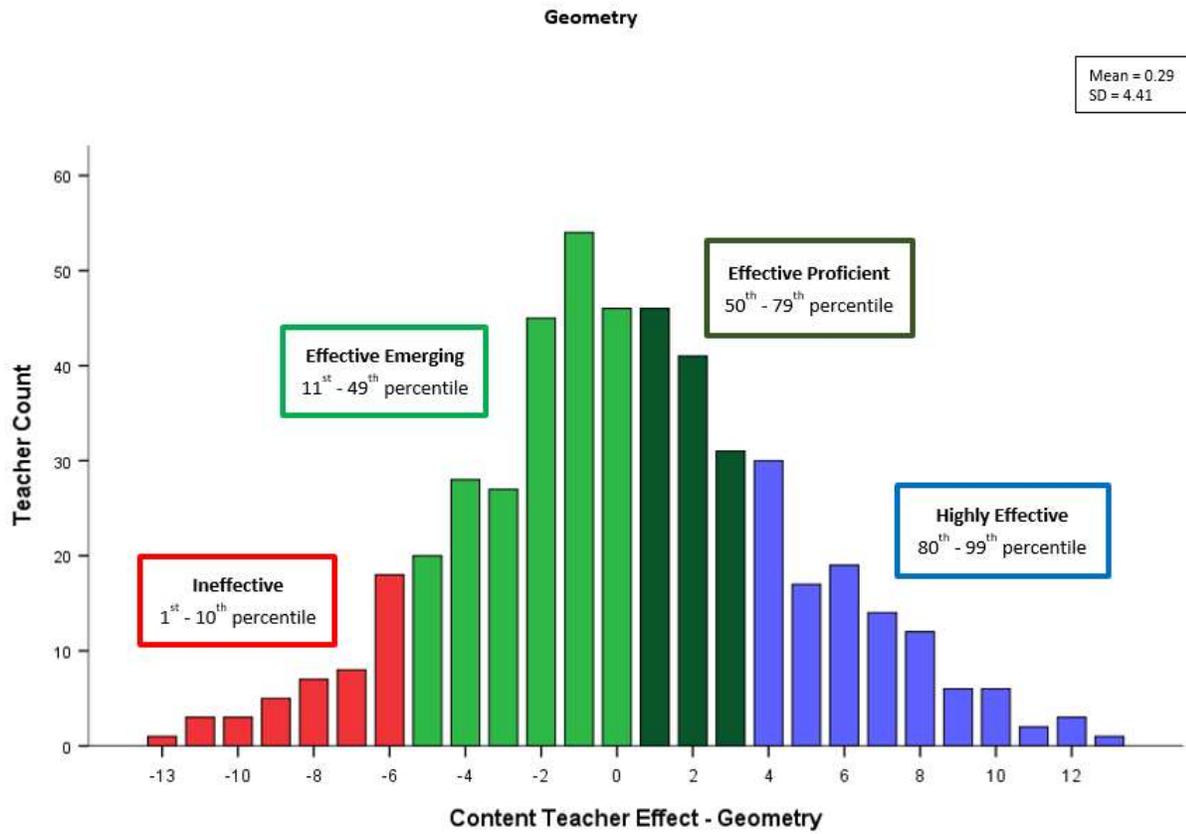
Figure 8. English I Value-Added Distribution for 2018-2019
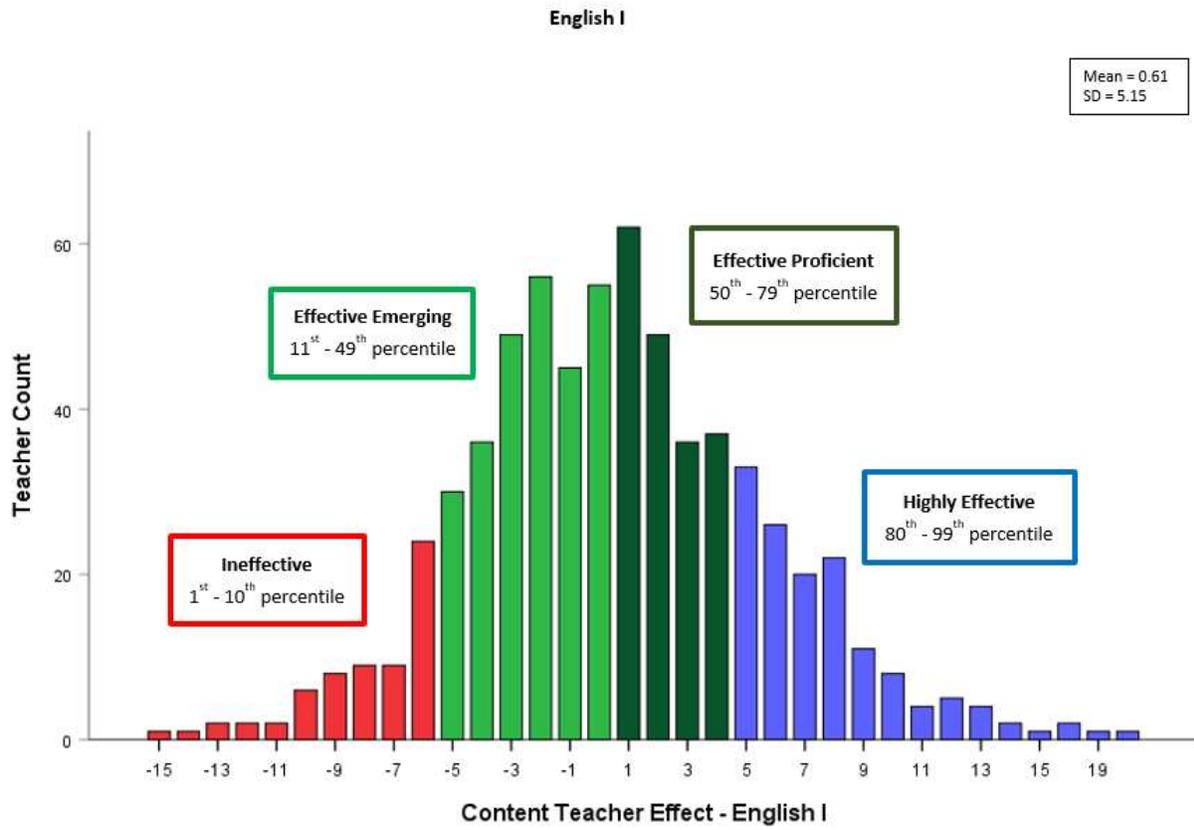
Figure 9. English II Value-Added Distribution for 2018-2019

English II

Mean = 0.30
SD = 5.52

Teacher Count

Content Teacher Effect - English II

Effective Proficient
50th - 79th percentile

Effective Emerging
11st - 49th percentile

Ineffective
1st - 10th percentile

Highly Effective
80th - 99th percentile
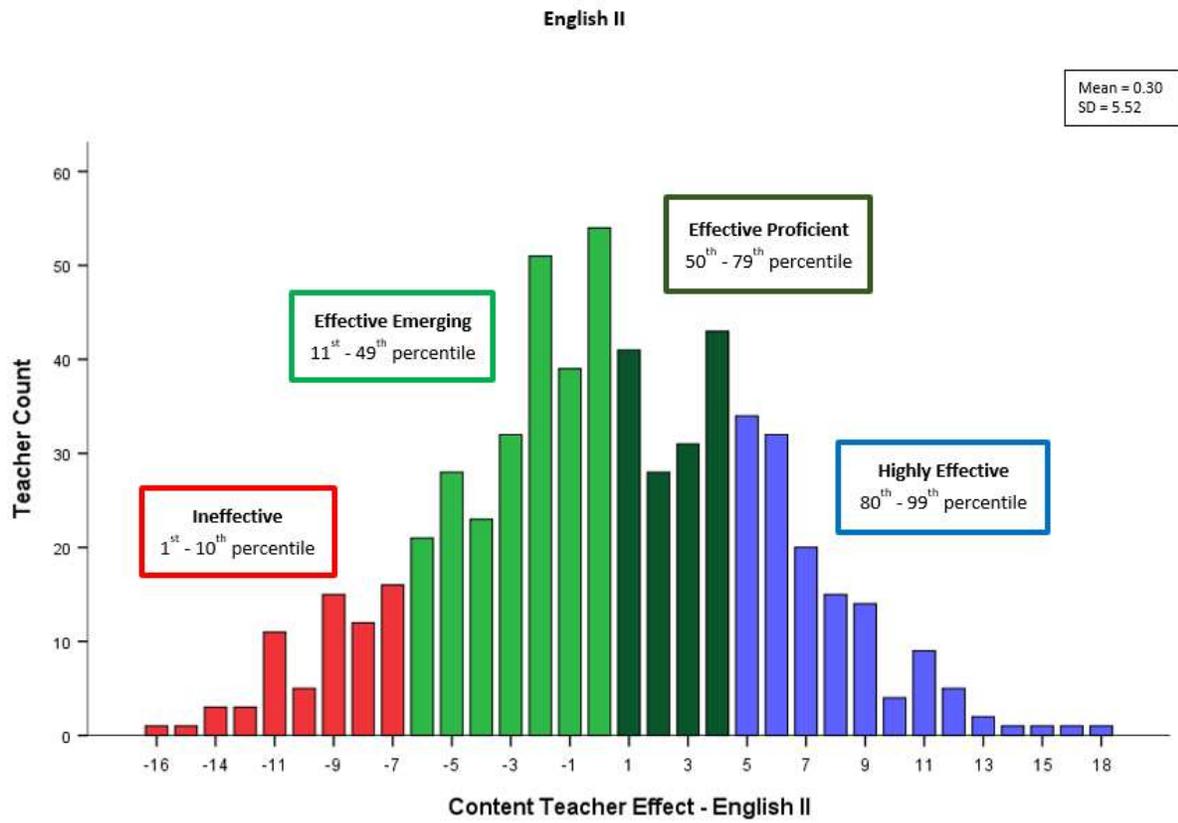
Appendix A: 2018-2019 VAM Calendar

October 2018
SIS October Enrollment collection period
LRS October CLASS collection opens
SEE Quarter 1 Enrollment collection period
November 2018
CVR View Only #1 opens 11/1/18
December 2018
LRS October CLASS collection closes
CVR View Only #1 closes 12/14/18
Fall EOC Assessment window
SEE Quarter 2 Enrollment collection period
February 2019
SIS February Enrollment collection period
SIS Discipline collection period
SER February MFP collection period
April 2019
LEAP Assessment window
CVR View Only #2 4/8/19 – 4/18/19
SEE Quarter 3 Enrollment collection period
May 2019
CVR Roster Verification 5/6/19 – 5/17/19
Spring EOC Assessment window
SEE Quarter 4 Enrollment collection period
June 2019
Assessment online clean-up of data
LEAP/EOC assessment quality review
July 2019
LEAP/EOC files available
VAM analysis
August 2019
Release of teacher VAM results in Compass
September 2019
Compass teacher evaluations close

Appendix B: LDOE Source Data Systems and Elements Used in Value-Added Model

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

Curriculum (CUR)

Table	Year	Processing Period	Data Elements
dbo_Course	Current year	2	BegSchSessYr
			CourseCd
			CourseName
			CourseCategoryCd
			CVRCoreCourseFlag

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

Table	Year	Processing Period	Data Elements
VerifiedDataDownload.txt Note: 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 Note: extract from CVR Portal pulled by Research team	Current year	4	BegSchSessYr
			SchoolYear
			ProcPeriodCd
			NetworkNumber
			SponsorCd
			SponsorName
			SiteCd
			SiteName
			TeacherSocSecNum
			TeacherName
			Verified
			VerificationCompleteDate

LEADS Reporting System (LRS)

Table	Year	Processing Period	Data Elements
dbo_Class	Current year	2	BegSchSessYr
			ProcPeriodCd
			VersionNum
			SponsorCd
			SiteCd
			ClassCd
			CourseCd
			CourseName
			CourseCategoryCd
			CourseCategoryDesc
			TeacherSocSecNum
			TeacherLastName
			TeacherFirstName
			CVRCoreCourseFlag
			ClassBeginDate
			ClassEndDate
dbo_Student	Current year	2	BegSchSessYr
			ProcPeriodCd
			VersionNum
			SponsorCd
			SiteCd
			ClassCd
			CourseCd
			StudentIdNum
			CorrectedIDNum
			StudentGradePlacementCd
			CVRCoreCourseFlg

LDOE Assessment for Accountability Analysis-Pre-Data Certification

Table	Year	Processing Period	Data Elements
n/a	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
			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

Table	Year	Processing Period	Data Elements
			TestTakenFlagALG
			TestTakenFlagGEO
			TestTakenFlagEN1
			TestTakenFlagEN2
			VoidFlagALG
			VoidFlagGEO
			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
n/a	1st prior year; 2nd prior year; 3rd 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
			SSTLVL
			TestTakenFlagALG
			TestTakenFlagGEO
			TestTakenFlagEN1
			TestTakenFlagEN2
			VoidFlagALG
			VoidFlagGEO
			VoidFlagEN1
			VoidFlagEN2
			AccountabilityCode_ALG
			AccountabilityCode_GEO
			AccountabilityCode_EN1
			AccountabilityCode_EN2
			PreviouslyBankedALG
			PreviouslyBankedEN2

Table	Year	Processing Period	Data Elements
			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 Note: an extract is provided by Data Quality staff who work on SEE	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 Note: External Contractor derived report from MFP count provided by Data Management	Current year	February	LASID
			CountedExcept1
			CountedExcept2
			CountedExcept3
			CountedExcept4
			CountedExcept5

Student Information System (SIS)

Table	Year	Processing Period	Data Elements
dbo_EnrollmentDerivation	Current Year	1, 3	BegSchSessYr
			LASID
			SiteCd
			EntryDt
			ExitDt
			AggrDaysAbsCnt
			MfpCountFlg_Oct1
			MfpCountFlg_Feb1
dbo_EventDisciplineDerivation	Current Year	3	BegSchSessYr
			ProcPeriodCd
			LASID
			ActionInterventionCd

Appendix C: 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. <u>Teacher did not teach class</u>: 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. <u>Student not in class</u>: 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 (R.S. 17:3902(B)(5)).

3. <u>Enrolled in EOC course</u>: Middle school students enrolled in an EOC course that take both the EOC and LEAP tests. The student is ineligible for the ELA or Math (LEAP) analysis when they are not enrolled in an ELA or Math course. The student will only be eligible for the EOC analysis, which matches the course enrollment.

4. <u>Dual enrollment in EOC course</u>: Students enrolled concurrently in Algebra I and Geometry 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.

5. <u>Did not take current year test in content</u>: Student test records are coded with Test Taken Flag = N in the appropriate content in the current school year.

6. <u>Content test score voided in current year</u>: 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.

7. <u>Student listed in multiple grades in current year test file</u>: Students having more than one grade level listed in the test file, each with its own test record in the current school year.

8. <u>Did not take prior year test in content</u>: Student test records are coded with Test Taken Flag = No in the appropriate content in the prior school year.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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.

14. 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.

15. Ineligible enrollment: Students not present at the same site code on October 1, February 1, and testing.

16. Ineligible grade progression: Students with non-sequential grade progression. Grade progression must also include the availability of valid tests 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.

17. 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 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.

18. 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 D: 2018-2019 Course Codes Eligible for Value-Added Analysis

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
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
122520	6th grade Spanish Immersion Social Studies	Social Studies	4-8
122521	7th grade Spanish Immersion Social Studies	Social Studies	4-8
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
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
160300	MATHEMATICS; ELEMENTARY GRADES	Math	4-8
160306	MATHEMATICS; 6TH GRADE DEPT.	Math	4-8
160321	ALGEBRA I	Algebra	All grades
160323	GEOMETRY	Geometry	All grades
160331	APPLIED ALGEBRA I	Algebra	All grades
160332	APPLIED GEOMETRY	Geometry	All grades
160338	ALGEBRA I - PART II	Algebra	All grades
160340	INTEGRATED MATHEMATICS II	Algebra	All grades
160341	INTEGRATED MATHEMATICS III	Geometry	All grades

Course Code	Course Name	Content	Grade
160342	APPLIED MATHEMATICS I	Math	4-8
160362	NOCCA INTEGRATED MATHEMATICS II	Algebra	All grades
160363	NOCCA INTEGRATED MATHEMATICS III	Geometry	All grades
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	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, 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, Social Studies	4-8

Appendix E: 2018-2019 Value-Added Analysis 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) +
(Disability Other * Disability Other coefficient) +
(Economically Disadvantaged * Economically Disadvantaged 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) +
(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) +
(Disability Other * Disability Other coefficient) +
(Economically Disadvantaged * Economically Disadvantaged 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) +
(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) +
(Disability Other * Disability Other coefficient) +
(Economically Disadvantaged * Economically Disadvantaged 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) +
(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) +
(Disability Other * Disability Other coefficient) +
(Economically Disadvantaged * Economically Disadvantaged 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) +
(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) +
(3rd prior ELA * 3rd prior ELA coefficient) +
(3rd prior MTH * 3rd prior MTH coefficient) +
(3rd prior SCI * 3rd prior SCI coefficient) +
(3rd prior SST * 3rd 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) +
(3rd prior ELA square * 3rd prior ELA square coefficient) +
(3rd prior MTH square * 3rd prior MTH square coefficient) +

(3rd prior SCI square * 3rd prior SCI square coefficient) +
(3rd prior SST square * 3rd prior SST square coefficient) +
(3rd prior ELA cube * 3rd prior ELA cube coefficient) +
(3rd prior MTH cube * 3rd prior MTH cube coefficient) +
(3rd prior SCI cube * 3rd prior SCI cube coefficient) +
(3rd prior SST cube * 3rd 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 F: 2018-2019 Value-Added Analysis Coefficients

2018-2019 ELA All Paths Coefficients				
Predictor	Path R	Path 1	Path 2	Path 3
Intercept	-21.45	-0.71	-0.16	1.72
Emotional Disturbance	-18.52	-5.05	-3.44	-5.16
Specific Learning Disability	-7.31	-6.60	-4.28	-5.88
Mild Intellectual Disability	-8.12	-10.92	-5.55	-9.05
Other Health Impairment	-7.01	-6.23	-3.47	-5.40
Speech or Language Impairment	1.70	-1.91	-0.89	-1.46
Special Education - Other	-6.83	-5.59	-1.95	-5.14
Economically Disadvantaged	0.38	-1.95	-1.21	-0.57
English Language Learner	-3.09	-2.68	1.53	1.28
Gifted	3.98	5.00	2.85	1.46
Section 504	-2.46	-4.02	-2.74	-3.30
Student Absences	-0.07	-0.06	-0.05	-0.09
Suspensions	-1.37	-1.46	-1.43	-1.59
Mobility	0.73	-1.08	-1.03	-1.26
1st prior ELA	17.42	16.27	10.38	12.33
1st prior MTH	5.37	5.29	3.31	3.21
1st prior SCI	NA	NA	NA	NA
1st prior SST	6.92	8.27	7.20	5.38
2nd prior ELA	NA	NA	6.02	6.10
2nd prior MTH	NA	NA	0.00	-0.39
2nd prior SCI	NA	NA	2.38	0.99
2nd prior SST	NA	NA	2.64	1.00
3rd prior ELA	NA	NA	NA	4.01
3rd prior MTH	NA	NA	NA	-0.34
3rd prior SCI	NA	NA	NA	-0.14
3rd prior SST	NA	NA	NA	NA
1st prior ELA square	-0.51	0.20	0.59	0.50
1st prior MTH square	0.95	0.07	0.23	-0.05
1st prior SCI square	NA	NA	NA	NA
1st prior SST square	0.15	1.38	1.00	0.68
1st prior ELA cube	-0.46	-0.69	-0.37	-0.42
1st prior MTH cube	0.04	-0.14	-0.07	-0.06
1st prior SCI cube	NA	NA	NA	NA
1st prior SST cube	-0.79	-0.23	-0.23	-0.16
2nd prior ELA square	NA	NA	0.30	0.39
2nd prior MTH square	NA	NA	0.08	-0.13
2nd prior SCI square	NA	NA	-0.19	-0.35
2nd prior SST square	NA	NA	0.41	0.07
2nd prior ELA cube	NA	NA	-0.19	-0.19

2018-2019 ELA All Paths Coefficients				
Predictor	**Path R**	**Path 1**	**Path 2**	**Path 3**
2nd prior MTH cube	NA	NA	0.02	0.12
2nd prior SCI cube	NA	NA	-0.14	-0.06
2nd prior SST cube	NA	NA	-0.20	0.05
3rd prior ELA square	NA	NA	NA	0.10
3rd prior MTH square	NA	NA	NA	-0.10
3rd prior SCI square	NA	NA	NA	-0.20
3rd prior SST square	NA	NA	NA	NA
3rd prior ELA cube	NA	NA	NA	-0.09
3rd prior MTH cube	NA	NA	NA	0.10
3rd prior SCI cube	NA	NA	NA	0.00
3rd prior SST cube	NA	NA	NA	NA

2018-2019 Math All Paths Coefficients				
Predictor	Path R	Path 1	Path 2	Path 3
Intercept	-17.43	-0.57	0.02	1.24
Emotional Disturbance	0.39	-3.98	-1.58	-1.60
Specific Learning Disability	-8.00	-5.37	-3.27	-4.56
Mild Intellectual Disability	-10.56	-8.43	-6.00	-8.01
Other Health Impairment	-3.08	-4.31	-2.30	-4.04
Speech or Language Impairment	5.74	-0.01	-0.18	-1.55
Special Education - Other	-3.33	-3.82	-1.79	-3.19
Economically Disadvantaged	0.16	-2.21	-1.48	-0.88
English Language Learner	0.17	0.76	1.91	2.06
Gifted	9.67	5.26	3.34	1.81
Section 504	-1.83	-3.61	-2.46	-2.13
Student Absences	-0.12	-0.21	-0.21	-0.13
Suspensions	-1.41	-1.17	-1.13	-1.27
Mobility	1.22	-1.26	-1.31	-1.34
1st prior ELA	2.30	3.24	1.79	2.71
1st prior MTH	21.12	21.93	15.05	11.82
1st prior SCI	NA	NA	NA	NA
1st prior SST	1.55	2.35	1.96	2.40
2nd prior ELA	NA	NA	0.12	-0.26
2nd prior MTH	NA	NA	8.52	5.30
2nd prior SCI	NA	NA	0.81	2.37
2nd prior SST	NA	NA	-0.41	-0.35
3rd prior ELA	NA	NA	NA	-0.84
3rd prior MTH	NA	NA	NA	4.73
3rd prior SCI	NA	NA	NA	0.74
3rd prior SST	NA	NA	NA	NA
1st prior ELA square	-1.61	0.06	0.08	-0.25
1st prior MTH square	0.75	0.72	1.14	1.15
1st prior SCI square	NA	NA	NA	NA
1st prior SST square	-0.59	0.64	0.33	0.34
1st prior ELA cube	-0.20	-0.14	0.01	-0.04
1st prior MTH cube	-0.76	-0.93	-0.58	-0.47
1st prior SCI cube	NA	NA	NA	NA
1st prior SST cube	-0.51	0.08	0.02	-0.06
2nd prior ELA square	NA	NA	0.10	0.07
2nd prior MTH square	NA	NA	0.62	0.23
2nd prior SCI square	NA	NA	-0.13	-0.07
2nd prior SST square	NA	NA	-0.03	-0.25
2nd prior ELA cube	NA	NA	-0.01	0.09
2nd prior MTH cube	NA	NA	-0.36	-0.15

2018-2019 Math All Paths Coefficients				
Predictor	Path R	Path 1	Path 2	Path 3
2nd prior SCI cube	NA	NA	-0.04	-0.09
2nd prior SST cube	NA	NA	0.04	0.08
3rd prior ELA square	NA	NA	NA	-0.03
3rd prior MTH square	NA	NA	NA	-0.06
3rd prior SCI square	NA	NA	NA	-0.14
3rd prior SST square	NA	NA	NA	NA
3rd prior ELA cube	NA	NA	NA	0.07
3rd prior MTH cube	NA	NA	NA	-0.06
3rd prior SCI cube	NA	NA	NA	-0.06
3rd prior SST cube	NA	NA	NA	NA

2018-2019 Social Studies All Paths Coefficients				
Predictor	Path R	Path 1	Path 2	Path 3
Intercept	-21.69	-0.56	-0.24	1.64
Emotional Disturbance	0.94	-5.94	0.92	-1.21
Specific Learning Disability	-5.05	-3.38	-5.51	-3.66
Mild Intellectual Disability	-0.55	-6.91	-4.21	-4.37
Other Health Impairment	-4.30	-3.57	-3.23	-2.50
Speech or Language Impairment	2.59	0.62	2.50	1.46
Special Education - Other	5.84	-3.12	-0.50	-0.10
Economically Disadvantaged	-1.38	-2.52	-1.29	-1.04
English Language Learner	1.51	2.36	3.51	3.18
Gifted	15.38	7.40	2.84	1.00
Section 504	-1.86	-1.63	-2.22	-1.54
Student Absences	-0.12	-0.12	-0.11	-0.13
Suspensions	-2.06	-1.41	-1.07	-1.62
Mobility	2.06	-1.38	-1.20	-1.63
1st prior ELA	12.96	11.67	7.62	6.71
1st prior MTH	5.98	7.62	2.94	3.76
1st prior SCI	NA	NA	NA	NA
1st prior SST	17.79	13.55	11.86	13.67
2nd prior ELA	NA	NA	3.13	2.32
2nd prior MTH	NA	NA	-0.75	-0.79
2nd prior SCI	NA	NA	4.08	3.87
2nd prior SST	NA	NA	5.21	5.41
3rd prior ELA	NA	NA	NA	2.40
3rd prior MTH	NA	NA	NA	-0.92
3rd prior SCI	NA	NA	NA	2.71
3rd prior SST	NA	NA	NA	NA
1st prior ELA square	-4.13	-0.17	-0.05	-0.50
1st prior MTH square	1.09	0.51	0.28	0.02
1st prior SCI square	NA	NA	NA	NA
1st prior SST square	5.02	2.45	2.13	2.13
1st prior ELA cube	-1.82	-0.76	-0.29	-0.22
1st prior MTH cube	0.21	-0.21	-0.13	-0.12
1st prior SCI cube	NA	NA	NA	NA
1st prior SST cube	0.25	-0.33	-0.48	-0.64
2nd prior ELA square	NA	NA	0.00	-0.04
2nd prior MTH square	NA	NA	-0.06	-0.23
2nd prior SCI square	NA	NA	0.05	-0.20
2nd prior SST square	NA	NA	0.74	0.87
2nd prior ELA cube	NA	NA	-0.11	-0.08
2nd prior MTH cube	NA	NA	0.04	0.12
2nd prior SCI cube	NA	NA	-0.16	-0.19

2018-2019 Social Studies All Paths Coefficients				
Predictor	Path R	Path 1	Path 2	Path 3
2nd prior SST cube	NA	NA	-0.28	-0.24
3rd prior ELA square	NA	NA	NA	-0.02
3rd prior MTH square	NA	NA	NA	-0.04
3rd prior SCI square	NA	NA	NA	-0.04
3rd prior SST square	NA	NA	NA	NA
3rd prior ELA cube	NA	NA	NA	-0.14
3rd prior MTH cube	NA	NA	NA	0.06
3rd prior SCI cube	NA	NA	NA	-0.12
3rd prior SST cube	NA	NA	NA	NA

2018-2019 Algebra I All Paths Coefficients				
Predictor	Path R	Path 1	Path 2	Path 3
Intercept	-9.82	-2.49	-2.85	1.50
Emotional Disturbance	NA	NA	NA	0.79
Specific Learning Disability	-7.20	-6.16	-3.23	-0.62
Mild Intellectual Disability	-7.28	NA	NA	4.48
Other Health Impairment	-7.34	NA	NA	-1.33
Speech or Language Impairment	NA	NA	NA	-1.58
Special Education - Other	-5.06	-2.85	-5.06	3.07
Economically Disadvantaged	-2.60	-3.57	-1.52	-0.90
English Language Learner	-4.78	4.51	7.14	4.04
Gifted	20.90	7.32	2.22	1.95
Section 504	-5.90	-1.84	1.08	-2.41
Student Absences	-0.08	-0.11	-0.17	-0.18
Suspensions	-1.60	-1.91	-0.81	-1.25
Mobility	-0.51	-1.66	-1.14	-0.44
1st prior ELA	NA	3.47	2.55	2.46
1st prior MTH	9.60	16.53	12.46	11.32
1st prior SCI	NA	NA	NA	NA
1st prior SST	NA	5.25	3.85	3.27
2nd prior ELA	NA	NA	0.51	0.05
2nd prior MTH	NA	NA	6.52	6.58
2nd prior SCI	NA	NA	2.64	0.88
2nd prior SST	NA	NA	0.92	0.62
3rd prior ELA	NA	NA	NA	-0.49
3rd prior MTH	NA	NA	NA	4.36
3rd prior SCI	NA	NA	NA	0.19
3rd prior SST	NA	NA	NA	NA

2018-2019 Geometry All Paths Coefficients				
Predictor	Path R	Path 1	Path 2	Path 3
Intercept	-12.39	-4.44	0.47	1.61
Emotional Disturbance	NA	NA	NA	NA
Specific Learning Disability	-3.30	-0.64	NA	0.21
Mild Intellectual Disability	NA	NA	NA	NA
Other Health Impairment	NA	-1.53	NA	1.56
Speech or Language Impairment	NA	NA	NA	0.84
Special Education - Other	1.91	-0.86	-4.93	0.41
Economically Disadvantaged	-1.79	-2.12	-0.64	-0.72
English Language Learner	-6.15	1.83	3.31	2.79
Gifted	10.83	16.13	-3.95	0.26
Section 504	-2.26	-3.47	1.39	-0.75
Student Absences	-0.11	-0.08	-0.25	-0.13
Suspensions	-0.60	-1.45	-2.31	-1.14
Mobility	-0.24	0.38	1.27	-1.31
1st prior MTH	9.68	11.78	12.68	12.08
2nd prior ELA	NA	NA	-0.42	-0.65
2nd prior MTH	NA	NA	5.13	4.95
2nd prior SCI	NA	NA	1.34	2.24
2nd prior SST	NA	NA	0.67	-0.16
3rd prior ELA	NA	NA	NA	-0.75
3rd prior MTH	NA	NA	NA	1.79
3rd prior SCI	NA	NA	NA	1.08
3rd prior SST	NA	NA	NA	NA

2018-2019 English I All Paths Coefficients				
Predictor	Path R	Path 1	Path 2	Path 3
Intercept	-20.28	-4.72	-5.18	2.14
Emotional Disturbance	-7.56	NA	NA	1.41
Specific Learning Disability	-11.47	-4.21	-7.29	-3.87
Mild Intellectual Disability	-15.09	NA	NA	-3.46
Other Health Impairment	-8.42	-8.94	-7.31	-3.38
Speech or Language Impairment	NA	NA	NA	-2.13
Special Education - Other	-1.56	-3.61	-3.73	-0.50
Economically Disadvantaged	-2.17	-1.73	-0.16	-0.85
English Language Learner	-9.15	-5.06	1.78	2.12
Gifted	10.06	-3.47	0.58	0.88
Section 504	-5.79	-5.01	-1.11	-2.47
Student Absences	-0.22	-0.19	-0.16	-0.10
Suspensions	-1.87	-0.72	-1.29	-1.54
Mobility	-1.94	0.43	-1.98	-1.61
1st prior ELA	15.92	15.79	13.98	10.27
1st prior MTH	NA	3.97	3.12	1.75
1st prior SCI	NA	NA	NA	NA
1st prior SST	NA	10.13	5.10	6.44
2nd prior ELA	NA	NA	5.13	5.41
2nd prior MTH	NA	NA	-2.15	0.10
2nd prior SCI	NA	NA	2.30	1.48
2nd prior SST	NA	NA	3.45	2.23
3rd prior ELA	NA	NA	NA	4.05

2018-2019 English II All Paths Coefficients				
Predictor	Path R	Path 1	Path 2	Path 3
Intercept	-19.07	-5.26	-0.35	5.52
Emotional Disturbance	-0.36	NA	NA	4.47
Specific Learning Disability	-12.69	-19.44	-7.09	-5.49
Mild Intellectual Disability	-14.23	NA	NA	NA
Other Health Impairment	-11.22	-15.58	NA	-4.01
Speech or Language Impairment	-1.76	NA	NA	-0.58
Special Education - Other	-13.37	-10.04	-2.83	-1.02
Economically Disadvantaged	-1.52	-8.48	-1.17	-0.32
English Language Learner	-7.72	-5.56	12.32	3.09
Gifted	-10.73	12.21	8.04	1.95
Section 504	-8.16	-10.44	-3.66	-2.79
Student Absences	-0.01	-0.08	-0.35	-0.15
Suspensions	-1.78	-3.96	-2.24	-2.50
Mobility	-2.23	0.17	-0.06	-2.08
1st prior ELA	15.04	23.81	20.48	16.66
1st prior MTH	NA	NA	7.45	7.56
1st prior SCI	NA	NA	1.94	0.59
1st prior SST	NA	NA	1.83	1.44
2nd prior ELA	NA	NA	7.45	6.49
2nd prior MTH	NA	NA	NA	4.83
2nd prior SCI	NA	NA	NA	0.28
2nd prior SST	NA	NA	NA	1.69
3rd prior ELA	NA	NA	NA	NA

Appendix G: Value-Added Student and Classroom Characteristics

State law 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: Six 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. Six 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. Special Education – Other

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: A dichotomous variable, indicating whether or not the student has an economic disadvantage, was derived from data pre-coded or bubbled in the current year assessment file. Free and Reduced Price Lunch has previously been an indicator of poverty used in the value-added analysis; however, due to participation in the federal Community Eligibility Provision (CEP) school meal program, many schools do not collect applications for reduced or free meals from students. Starting with the 2014-2015 school year, the Department utilized a new method to identify students in poverty, reporting this category as "Economically Disadvantaged" rather than using free and reduced meal data. The "Economically Disadvantaged" data is derived from and includes students eligible for the Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), Medicaid, homeless, migrant, awaiting foster care, or incarcerated children. The use of "Economically Disadvantaged" indicator was compared to previous free and reduced lunch status and was found to perform similarly as a predictor, and was used within the analysis. Starting in the 2015-2016 school year, "Economically Disadvantaged" began to include English language learners (EL), in addition to the data elements described previously.

7. Mobility status: A dichotomous variable, indicating whether or not the student changed schools, was derived from data submitted by districts as of the February 1 Student Information System (SIS) collection. 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 SIS collection.

9. Suspensions: The count of student suspensions submitted by districts as of the February 1 SIS collection.

Classroom/Teacher Characteristics

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

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

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

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