  
  
Florida Value-Added Model

Technical Report

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Florida Value-added Model

Introduction

The State of Florida has committed to using value-added methods as a component of its teacher evaluation system as required by the Student Success Act (Senate Bill 736) as well as its Race to the Top proposal (RTTT). The value-added model (VAM) described in this technical report is applied to the Florida Comprehensive Assessment Test (FCAT) in reading and mathematics across grades 3 through 10. Other models using data from different sources, such as End-of-Course assessments, will be developed in subsequent work.

In 2011, the Florida Legislature passed Senate Bill 736, which was also closely aligned with the objectives for teacher evaluation as proposed in the state’s RTTT application. The Act and the RTTT application both require the use of student achievement test score data as one element of a teacher evaluation system. The role of the VAM is to differentiate teacher performance by using statistical models to measure student learning growth and attribute this growth to specific teachers. It accomplishes this by making use of Florida’s longitudinal test score data from the FCAT.

The State enlisted a diverse group of stakeholders, referred to as the Student Growth Implementation Committee (SGIC), to serve as an evaluation committee and to make final recommendations as to the specific value added model that is best suited to the needs of teachers and students across the state. The members of the SGIC include teachers, principals, parents, union representatives, superintendents, school board members, district administrators, and postsecondary faculty who contribute expertise in various teaching subjects and grades, educational administration at all levels, and in the areas of measurement and assessment. The names and affiliations of the SGIC members are provided in Appendix A.

This committee convened twice in Orlando, Florida and held approximately four phone conferences with the Florida Department of Education and the contracted vendor, the American Institutes for Research (AIR), to consider advantages and disadvantages of different modeling approaches that have been proposed in the value-added literature. Based on SGIC recommendations, AIR implemented over 120 different VAMs, which were subsequently reviewed and compared by the SGIC.

Based on the SGIC’s review of the results across the array of models, a specific model was recommended to the State Commissioner of Education. The committee’s recommended model was selected by the Commissioner and will become the model used operationally for the FCAT reading and math tests to support SB 736 and all RTTT activities.

This technical report describes the value-added model selected by the SGIC and the Commissioner and provides summaries of its results. The complete technical and computational details of the model are provided as well as a summary of its results. The report is organized to provide some context on different modeling approaches that were presented to the SGIC.

A more comprehensive description of different value-added modeling techniques and how these different approaches relate to each other can be found in McCaffrey, Lockwood, Koretz, Louis, and Hamilton et al (2004).

Value-Added Modeling

Value-added modeling with educational test score data is the process of statistically analyzing student level test scores collected over a period of time with the intent of separating factors unique to students and schools from factors unique to a classroom teacher to attribute growth in student achievement to teachers and schools. The factor unique to a teacher is typically referred to as a *teacher effect* and is thought to be the causal impact of the teacher’s instructional efficacy on the student’s achievement as reflected via the test scores.

All VAMs have similar aims, but use different assumptions and principles. McCaffrey et al. (2004) have demonstrated the relationship across commonly used VAM approaches, showing how different models can be viewed as special cases of a more general longitudinal model. Nonetheless, it is fair to characterize VAMs as falling into two modeling categories: those which we refer to as *learning path models* (typically referred to as variable persistence in the literature) and *covariate adjustment models*. These are described briefly below.

Two Common Value-Added Designs

All value-added models use longitudinal, student-level data. However, various models make use of the data in different ways. For instance, the variable persistence model (McCaffrey et al, 2004) uses the student level data as the vector of outcomes in a mixed linear regression and makes assumptions about how prior year teachers contribute to current year learning gains. Such an approach implicitly assumes all students have a predetermined learning trajectory relative to the mean outcomes in the state and that current year teachers can alter that trajectory upwards with good instruction or downwards with less effective instruction.

Covariate adjustment models use the longitudinal data somewhat differently. In these models, the current year test score alone serves as the outcome in a linear regression and the prior year scores are used as conditioning variables. The models assume that students with a teacher of average effectiveness will score similar to other students with similar prior test scores and other characteristics. A teacher with a positive impact will alter the student’s current year outcome in a way such that the student performs better than is predicted, and a teacher with negative impact will affect the outcome such that the student does not perform as well as predicted.

In either case, the outcomes across different subject areas (e.g., reading and math) can be modeled marginally—a separate regression for math and another for reading or jointly—where reading and math scores are simultaneously used as outcomes in a regression. Accommodating the latter approach presents additional computational challenge, requiring a slight difference in the parameterization of the within-student covariance matrix to account for correlation across error terms across the different tests.

However, Lockwood, McCaffrey, Mariano, and Setodji (2007) have shown that modeling the outcomes jointly has only very modest effects on estimates of value added. They show that the estimated teacher effects from a joint and marginal model were correlated greater than .99. The conditional variances of the teacher effects were also shown to differ only by nominal amounts.

There is one additional characteristic of the variable persistence model that does not appear in the covariate adjustment design—the impact of prior year teachers on current year outcomes. There are essentially two competing approaches on how to treat prior year teachers. One assumes complete persistence, meaning that the impact of a prior teacher on current outcomes does not dissipate at all (Ballou, Sanders, Wright, 2004). In other words, the impact that prior teachers had on the students learning path perpetually remains with that student. This implies that prior teachers have permanently impacted student learning paths.

A separate approach assumes that the impact of the prior teacher is an additional parameter of the model and it should be estimated from the data (McCaffrey et al, 2004). In most cases, the impact of the prior teacher diminishes in some fashion, meaning that the impact of prior year teachers most likely declines with students over time. Under these assumptions, the fact that last year’s teacher had a large impact on the student’s learning path does not mean that the student’s learning path is forever altered by that teacher as is assumed with complete persistence.

One additional issue that affects covariate adjustment models that has a significant impact on the model results is the impact of measurement error in the predictor variables. It is well established that conditioning on variables measured with error yields bias in the model parameters (Greene, 2000). Some approaches use an instrumental variables (IV) approach (Meyer, 1992). The use of IV is typically used when one of the predictor variables is correlated with the error term in the regression model—a situation which occurs when predictor variables are measured with error. However, there are challenges in identifying what to use as useful instruments. Ignoring this error in high stakes accountability systems yields results that are subject to much criticism and should be accounted for.

The Florida Value-Added Model

The model implemented for the State of Florida is a covariate adjustment model that includes two prior test scores as predictor variables (except in grade 4 where only one predictor is available), a set of measured characteristics for students, with teachers and schools treated as coming from a distribution of random effects. The model is an error-in-variables regression to account for the measurement error in the predictor variables used. A complete technical description of the model is found in the Methods section of this report.

The predictor variables used in the model are the same across all grades in both reading and math, and they are:

* The number of subject-relevant courses in which the student is enrolled: Some students are enrolled in multiple courses that, according to the Florida course code directory, are linked to an FCAT test. This variable counts, for each student, the number of courses they are enrolled in that is linked to the FCAT test via the course code directory (see Appendix B).
* Two prior years of achievement scores: These are always the scores for the subject from the two prior years. For example, grade 8 math uses grades 6 and 7 FCAT math scores as predictors.
* Disabilities (SWD) status: This is a dichotomous variable denoting whether a student receives special education services for a specific disability.
* English language learner (ELL) status: This is a dichotomous variable denoting whether students are currently enrolled in an English language learner program or not for less than two years.
* Gifted status: This is a dichotomous variable denoting if the student is enrolled in a gifted program or not.
* Attendance: This is a continuous variable counting the number of days the student was present during the school year.
* Mobility (number of transitions). This is a continuous variable counting the number of transitions across schools within the same school year.[[1]](#footnote-1)
* Difference from modal age in grade (as an indicator of retention): This is a continuous variable computed as where is the age in months for student *i* and *x* is the modal age for students enrolled in the same grade across the state.
* Class size: A continuous measure counting the number of students linked to teacher *j*.

Homogeneity of entering test scores in the class: A continuous variable computed as the interquartile range of student entering scores in the class.

Certain properties of the FCAT scale caused for some concern over its proposed interval nature. The FCAT reports what is referred to as a developmental scaled score (DSS), which is a vertical scale measuring achievement across all grades. However, disparate patterns of growth in different grades suggest gain scores may not be comparable in different grades. For instance, we observe much larger growth estimates for grade 4 students than other grades, especially in reading.

One possible consequence of this disparate pattern is that teachers in lower grades could appear to have larger value-added estimates relative to teachers in higher grades if all teachers were included in the same analysis. There are many possible ways to address this concern, some of which can be model-based (i.e., parameterize the model to account for these differences) or run separate models for each grade. We chose the latter to address this concern.

Attribution of School Component to Teacher Effect

The VAM applied to the FCAT data decomposes total variation in achievement into three orthogonal components: variation between schools, variation between teachers within a school, and variance between students within a classroom. The parameterization of the model forms what is commonly referred to as a hierarchical linear model (HLM)[[2]](#footnote-2).

While all parameters are estimated simultaneously, it is useful to consider the levels separately. First, student-level prior test scores (i.e., the lags) and the covariates are used to establish a statewide conditional expectation. This expectation is the score a student is expected to have, given his or her prior test score history and measured characteristics.

However, schools exhibit differential amounts of growth. The model cannot differentiate whether these differences are due to independent factors at the school (e.g., particularly effective leadership) or simply due to the sorting of high-growth teachers into some schools rather than others. We refer to this as the *common school component* of student growth. The common school component therefore describes the amount of learning that is typical for students in each school that differs from the statewide conditional expectation.

Whether or not to estimate the common school component and teacher effects was a source of significant discussion for the SGIC, and it is a source of significant discussion in the value-added literature. If school effects are ignored and the model includes only teacher effects, then legitimate differences between teachers could be exaggerated as some of the teacher effect includes the common school component. In other words, some teachers could appear to have higher (or lower) value-added than is true in reality as their effect includes things that may be reasonably viewed as out of their immediate control, such as principal leadership. In contrast, if school effects are included, then some of the legitimate differences between teachers could be minimized. In other words, the school effect now captures some of the teacher effect. As a result, when estimating a value-added model, we needed to determine whether the model should:

1. estimate the common school component, thus potentially removing some legitimate differences between teachers; or

2. ignore the common school component and assume that any difference in learning across classes is entirely a function of classroom instruction; or

3. find some middle ground where teacher value-added scores include some but not all of the common school component.

If we subscribe to the notion that some of the school component reflects the sorting of more effective teachers into some schools, then we may wish to apportion some of the school effect back to teachers. However, how much of the school effect gets attributed back to teachers cannot be determined via the value-added model though these decisions have important implications for interpreting teacher value-added scores, particularly across schools. Specifically, if the committee voted to add none of the school component (0%) to teachers’ value-added scores there would be one model, but different standards for student outcomes for different schools. Teachers with high-growth in high-growth schools may earn lower value-added scores than teachers with lower growth at a low growth schools.

In contrast, if the committee voted to add all of the school component (100%) to teachers’ value-added scores, there would be one model with the same standard for student outcomes, regardless of school. Teachers with high student growth in high growth schools will earn higher value-added scores than teachers with lower growth at low growth schools, regardless of how the teachers’ performances compare to their respective schools. After significant discussion, as well as with a second follow-up meeting, the SGIC determined that some of the school effect should be attributed back to teachers. The proportion allocated back was put to vote and agreed upon by the SGIC as 50 percent. Hence, teacher effects are then subject to the following calculation:

*Teacher Value-Added Score = Unique Teacher Component + .50 \* Common School Component*

This formula simply recognizes that some of the school component is a result of teacher actions within their schools and that they should receive some credit in their overall value-added effects.

Methods

Covariate Adjustment Model

The statistical value-added model implemented for the State of Florida is typically referred to as a covariate adjustment model (McCaffrey et al, 2004) as the current year observed score is conditioned on prior levels of student achievement as well as other possible covariates that may be related to the selection of students into classrooms.

In its most general form, the model can be represented as:

where is the observed score at time *t* for student *i*, is the model matrix for the student and school level demographic variables, is a vector of coefficients capturing the effect of any demographics included in the model, is the observed lag score at time *t-r* (), **γ** is the coefficient vector capturing the effects of lagged scores, is a design matrix with one column for each unit in *q* () and one row for each student record in the database. The entries in the matrix indicate the association between the test represented in the row and the unit (e.g., school, teacher) represented in the column. We often concatenate the sub-matrices such that . is the vector of effects for the units within a level. For example, it might be the vector of school or teacher effects which may be estimated as random or fixed effects. When the vector of effects is treated as random, then we assume for each level of *q*.

Corresponding to , we define . In the subsequent sections,weuse the notation **,** and to simplify computation and explanation.

Note that all test scores are measured with error, and that the magnitude of the error varies over the range of test scores. Treating the observed scores as if they were the true scores introduces a bias in the regression and this bias cannot be ignored within the context of a high stakes accountability system. Our approach to incorporating measurement error in the model is described in a later section.

Defining Teacher and School Effects in the Covariate Adjustment Model

The terms teacher and school “effect” imply something causal about the role of teachers and students in the model. While the VAM clearly aims to disentangle factors idiosyncratic to a student and school from a teacher, we truly only have some residual variation at the teacher level that is then attributed to the classroom teacher as their instructional influence. We retain the use of the term teacher effect because the VAM intends to identify this effect directly. However, the term school effect is not the most appropriate term. Accounting for other factors that are unique to students attending the school does not imply the school itself caused the effect. Instead, including a school component is capturing the latent effect of all potential impacts of the school community, including principal leadership, neighborhood effects, etc. Hence, we prefer the term unique school component for this level.

Because the model is a covariate adjustment model, predictions for students are set for students conditioned on their observed characteristics and prior test scores. That is, the conditional expectation for a student is formally defined as:

Therefore, the basic idea is to find a conditional expectation for student *i* based on how other students with similar measured characteristics and prior test score have performed. Given the predicted value we then have , which denotes the observed difference between their observed test performance and their predicted performance.

When teachers and schools are treated as random effects, as the SGIC decided to do in Florida value-added model, these residuals are then aggregated for teacher *j* to form the empirical Bayes estimate as:

**(1)**

where is the teacher level variance, is the school level variance, is the residual variance, denotes the number of students in class *j* and the notation *(j)i* is used to mean that student *i* in class *j*. Equation 1 above is nothing more than the scalar representation of the commonly used matrix notation:

where **.** and **V** is block-diagonal. However, in Equation 1 we can see that student level residuals form the basis for the quantity referred to as a teacher effect. Hence, given estimates of the model parameters, including the fixed effects and variances of the random effects, we can formally define the teacher effect as the weighted mean of the student level residuals[[3]](#footnote-3).

Because the estimated teacher effect is a weighted mean of the student level residuals, it is easy to see that a teacher with a positive value-added effect is one whose students, on average, perform better than conditionally expected and a teacher with a negative value added effect is one whose students perform lower than conditionally expected.

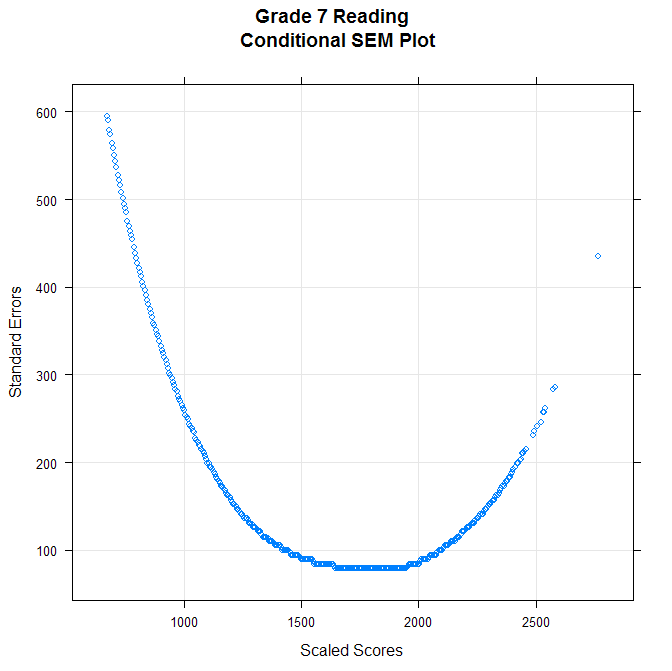
Measurement Error in Educational Achievement Tests and How its Effect Propagates into the VAM

Classical test theory posits that the observed test score is the sum of a true score plus a disturbance, and also posits that the observed score variance is the sum of two orthogonal variances, . From these basic principles, we can define reliability as the ratio of true score variance to the observed score variance, and also write the classical standard error of measurement as . This classical standard error assumes homoscedasticity of the error term across the score range and almost all error-in-variable models are constructed around the classical true score model (Kmenta, 1971).

Item response theory (IRT) extends these basic principles and introduces the concept of the test information function (TIF) (Lord, 1980). Rather than a single index characterizing the precision of the test, the TIF varies along the score continuum providing more information at certain points of the score range. The converse of the TIF, or the lack of information, is taken as the standard error of measurement at a particular score point. Because the TIF varies along the score continuum, so does the standard error of measurement.

In Florida, the conditional standard errors of measurement (CSEM) tend to be larger at the extremes of the score distribution as illustrated in Figure 1. Because there is heteroscedasticity in the error term, the error-in-variables (EiV) regression model must directly take this into account to yield efficient estimates of the model parameters. Our derivation of the EiV model is based on these principles and is described in the next section.

Figure 1



It has been proposed that measurement error in the predictor variables can be ignored when the model conditions on at least three prior test scores (Sanders, 2006). It can, however, be shown analytically as follows that bias will remain, even when multiple scores are used.

Suppose the true score regression is .Letwhere **U** is a matrix of unobserved disturbances with the same dimensions as **X**. The true score regression is then **.** Taking the maximum likelihood estimator for the true regression as

And then upon substitution we have

This simplifies because and E(. Consequently, , where as and the component propagates as bias.

This shows that adding in additional predictor variables does not guard against bias due to the measurement error in the predictors. The bias is a function of the measurement error in the predictor variables, not a function of the number of variables. However, this illustration does shed light on a possible solution to the problem associated with measurement error in the predictor variables, which we present next.

Accounting for Measurement Error in the Predictor Variables

We first re-express the true score regression as:

We use \* to denote the variables without measurement error. For convenience, define the matrices , , and . Label the matrix of measurement error disturbances **U** for disturbances associated with , and label the vector of measurement disturbances with the dependent variable, , **v**, hence . Let **U** have the same dimension as **W**, but only the final *L* columns of **U** are non-zero, so . If those disturbances were observed, the parameters can be estimated using Henderson’s methods (1950) by solving the following mixed model equations:

The matrix **D** is comprised of *Q* diagonal blocks, one for each level in the hierarchy. Each diagonal is constructed as where is an identity matrix with dimension equal to the number of units at level *q*, and is the estimated variance of the random effects among units at level *q*. When concatenated diagonally the square matrix **D** has dimension.

Two complications intervene. First, we cannot observe **U**, and second, the unobservable nature of this term along with the heterogeneous measurement error in the dependent variable renders this estimator inefficient.

Addressing the first issue, upon expansion we see that

Since , we have, hence . Furthermore, we have, , and .

Addressing the second issue, both the right side and left side variables in the model equation measured with error contribute to the heteroscedasticity. While the correction eliminates the bias due to measurement error, we still do not have an error-free measure of **y** for any time period. Therefore, the residual is comprised of

.

where , is the conditional mean of the random effects. The residual variance of any given observation is , where is known measurement error variance of the dependent variable for examinee *i* at time *t*. Similarly, are the known measurement error variances of *r* prior test scores. Now, let be a diagonal matrix of dimension *N* with diagonal elements .

With the above, we can define the mixed model equations as

Replacing with Its Expectations

As indicated, is unobserved and so solving the mixed model equation cannot be computed unless is replaced with some observed values. First, we redefine the mixed model equations as:

where is a diagonal “correction” matrix with dimensions *p* x *p* accounting for measurement error in the predictor variables, , andis the column dimension of **X**.

The matrix **S** is used in lieu of based on the following justification. Recall that we previously defined as and the matrix of unobserved disturbances is:

where is a matrix of dimension of with elements of 0, and

The theoretical result of the matrix operation yields the following symmetric matrix:

The theoretical result is limited only because we do not observe --it is latent. However, where is taken as the conditional standard error of measurement for student *i*. The theoretical result also simplifies because errors of measurement on different variables are by expectation uncorrelated, where .

Because we now have a conditional standard error of measurement that varies for each student *i* and we can ignore the off-diagonals, let be:

where denotes the measurement error variance for the *j*th, *j* = (1, 2, … *L*), variable measured with error.

Empirical Bayes versus Fixed Effects

We previously noted that the general model can estimate teacher impacts as fixed or random effects. We also note that the Florida value added teacher effects are empirical Bayes estimates and explicitly defined the teacher effects as such. These types of models are also referred to as “shrinkage” estimators as some of the teacher and school effects are pulled towards a conditional mean given their level of reliability.

The “shrinkage” in the empirical Bayes estimates introduces a small amount of bias, but yields a smaller mean squared error. Conversely, fixed effects models produce unbiased estimates, but have larger mean squared error. As a result of this bias-variance trade-off, the empirical Bayes are, on average, closer to the true population parameter than the fixed effect estimator.

We previously discussed with the Student Growth Implementation Committee that fixed and random effects measure the same quantity and would expect them to be highly correlated. Here we make that argument explicit and show how the fixed effects estimator is the same as the random effects estimator with a small constraint.

Recall that the mixed model solution is based on Henderson’s equations:

The system simultaneously solves for and . However, for illustration suppose we are interested only in solving for the random effects, :

Now suppose that we estimate teachers as fixed effects. The linear model would be:

where **y** is an *n* x 1 vector of outcomes, **X** is an *n* x *q* design matrix is a *q* x 1 vector of coefficients and **e** is a random error term, . Because there are many teachers, suppose we partition **X** as **X** = [**W Z**], where **W** corresponds to non-teacher related fixed effects, and **Z** corresponds to teacher level fixed effects, similarly, we partition as thus yielding:

The normal equation for a partitioned regression is (Searle, 1997):

And isolating the solution for the teacher fixed effects yields:

Hence, we can see that the random effects estimator is the same as the fixed effects estimator when all elements in the matrix **D** are null. In fact, the matrix **D** is what controls the amount of shrinkage observed in the data.

Standard Errors of Fixed and Random Effects

Henderson’s method provides that the standard errors of the fixed and random effects can be computed as:

Note that

=

Let and . Then we have , and

.

Note that if we assume that no teachers teach at more than one school (and we order the columns in appropriately) and no student was associated with more than one school, the matrix is block diagonal with a block for each school containing entries for each of the teachers teaching at that school. Under this assumption can be computed efficiently and the other computations also become tractable even for very large datasets. If there are some students who were in two or more schools during the current year, we will have a few entries in the matrix that are not on the block diagonal, but these will simply be ignored for the purposes of computing the variance terms.

We now have

The standard errors of the fixed effects are computed as:

And the conditional variances of the random effects are:

In order to compute the variances we only care about the diagonal and can be computed easily if is block diagonal. That is, the th diagonal block comes from the th diagonal block of , and the th block of . It equals: .

Hence, at level *q*, the conditional variances are:

where tr(.) denotes the trace of the matrix, and is the submatrix containing the entries at level . We can now compute as

where is the mean of and is a vector of 1’s with the same dimension as .

The residual variance can now be estimated as

where and , *N* is the total number of students and *p* is the number of fixed effect parameter estimated.

Computing the Value-Added Model

Our implementation of the value added model uses the well-known Expectation-Maximization (EM) algorithm (Dempster, Laird, Rubin; 1977) to solve the mixed model equations. All computing takes place within SAS IML, which has functions for sparse matrix methods, including a sparse Cholesky decomposition. These methods make computing more feasible to larger data sets when the matrices retain their sparseness.

The solutions for the fixed effects and predictions for the random effects are obtained via the Expectation-Maximization (EM) algorithm via the following steps:

1. Construct starting values for the variances of the random effects including and for all levels of *q*. These are used in the matrices and **D**, respectively.

2. Solve the linear system for and . The system is sparse and can be solved using sparse matrix methods.

3. Update the values of the variances of the random effects including and using the methods described above.

4. Iterate between steps 2 and 3 until where con is the convergence criteria by default set at 1e-5.

If teacher and school effects are treated as fixed rather than random, the estimation method above is used with the constraint that all elements of the matrix **D** are 0 and the only variance parameter updated at each iteration is as justified in the previous section on fixed effects estimation.

Final Estimates of the Teacher Value-Added Score

We previously noted that the SGIC wanted some of the unique school component to be added back to the teacher effect. We formally denote the teacher value-added score then as:

Where is the empirical Bayes estimate of the teacher effect, is the empirical Bayes estimate of the unique school component and the notation *s(t)* is used to mean that teacher *t* is in school *s*. Because the revised teacher effect is a linear combination of the teacher and school effects, the final conditional variance of the teacher effect no longer applies and we require a new variance estimator. However, this is easily established using the conditional variances of the empirical Bayes estimates as the variance of the linear combination, which we denote as:

Classification Probabilities

The standard errors of the teacher effects represent the measurement of uncertainty associated with a given effect. However, we can extend this to compute other measures that indicate the degree to which teachers could be inaccurately classified as having high or low value added measures.

Suppose we begin with a true score measurement model for teacher effects such that the observed teacher effect is the sum of a true effect and measurement error:

In value-added models, the goal is to identify teachers[[4]](#footnote-4) whose *effects* are sufficiently large to judge them as being “high performing.” Hence, a teacher is deemed high performing within a VAM context when ; or their observed effect is larger than a pre-determined threshold, *t*.

Value-added modeling researchers often estimate in different ways and they often vary in how they define *t*. However, this section establishes a general framework for VAM classification accuracy for models that establish teacher effects using a classical measurement framework. Model-specific classification probabilities can be subsequently derived based on the following theory.

Given this structural model for teacher effects and assuming normality of the error distribution, the marginal probability of a teacher being identified as effective can be derived as:

;

where denotes the normal cumulative distribution function. Managing risk requires an examination of the false positives, or the identification of teachers classified as effective when they truly are not. Extending this to examine false positive rates requires the joint probability:

This yields, for each teacher, a misclassification probability. Introducing the subscript *j* to denote individual teachers (for *i = 1, …, N*), we can now establish:

where denotes the expected number of false positives given the data. Supposing we observe *Q* teachers falling above the threshold *t*, we can compare to *Q* where it is expected that .

Additionally, we can use the same assumptions made previously and justify the following in order to compute the false negatives

Simulations

To ensure the accuracy of the measurement-error corrected mixed model equations, AIR conducted a series of simulations. We constructed test data sets that varied along five dimensions. While the focus of the estimates is on teacher effects, the model should handle multiple levels in the educational hierarchy. We vary the simulated data according to the following:

* Magnitude of effect at each level.
* Measurement properties of the test. IRT tests have measurement variances that vary across the range of scale scores. Classical test theory (and existing programs based on it) assume a constant measurement variance across the range.
* Number of lags. The model controls for prior achievement. Simulations should include immediately prior and previous lagged achievement scores.
* Variation in school and class size.

Selection model. We know that students are not sorted into classrooms randomly. This varies the extent to which students are sorted into classrooms based on observed scores.

Configurations

The chart below summarizes the parameter settings for four simulation configurations. Each run included approximately 200 top-level units (i.e., schools or districts), and were run on 800 independently generated data sets.

Exhibit 1. Data configurations

| Simulation model | Meas. Properties | Magnitude of effect at each level | Levels | Size Variation | Selection effect | Covariates | Time Lags |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Simple/baseline | Constant | Moderate (.2) | 2 | Low (m=20,v=16) | None | None | 1  (prior effect=.8) |
| Basic | Asymmetric | Moderate (.2) | 3 | Moderate  (school: m=20, v=100; teacher m=20, v=80) | Some (.0225 at each level) | Some  (2, both N(0,1); coef = .1,-.1) | 1  (prior effect=.8) |
| Two Lags | Asymmetric | Moderate (.2) | 3 | Moderate  (school: m=20, v=100; teacher m=20, v=80) | Some  (.0225 at each level) | (2, both N(0,1); coef = .1,-.1 | 2  (prior effect=.8) |
| Small effects | Asymmetric | Small (.05) | 3 | Moderate  (school: m=20, v=100; teacher m=20, v=80) | Some | Some | 1 |

Quality of model parameters

Statistical indicators of model quality included indicators of:

Bias

Precision

Quality of standard errors

Bias of estimated teacher effects

Quality of standard errors of estimated teacher effects

Exhibit 2 describes the indicators of bias and precision for the parameters of the model. Each simulation should recover unbiased estimates of the parameters.

Exhibit 2. Indicators of bias and precision

|  |  |
| --- | --- |
| Indicator of: | Indicator for each model parameter |
| Observed bias | Average estimate – true value |
| Sampling error | Average standard deviation of estimates across replicates |
| Combined sampling error and bias | Root mean square error across replicates |

Exhibit 3 summarizes the indicators of the quality of the standard errors.

Exhibit 3. Indicators of unbiasedness and consistency of the standard error estimators

|  |  |
| --- | --- |
| Indicator of: | Indicator for each model parameter |
| Observed standard error | Standard deviation across replicates |
| Estimated standard error | Average estimated standard error across replicates |
| Unbiasedness | Average of  across items |
| Unbiasedness | Proportion of 200 datasets where |
| Unbiasedness | Proportion of 200 datasets where |

Quality of unit (teacher or school) effects

Exhibit 4. Indicators of bias and precision

|  |  |
| --- | --- |
| Indicator of: | Indicator for each model parameter |
| Observed bias | Average across replicates, average across teachers and schools: estimate – true value |
| Sampling error | Calculate the mean, standard deviation, min and max of the standard error estimate for each replicate. Report the average of these statistics and put the 200 estimates in an appendix. |
| Combined sampling error and bias | Root mean square error across replicates |

Exhibit 5 summarizes the indicators of the quality of the standard errors.

Exhibit 5. Indicators of unbiasedness and consistency of the standard error estimators

|  |  |
| --- | --- |
| Indicator of: | Indicator for each model parameter |
| Unbiasedness | Proportion of estimates across all 200 datasets (200\*N teachers) where |
| Unbiasedness | Proportion of estimates across all 200 datasets where |

To evaluate the quality of the school and teacher effect estimates, we propose to calculate the estimated effects and compare them to the true effects using statistics similar to those described in Exhibits 2 and 3.

Results

In this section we provide summaries of the model results for reading and math across all grades for the 2010-11. [[5]](#footnote-5)The appendices provide tables showing results in further detail.

Teacher and School Variance Components

For each grade, the value-added models were fit to the data with both teacher and school random effects. The model decomposes total variation in the outcome into three orthogonal components: variance between teachers within a school, variance between schools, and variance between students within a class. Figures 2 and 3 below show the standard deviation of the student, teacher, and school components in reading and math across all grades.

Figure 2. Magnitude of Teacher and School Variance Components: Mathematics

Formal likelihood ratio tests are not performed between models with teacher effects only and those with both teacher effect and school component. However, using the visual displays as a heuristic to gauge the magnitude of the variance components, we observe that school components seem to account for a non-trivial amount of the variance in the outcome variable.

The relatively sizable magnitude of the school components suggest that systematic school components exist and explain differences in how students perform, above and beyond that which is explained by the teacher effects. In general, the variance between schools tends to be smaller than the variance between teachers within a school. The notable exception to this trend is grade 6 math, where the two effects appear to have similar magnitudes.

It is clear that the variance between students within a class is the largest of all variance components. In reading, there remains quite a bit of heterogeneity between students within a class across all grades. However, the math plots suggest greater homogeneity in students within a class as we look at the higher grades.

It is also worth noting that in math there is an apparent, systematic decline in the variance between schools and the variance between teachers within a school as we look in the higher grades.

Figure 3. Magnitude of Teacher and School Variance Components: Reading

Teacher and School Standard Errors

When value-added models estimate teacher effects and school components, they do so with a certain level of uncertainty. Factors such as the variation in student scores, the type and number of students attributed to a school, and the number of teachers in a school can all influence this level of uncertainty. The level of uncertainty for a particular teacher effect or school component is summarized in the standard error for each estimate.

Table 1 shows the mean of the conditional standard errors of the teacher and school empirical Bayes estimates disaggregated by grade and subject. Within each grade and subject, it can be seen that on average, school components are more precise than the corresponding teacher effects – as would be expected given that more students are typically attributed to a school than to an individual teacher.

While the relationship between teacher and school precision seems to be consistent across grades, the standard errors vary considerably across grades. This variability indicates that the model for some grades is producing teacher effects and school components with less uncertainty than other grades. The standard errors of teacher effects for reading range from a minimum of 8.98 for grade 5, to a maximum of 16.37 for grade 10. For mathematics, grade 9 has the most precise teacher effects on average (7.9), whereas grade 5 has the least precise teacher effects (24.37).

Table 1. Mean Teacher and School Standard Errors by Grade and Subject

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Reading | | Mathematics | |
| Grade | Teacher | School | Teacher | School |
| 5 | 8.98  (0.58) | 6.85  (1.12) | 24.37  (4.44) | 15.1  (2.42) |
| 6 | 14.9  (1.82) | 8.05  (1.57) | 18.85  (3.86) | 13.91  (3.69) |
| 7 | 15.77  (1.98) | 7.77  (1.33) | 14.88  (4.28) | 8.71  (1.50) |
| 8 | 12.84  (1.74) | 6.35  (1.07) | 9.45  (2.22) | 5.7  (0.99) |
| 9 | 9.82  (0.89) | 5.23  (1.14) | 7.9  (2.03) | 4.25  (1.00) |
| 10 | 16.37  (1.85) | 6.86  (1.57) | 6.46  (0.84) | 3.51  (0.92) |

Impact of VAM on Different Student Groups

It is important to examine the possible disparate impact that the VAM has on different groups of students. A difference in expectations does not necessarily imply issues inherent in the model. Some of the observed differences are plausible. In this section we provide descriptive statistics showing how the growth-based model predictions may vary across different student groups.

Below we use the term expected growth, a statistic which we compute as:

Where is the predicted outcome and is the observed outcome. This expected growth is aggregated at various levels to examine possible differences in mean growth expectations.

Differences in Student Growth Expectations by Gifted Status

To examine whether student growth expectations differ for gifted and non-gifted students, conditional expected growth estimates were calculated separately for gifted and non-gifted students at each grade level for both mathematics and reading. Figures 4 and 5 below display these expected growth estimates by grade for mathematics and reading, respectively.

Figure 4. Expected Growth for Gifted and Non-Gifted Status Students by Grade: Mathematics

Figure 5. Expected Growth for Gifted and Non-Gifted Status Students by Grade: Reading

Figure 4 demonstrates that student growth expectations in mathematics were higher for non-gifted than for gifted students in all grades tested. For reading, Figure 5 demonstrates that student growth expectations were higher for gifted than for non-gifted students in grades 5, 9 and 10, approximately equivalent for grade 6 and lower for gifted than for non-gifted students in grades 4, 7 and 8.

It is important to interpret any observed differences between students with gifted and non-gifted status with caution given considerable differences in the size of the population of students for which these estimates were calculated. For example, for grade 10 reading, the expected growth for gifted students is based on 194 students in contrast to 175,184 non-gifted students. A comprehensive display of the student growth estimates and associated sizes of the student populations used to calculate each estimate is provided in Appendix F. Together, these findings demonstrate higher growth expectations for non-gifted than gifted students in mathematics but no consistent relationship between gifted status and conditional expectations for student growth in reading.

Differences in Conditional Student Growth Expectations by ELL Status

Similarly, it is possible that English Language Learners (ELLs) differ from their non-ELL counterparts in expectations for student growth. To examine this possibility, conditional expected growth estimates were calculated separately for ELL and non-ELL students at each grade level for both mathematics and reading. Figures 6 and 7 below display these expected growth estimates by grade for mathematics and reading, respectively.

Figure 6. Expected Growth for ELL and Non-ELL Status Students by Grade: Mathematics

Figure 7. Expected Growth for ELL and Non-ELL Status Students by Grade: Reading

Figure 6 demonstrates that student growth expectations in mathematics were higher for ELL than for non-ELL students in all grades except grade 6. For reading, Figure 7 demonstrates that student growth expectations were higher for ELL than non-ELL students in grades 4 through 10.

Again, it is important to interpret any observed differences between ELL and non-ELL students given considerable differences in the size of the population of students for which these estimates were calculated. For example, for grade 10 mathematics, the expected growth for ELL students is based on 123 students relative to 156,089 non-ELL students. A comprehensive display of the student growth estimates and associated sizes of the student populations used to calculate each estimate is provided in Appendix F. Together, these findings demonstrate higher conditional growth expectations in mathematics and reading for ELL than non-ELL students with one exception (grade 6 mathematics).

Effects of Teacher Characteristics on Teacher Value-Added Estimates

We can also examine whether value-added estimates for teachers are related to teacher characteristics such as teaching experience (years teaching) and teacher education (highest degree earned) as well as the characteristics of teachers’ classrooms such as the percentage of students who are ELLs and/or who have disabilities. To examine these possibilities, we calculated the correlations between teacher value-added estimates and the teacher (experience) and classroom characteristics (percent ELL, percent of students with disabilities). Additionally, we present the average teacher value-added estimate separately for teachers with different levels of higher education.

Here we show the correlations across all grades (4-10, excluding grade 9 for mathematics; 4-10 for reading). Appendix G provides these same results separately by grade.

Table 2 displays the correlations between teacher effects for mathematics and reading (separately) and teaching experience, the percentage of ELL students and the percentage of students with disabilities within teachers’ classrooms. Table 3 displays the average teacher value-added estimates for mathematics and reading for teachers with bachelors, masters, and doctorate degrees.

Table 2. Relationship between Teacher Effects for Mathematics and Reading and Teacher and Classroom Characteristics

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Mathematics** | |  | **Reading** | |
| **Teacher/Classroom Characteristic** | **R** | **N** |  | **R** | **N** |
| Teacher Experience (Years Teaching) | 0.026 | 44,401 |  | 0.045 | 59,247 |
| Percent ELLs | 0.011 | 45,886 |  | 0.008a | 61,409 |
| Percents Students with a Disability | -0.055 | 45,886 |  | -0.022 | 61,409 |

Note: a Correlation not statistically significant at the 0.05 level.

Table 2 shows the observed correlations with the teacher characteristics. These correlations are all very small in magnitude, but are worth examining. For both mathematics and reading, teacher value-added estimates are positively correlated with the percentage of ELLs in teachers’ classrooms and teaching experience, and negatively correlated with the percentage of students with a disability in teachers’ classrooms. Teachers who have been teaching longer, who have a greater proportion of ELL students in their classroom, and a smaller proportion of students with a disability have larger effects.

Table 3. Average Teacher Value-Added Estimates for Mathematics and Reading by Teacher Education

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Mathematics | | |  | Reading | | |
| Teacher Education  (Highest Degree) | Mean | SD | N |  | Mean | SD | N |
| Bachelor's Degree | 0.21 | 30.79 | 28,804 |  | -0.09 | 18.95 | 36,726 |
| Master's Degree | 1.46 | 30.34 | 14,494 |  | 1.23 | 19.12 | 20,830 |
| Doctorate Degree | -1.26 | 27.69 | 383 |  | 0.60 | 18.75 | 612 |

Table 3 provides the mean value-added estimate in reading and math conditional on teachers’ highest degree. In mathematics, teacher value-added estimates were larger for teachers who had completed a master’s degree followed by teachers with a bachelor’s degree and a doctorate degree. For reading, teachers with a master’s degree showed the largest teacher value-added estimates on average, followed by teachers with a doctorate degree and teachers with a bachelor’s degree. Thus, there is not a direct relationship between teacher education and teacher value-added estimates; teachers with master’s degree demonstrate the highest value-added estimates in both mathematics and reading.

**Simulation Results**

Quality of Unit (Teacher or School) Effects

The tables below provide summaries of the statistics outlined in the Methods section. In almost all cases, our EiV mixed model recovers the parameter estimates for both the fixed and random effects. In a few cases, there is a very small bias in the fixed effects parameters as observed in Table 4. We note that correction for measurement error reduces, but does not totally eliminate, bias in the parameters. All variants of the model produce unbiased estimates of teacher and school effects.

Table 4. Unbiasedness of the Fixed Effects Parameters

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Simple/Baseline | Basic | Two Lags | Small Effects |
| Observed Bias Parameter 1 | 0.013 | 0.000 | 0.000 | 0.000 |
| Observed Bias Parameter 2 |  | 0.000 | 0.000 | 0.000 |
| Observed Bias Parameter 3 |  | 0.013 | 0.012 | 0.011 |
| Observed Bias Parameter 4 |  |  | 0.003 |  |
| Sampling Error Parameter 1 | 0.009 | 0.003 | 0.004 | 0.003 |
| Sampling Error Parameter 2 |  | 0.003 | 0.005 | 0.003 |
| Sampling Error Parameter 3 |  | 0.005 | 0.011 | 0.006 |
| Sampling Error Parameter 4 |  |  | 0.010 |  |
| Combined Sampling Error and Bias Parameter 1 | 0.016 | 0.003 | 0.004 | 0.003 |
| Combined Sampling Error and Bias Parameter 2 |  | 0.003 | 0.005 | 0.003 |
| Combined Sampling Error and Bias Parameter 3 |  | 0.014 | 0.016 | 0.012 |
| Combined Sampling Error and Bias Parameter 4 |  |  | 0.010 |  |

Table 5. Standard Errors of the Fixed Effects Parameters

|  | Simple/Baseline | Basic | Two Lags | Small Effects |
| --- | --- | --- | --- | --- |
| Observed Standard Error Parameter 1 | 0.009 | 0.003 | 0.004 | 0.003 |
| Observed Standard Error Parameter 2 |  | 0.003 | 0.005 | 0.003 |
| Observed Standard Error Parameter 3 |  | 0.005 | 0.011 | 0.006 |
| Observed Standard Error Parameter 4 |  |  | 0.010 |  |
| Estimated Standard Error Parameter 1 | 0.008 | 0.003 | 0.004 | 0.003 |
| Estimated Standard Error Parameter 2 |  | 0.003 | 0.004 | 0.003 |
| Estimated Standard Error Parameter 3 |  | 0.005 | 0.011 | 0.005 |
| Estimated Standard Error Parameter 4 |  |  | 0.010 |  |

No bias appears in the teacher and school effects as the EiV model seems to always recover their true values. The coverage rates for the teacher and school effects are all very close to their nominal values.

Table 6. Unbiasedness Bias of the Random Effects

|  | Simple/Baseline | Basic | Two Lags | Small Effects |
| --- | --- | --- | --- | --- |
| Observed bias: Teacher | 0.001 | 0.000 | 0.001 | 0.000 |
| Observed bias: School |  | 0.001 | 0.000 | 0.000 |
| Sampling error: mean SE: Teacher | 0.127 | 0.166 | 0.199 | 0.124 |
| Sampling error: mean SE: School |  | 0.110 | 0.114 | 0.061 |
| Sampling error: standard deviation of SEs: Teacher | 0.014 | 0.034 | 0.039 | 0.020 |
| Sampling error: standard deviation of SEs: School |  | 0.032 | 0.033 | 0.017 |
| Sampling error: average min SE: Teacher | 0.096 | 0.110 | 0.134 | 0.087 |
| Sampling error: average min SE: School |  | 0.070 | 0.072 | 0.039 |
| Sampling error: average max SE: Teacher | 0.203 | 0.418 | 0.436 | 0.221 |
| Sampling error: average max SE: School |  | 0.247 | 0.254 | 0.134 |
| Combined bias and sampling error: Teacher | 0.132 | 0.172 | 0.206 | 0.127 |
| Combined bias and sampling error: School |  | 0.114 | 0.117 | 0.063 |
| Percentage outside estimated 95% confidence interval: Teacher | 5.643 | 5.366 | 5.371 | 5.298 |
| Percentage outside estimated 95% confidence interval: School |  | 4.972 | 4.866 | 5.104 |
| Percentage outside estimated 90% confidence interval: Teacher | 10.972 | 10.586 | 10.568 | 10.386 |
| Percentage outside estimated 90% confidence interval: School |  | 9.707 | 9.764 | 10.152 |

Conclusion

As described earlier, the State of Florida has committed to the use of a value-added model as one component of its statewide teacher evaluation system as required by the Student Success Act of 2011 [Senate Bill 736], as well as its Race to the Top plan.

With input from an advisory committee (the SGIC), the state selected a value-added model to be used with statewide assessments. The committee and the state began their work with a broad survey of the types of value-added and student growth models currently in use around the country. The committee then narrowed its focus to a set of value-added models which it felt could best illustrate the nature of student, teacher, and school interactions and was flexible in its ability to describe teacher effects and school components. The committee and the state then used information from analysis of 120 different model variants to inform their decision on a statewide value-added model, reviewing data on model precision, explanatory power, and other information.

The selected statewide value-added model design represents the consensus of the committee about the factors that influence student learning which should be taken into consideration in order to produce a fair and accurate estimate of individual teacher and school effectiveness. It also represents the consensus of the group about how best to represent the relationships between students, teachers, and schools in a statistical model.

While the selection of the value-added model to be used with statewide assessments represents one step along the path to a comprehensive teacher evaluation system, much work remains to be done.

For example, the value-added model described in this technical report is applied to the Florida Comprehensive Assessment Test (FCAT) in reading and mathematics across grades 3 through 10. Moving forward, data from new and additional assessments will be analyzed and any necessary modifications to the existing value-added methodology to accommodate these new data will be made. Specifically, data from new end-of-course assessments as well as the statewide alternate assessment will be analyzed in order to produce measures of teacher effectiveness for more teachers. Similarly, the state will consider how other commonly used assessments (such as Advanced Placement) may be utilized with the existing statewide value-added model methodology. Information on the results of value-added analysis using these assessments will be published in future technical documents.

In addition, key decisions about how to report and use information from the statewide value-added model must be made. For 2011-12, each local school district will determine how to use value-added scores in its teacher evaluation system. To assist districts and to comply with state law which requires that three years of teacher value-added data be used in making evaluation decisions, the state will need to provide guidance on a method to aggregate scores across years (and potentially across subjects or grades), so that districts can easily use value-added data in their evaluation systems. Moving forward, the state may also need to provide additional guidance on how best to use value-added data to classify teachers into performance categories (e.g. highly effective, effective, and so on).

Finally, while this document provides detailed information about the value-added methodology for a technical audience, the state will now embark upon efforts to ensure that teachers, principals, district officials, and the public have an understanding of the statewide value-added model and how it estimates teacher and school effectiveness.

References

Ballou D., Sanders W., Wright P. (2004). Controlling for student background in value-added assessment of teachers. Journal of Educational and Behavioral Statistics, 29, 37–66.

Dempster, A.P.; Laird, N.M.; Rubin, D.B. (1977). Maximum Likelihood from Incomplete Data via the EM Algorithm.. Journal of the Royal Statistical Society. Series B (Methodological) 39 (1): 1–38.

Kmenta, J. (1971). Elements of Econometrics. New York: Macmillan.

Henderson, C. R. (1950). Estimation of genetic parameters. Ann. Math. Stat., 9:309.

Lockwood J., McCaffrey D., Mariano L., Setodji C. (2007). Bayesian methods for scalable multivariate value-added assessment. Journal of Educational and Behavioral Statistics, 32, 125–150.

Lord, F.M. (1980). Applications of item response theory to practical testing problems. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

McCaffrey D., Lockwood J., Koretz D., Louis T., Hamilton L. (2004). Models for value-added modeling of teacher effects. Journal of Educational and Behavioral Statistics, 29, 67–101.

Meyer, R. (1992). Applied versus traditional mathematics: New econometric models of the contribution of high school courses to mathematics proficiency (Discussion Paper No. 966-92). Madison: University of Wisconsin‐Madison, Institute for Research on Poverty.

Sanders, W. (2006). Comparison among various educational assessment value added models. White paper. http://www.sas.com/resources/asset/vaconferencepaper.pdf.

Appendix A. SGIC Member Roster

The names and affiliations of the SGIC members are as follows:

* **Sam Foerster, Chair,** Associate Superintendent, Putnam
* **Sandi Acosta**, Teacher (6th and 7th Science), Dade
* **Ronda Bourn**, Consortium Administrator
* **Anna Brown**, Representative for Superintendent MaryEllen Elia, Hillsborough
* **Joseph Camputaro**, Teacher (Elementary/Reading), Lee
* **Julia Carson**, Teacher (HS AP History, Geography), Volusia
* **Cathy Cavanaugh**, Postsecondary, UF
* **Doretha Wynn Edgecomb**, School Board, Hillsborough
* **Gisela Field**, District Administrator – Assessment, Dade
* **Stacey Frakes**, Teacher (3rd – 5th ESE), Madison
* **Arlene Ginn**, Teacher (7th Science), Orange
* **Stephanie Hall**, School-based Administrator (ES), Brevard
* **Lavetta B. Henderson**, Postsecondary, FAMU
* **Eric O. Hernandez**, Teacher (Honors Math), Dade
* **Linda J. Kearschner**, Parent, Pinellas
* **Latha Krishnaiyer**, State PTA
* **John le Tellier**, Teacher (Music), Marion
* **Nicole Marsala**, Teacher (8th History), Broward
* **Lisa Maxwell**, Local Union, Broward
* **Lawrence Morehouse**, Business
* **Jeff Murphy**, District Administrator - Student Services, Virtual School
* **Maria Cristina Noya**, School-based Administrator (HS), St. Lucie
* **Pam Stewart**, Assistant Superintendent, St. Johns
* **Lance J. Tomei**, Postsecondary, UCF
* **Gina Tovine**, District Administrator – HR, Levy
* **Lori Westphal**, Teacher (ESE), Lake

**Tamar E. Woodhouse-Young**, Teacher (High School Math), Duval

Appendix B. Florida Course Codes Used in the Value-Added Model

Table 1. Course Codes Used in the Mathematics Value-Added Model

|  |  |  |
| --- | --- | --- |
| **Year** | **Course Number** | **Course Name** |
| 2008-09, 2009-10, 2010-11 | 1200300 | Pre-Algebra |
| 2008-09, 2009-10, 2010-11 | 1200310 | Algebra I |
| 2008-09, 2009-10, 2010-11 | 1200320 | Algebra I Honors |
| 2008-09, 2009-10, 2010-11 | 1200330 | Algebra II |
| 2008-09, 2009-10, 2010-11 | 1200340 | Algebra II Honors |
| 2008-09, 2009-10, 2010-11 | 1200370 | Algebra Ia |
| 2008-09, 2009-10, 2010-11 | 1200380 | Algebra Ib |
| 2008-09, 2009-10, 2010-11 | 1200400 | Intensive Mathematics |
| 2008-09, 2009-10, 2010-11 | 1200410 | Math for College Success |
| 2008-09, 2009-10, 2010-11 | 1200500 | Advanded Algebra with Financial Applications |
| 2008-09, 2009-10, 2010-11 | 1200700 | Math College Readiness |
| 2008-09, 2009-10, 2010-11 | 1201300 | Math Analysis |
| 2008-09, 2009-10, 2010-11 | 1202371 | Pre-AICE Additional Math III |
| 2008-09, 2009-10, 2010-11 | 1204000 | M/J Intensive Mathematics (MC) |
| 2008-09, 2009-10, 2010-11 | 1205010 | M/J Mathematics 1 |
| 2008-09, 2009-10, 2010-11 | 1205020 | M/J Mathematics 1, Advanced |
| 2008-09, 2009-10, 2010-11 | 1205040 | M/J Mathematics 2 |
| 2008-09, 2009-10, 2010-11 | 1205050 | M/J Mathematics 2, Advanced |
| 2008-09, 2009-10, 2010-11 | 1205070 | M/J Mathematics 3 |
| 2008-09, 2009-10, 2010-11 | 1205080 | M/J Mathematics 3, Advanced |
| 2008-09, 2009-10, 2010-11 | 1205090 | M/J Mathematics IB |
| 2008-09, 2009-10, 2010-11 | 1205100 | M/J Pre-algebra IB |
| 2008-09, 2009-10, 2010-11 | 1205370 | Consumer Mathematics |
| 2008-09, 2009-10, 2010-11 | 1205400 | Applied Mathematics I |
| 2008-09, 2009-10, 2010-11 | 1205410 | Applied Mathematics II |
| 2008-09, 2009-10, 2010-11 | 1205500 | Explorations in Mathematics I |
| 2008-09, 2009-10, 2010-11 | 1205510 | Explorations in Mathematics II |
| 2008-09, 2009-10, 2010-11 | 1205540 | Business Mathematics |
| 2008-09, 2009-10, 2010-11 | 1206300 | Informal Geometry |
| 2008-09, 2009-10, 2010-11 | 1206310 | Geometry |
| 2008-09, 2009-10, 2010-11 | 1206320 | Geometry Honors |
| 2008-09, 2009-10, 2010-11 | 1207310 | Integrated Mathematics I |
| 2008-09, 2009-10, 2010-11 | 1207320 | Integrated Mathematics II |
| 2008-09, 2009-10, 2010-11 | 1207330 | Integrated Mathematics III |
| 2008-09, 2009-10, 2010-11 | 1209810 | Pre-AICE Mathematics I |
| 2008-09, 2009-10, 2010-11 | 1209820 | Pre-AICE Mathematics II |
| 2008-09 | 1298010 | M/J Great Explorations in Math (GEM) 6th Pre-Algebra |
| 2008-09 | 1298020 | M/J Great Explorations in Math (GEM) 7th Algebra |
| 2008-09 | 1298030 | M/J Great Explorations in Math (GEM) 8th Geometry |
| 2008-09 | 5012000 | Mathematics-Elementary |
| 2008-09 | 5012010 | Functional Basic Skills in Mathematics-Elementary |
| 2008-09, 2009-10, 2010-11 | 5012020 | Math Grade K |
| 2008-09, 2009-10, 2010-11 | 5012030 | Math Grade 1 |
| 2008-09, 2009-10, 2010-11 | 5012040 | Math Grade 2 |
| 2008-09, 2009-10, 2010-11 | 5012050 | Math Grade 3 |
| 2008-09, 2009-10, 2010-11 | 5012060 | Math Grade 4 |
| 2008-09, 2009-10, 2010-11 | 5012070 | Math Grade 5 |
| 2008-09, 2009-10, 2010-11 | 7712010 | Mathematics K-5 |
| 2008-09, 2009-10, 2010-11 | 7755010 | Academics K-5 |
| 2008-09, 2009-10, 2010-11 | 7755030 | Academic Skills K-5 |
| 2008-09, 2009-10, 2010-11 | 7755040 | Advanced Academic Skills K-5 |
| 2008-09, 2009-10, 2010-11 | 7755050 | Developmental Skills K-5 |
| 2008-09, 2009-10, 2010-11 | 7812010 | Mathematics: 6-8 |
| 2008-09, 2009-10, 2010-11 | 7855010 | Academics 6-8 |
| 2008-09, 2009-10, 2010-11 | 7855030 | Academic Skills 6-8 |
| 2008-09, 2009-10, 2010-11 | 7855040 | Advanced Academics 6-8 |
| 2008-09, 2009-10, 2010-11 | 7855050 | Developmental Skills 6-8 |
| 2008-09, 2009-10, 2010-11 | 7912050 | Mathematics 9-12 |
| 2008-09, 2009-10, 2010-11 | 7912340 | Life Skills Math: 9-12 |
| 2008-09 | 129800A | M/J Great Explorations in Math (GEM) 6th Pre-Algebra |
| 2008-09 | 129800B | M/J Great Explorations in Math (GEM) 7th Algebra |
| 2008-09 | 129800C | M/J Great Explorations in Math (GEM) 8th Geometry |

Table 2. Course Codes Used in the Reading Value-Added Model

|  |  |  |
| --- | --- | --- |
| **Year** | **Course Number** | **Course Name** |
| 2008-09, 2009-10, 2010-11 | 1000000 | M/J Intensive Language Arts (MC) |
| 2008-09, 2009-10, 2010-11 | 1000010 | M/J Intensive Reading (MC) |
| 2009-10, 2010-11 | 1000020 | M/J Intensive Reading and Career Planning |
| 2008-09, 2009-10, 2010-11 | 1000400 | Intensive Language Arts |
| 2008-09, 2009-10, 2010-11 | 1000410 | Intensive Reading |
| 2008-09, 2009-10, 2010-11 | 1001010 | M/J Language Arts 1 |
| 2008-09, 2009-10, 2010-11 | 1001020 | M/J Language Arts, 1 Adv. |
| 2008-09, 2009-10, 2010-11 | 1001030 | M/J Language Arts 1, International Baccalaureate |
| 2008-09, 2009-10, 2010-11 | 1001040 | M/J Language Arts 2 |
| 2008-09, 2009-10, 2010-11 | 1001050 | M/J Langague Arts 2, Adv |
| 2008-09, 2009-10, 2010-11 | 1001060 | M/J Language Arts 2, International Baccalaureate |
| 2008-09, 2009-10, 2010-11 | 1001070 | M/J Language Arts 3 |
| 2008-09, 2009-10, 2010-11 | 1001080 | M/J Language Arts 3, Adv |
| 2008-09, 2009-10, 2010-11 | 1001090 | M/J Language Arts 3,International Baccalaureate |
| 2008-09, 2009-10, 2010-11 | 1001300 | English Skills I |
| 2008-09, 2009-10, 2010-11 | 1001310 | English I |
| 2008-09, 2009-10, 2010-11 | 1001320 | English Honors I |
| 2008-09, 2009-10, 2010-11 | 1001330 | English Skills II |
| 2008-09, 2009-10, 2010-11 | 1001340 | English II |
| 2008-09, 2009-10, 2010-11 | 1001350 | English Honors II |
| 2008-09, 2009-10, 2010-11 | 1001440 | Business English I |
| 2008-09, 2009-10, 2010-11 | 1001450 | Business English II |
| 2008-09, 2009-10, 2010-11 | 1001560 | Pre-AICE English Language |
| 2008-09, 2009-10, 2010-11 | 1001800 | English I Pre-International Baccalaureate |
| 2008-09, 2009-10, 2010-11 | 1001810 | English II Pre-International Baccalaureate |
| 2009-10, 2010-11 | 1001840 | IB Middle Years Program English I |
| 2009-10, 2010-11 | 1001845 | IB Middle Years Program English II |
| 2008-09, 2009-10, 2010-11 | 1002000 | M/J Language Arts 1 through ESOL |
| 2008-09, 2009-10, 2010-11 | 1002010 | M/J Langague Arts 2 through ESOL |
| 2008-09, 2009-10, 2010-11 | 1002020 | M/J Langague Arts 3 through ESOL |
| 2008-09, 2009-10, 2010-11 | 1002180 | M/J Developmental Language Arts Through ESOL (MC) |
| 2008-09, 2009-10, 2010-11 | 1002300 | English I through ESOL |
| 2008-09, 2009-10, 2010-11 | 1002310 | English II through ESOL |
| 2008-09, 2009-10, 2010-11 | 1002380 | Developmental Language Arts Through ESOL |
| 2008-09, 2009-10, 2010-11 | 1005375 | AICE English Literature II |
| 2008-09, 2009-10, 2010-11 | 1008010 | M/J Reading 1 |
| 2008-09, 2009-10, 2010-11 | 1008020 | M/J Reading 1, Advanced |
| 2008-09, 2009-10, 2010-11 | 1008040 | M/J Reading 2 |
| 2008-09, 2009-10, 2010-11 | 1008050 | M/J Reading 2, Advanced |
| 2008-09, 2009-10, 2010-11 | 1008070 | M/J Reading 3 |
| 2008-09, 2009-10, 2010-11 | 1008080 | M/J Reading, Advanced |
| 2008-09, 2009-10, 2010-11 | 1008300 | Reading I |
| 2008-09, 2009-10, 2010-11 | 1008310 | Reading II |
| 2008-09, 2009-10, 2010-11 | 1008320 | Advanced Reading |
| 2008-09, 2009-10, 2010-11 | 1008330 | Reading III |
| 2009-10, 2010-11 | 1008350 | Reading for College Success |
| 2008-09, 2009-10, 2010-11 | 2400000 | Sixth Grade |
| 2008-09, 2009-10, 2010-11 | 5010010 | ESOL English for Speakers of Other Language-Elementary |
| 2008-09, 2009-10, 2010-11 | 5010020 | Functional Basic Skills in Reading-Elementary |
| 2008-09, 2009-10, 2010-11 | 5010040 | Language Arts-Elementary |
| 2008-09, 2009-10, 2010-11 | 5010050 | Reading-Elementary |
| 2008-09, 2009-10, 2010-11 | 5010060 | Integrated Language Arts-Elementary |
| 2008-09, 2009-10, 2010-11 | 7710010 | Language Arts K-5 |
| 2008-09, 2009-10, 2010-11 | 7755010 | Academics K-5 |
| 2008-09, 2009-10, 2010-11 | 7755030 | Academic Skills K-5 |
| 2008-09, 2009-10, 2010-11 | 7755040 | Advanced Academic Skills K-5 |
| 2008-09, 2009-10, 2010-11 | 7755050 | Developmental Skills K-5 |
| 2008-09, 2009-10, 2010-11 | 7810010 | Language Arts 6-8 |
| 2008-09, 2009-10, 2010-11 | 7810020 | Reading: 6-8 |
| 2008-09, 2009-10, 2010-11 | 7910100 | Reading 9-12 |
| 2008-09, 2009-10, 2010-11 | 7910110 | English 9-12 |
| 2008-09, 2009-10, 2010-11 | 7910400 | Life Skills Reading: 9-12 |

Appendix C. Fixed Effect Estimates

**Table 1. Fixed Effects: Grade 4 Reading, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 473.28948 | 8.0715626 |
| Language Impaired | -39.4393 | 2.9372883 |
| Deaf or Hard of Hearing | -27.50033 | 28.293731 |
| Visually Impaired | -28.16003 | 37.685257 |
| Emotional/Behavioral Disability | -35.36919 | 19.751021 |
| Specific Learning Disability | -19.5479 | 7.6782468 |
| Dual-Sensory Impaired | 440.46932 | 162.78546 |
| Autism Spectrum Disorder | -31.81469 | 23.498643 |
| Traumatic Brain Injured | -111.7807 | 109.87965 |
| Other Health Impaired | -20.60731 | 11.333652 |
| Intellectual Disability | -20.89978 | 66.478877 |
| Enrolled in 2 or more Courses | 15.374322 | 1.9531732 |
| Enrolled in 3 or more Courses | 9.2376157 | 2.1903717 |
| Enrolled in 4 or more Courses | 4.8796442 | 6.7319318 |
| Enrolled in 5 or more Courses | -9.118334 | 51.884447 |
| Homogeneity of Class 1 Prior Year Test Scores | -0.02008 | 0.0047442 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.0104382 | 0.0056998 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 11.82098 | 2.7854498 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.0130847 | 0.0074043 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 12.01265 | 3.1546793 |
| Homogeneity of Class 4 Prior Year Test Scores | -0.000488 | 0.009586 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 5.697259 | 3.8949402 |
| Homogeneity of Class 5 Prior Year Test Scores | 0.0079056 | 0.0137998 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | -0.317121 | 5.7611271 |
| Homogeneity of Class 6 Prior Year Test Scores | -0.004062 | 0.0172575 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | 8.8996286 | 6.9670777 |
| Number of Students in Class 1 | 0.2278213 | 0.0717638 |
| Number of Students in Class 2 | 0.0481738 | 0.0480817 |
| Number of Students in Class 3 | 0.1072651 | 0.0536661 |
| Number of Students in Class 4 | 0.0479365 | 0.048687 |
| Number of Students in Class 5 | 0.0778484 | 0.0880728 |
| Number of Students in Class 6 | 0.1417139 | 0.0972198 |
| Difference from Modal Age | -37.26063 | 0.859862 |
| Gifted Student Indicator | 29.853091 | 9.4171472 |
| English Language Learner Indicator | 7.5884046 | 1.72676 |
| Achievement: Prior Year | 0.7765228 | 0.0020639 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 2. Fixed Effects: Grade 5 Reading, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 252.75592 | 8.2825155 |
| Language Impaired | -0.068282 | 3.1538825 |
| Deaf or Hard of Hearing | 4.2685377 | 22.992432 |
| Visually Impaired | 7.2936619 | 40.758719 |
| Emotional/Behavioral Disability | -6.43652 | 19.422141 |
| Specific Learning Disability | -1.207555 | 8.3594024 |
| Autism Spectrum Disorder | -8.932585 | 22.48474 |
| Other Health Impaired | -4.253669 | 10.83725 |
| Intellectual Disability | 8.4749104 | 72.253255 |
| Enrolled in 2 or more Courses | 6.048231 | 1.8277423 |
| Enrolled in 3 or more Courses | 6.6678138 | 2.1180171 |
| Enrolled in 4 or more Courses | 1.4545273 | 6.5435769 |
| Enrolled in 5 or more Courses | 7.0551798 | 40.711496 |
| Homogeneity of Class 1 Prior Year Test Scores | 0.0006298 | 0.0048649 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.0050958 | 0.0059813 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | -0.974422 | 2.7331346 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.0064745 | 0.0076982 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 0.2868653 | 3.0383583 |
| Homogeneity of Class 4 Prior Year Test Scores | 0.0015222 | 0.0099288 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 5.0598005 | 3.7625568 |
| Homogeneity of Class 5 Prior Year Test Scores | 0.0056336 | 0.0142427 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | -3.688758 | 5.464738 |
| Homogeneity of Class 6 Prior Year Test Scores | 0.0118324 | 0.0193209 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | 11.674921 | 7.1307045 |
| Number of Students in Class 1 | -0.431434 | 0.0750854 |
| Number of Students in Class 2 | -0.174729 | 0.0544604 |
| Number of Students in Class 3 | 0.0886944 | 0.0537982 |
| Number of Students in Class 4 | 0.0710203 | 0.0476787 |
| Number of Students in Class 5 | 0.0593746 | 0.0717484 |
| Number of Students in Class 6 | -0.072224 | 0.1072331 |
| Difference from Modal Age | -21.74667 | 0.8452812 |
| Gifted Student Indicator | 26.52585 | 9.6284085 |
| English Language Learner Indicator | 11.680456 | 9.0500104 |
| Achievement: Two Years Prior | 0.6157219 | 0.0049343 |
| Achievement: Prior Year | 0.2871829 | 0.004357 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 3. Fixed Effects: Grade 6 Reading, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 185.10109 | 15.220935 |
| Language Impaired | -32.91874 | 3.6205578 |
| Deaf or Hard of Hearing | -28.71749 | 25.055512 |
| Visually Impaired | 16.344463 | 37.652171 |
| Emotional/Behavioral Disability | 2.7502393 | 18.314297 |
| Specific Learning Disability | -6.467666 | 7.5383492 |
| Autism Spectrum Disorder | 39.791119 | 23.979703 |
| Traumatic Brain Injured | 158.05119 | 114.06117 |
| Other Health Impaired | -5.135172 | 10.794594 |
| Intellectual Disability | -15.67955 | 58.345302 |
| Enrolled in 2 or more Courses | 40.76035 | 2.3361209 |
| Enrolled in 3 or more Courses | 7.2954953 | 2.7675227 |
| Enrolled in 4 or more Courses | -18.52449 | 7.2056249 |
| Enrolled in 5 or more Courses | 71.71239 | 31.914473 |
| Enrolled in 6 or more Courses | -103.1539 | 112.03514 |
| Homogeneity of Class 1 Prior Year Test Scores | -0.024383 | 0.0045525 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.0301148 | 0.0053888 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 22.500493 | 3.4804005 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.0372126 | 0.0085022 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 8.8497504 | 4.0602352 |
| Homogeneity of Class 4 Prior Year Test Scores | 0.0056458 | 0.0125294 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 12.047922 | 5.8523024 |
| Homogeneity of Class 5 Prior Year Test Scores | -0.002497 | 0.0208034 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | -13.06623 | 10.087556 |
| Homogeneity of Class 6 Prior Year Test Scores | 0.0428124 | 0.0305257 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | 25.048904 | 14.439612 |
| Number of Students in Class 1 | -0.874086 | 0.1029611 |
| Number of Students in Class 2 | 0.1297929 | 0.1134076 |
| Number of Students in Class 3 | 0.3681258 | 0.1602223 |
| Number of Students in Class 4 | 0.2682621 | 0.2239495 |
| Number of Students in Class 5 | -0.280473 | 0.3691364 |
| Number of Students in Class 6 | 0.3128181 | 0.5480409 |
| Difference from Modal Age | -28.68192 | 0.7866967 |
| Gifted Student Indicator | 26.235894 | 10.593017 |
| English Language Learner Indicator | -7.396306 | 11.468293 |
| Achievement: Two Years Prior | 0.5456652 | 0.0060109 |
| Achievement: Prior Year | 0.3795654 | 0.005862 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 4. Fixed Effects: Grade 7 Reading, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 155.36374 | 15.110568 |
| Language Impaired | -14.22913 | 3.5817283 |
| Deaf or Hard of Hearing | -21.30903 | 24.847463 |
| Visually Impaired | -61.33771 | 33.697251 |
| Emotional/Behavioral Disability | -51.91055 | 12.863482 |
| Specific Learning Disability | -13.15411 | 6.5911623 |
| Autism Spectrum Disorder | -31.21389 | 23.337236 |
| Traumatic Brain Injured | 53.361827 | 84.280827 |
| Other Health Impaired | -5.524142 | 10.45156 |
| Intellectual Disability | 66.627656 | 63.863361 |
| Enrolled in 2 or more Courses | 67.194367 | 2.0401473 |
| Enrolled in 3 or more Courses | 3.844224 | 2.7539806 |
| Enrolled in 4 or more Courses | -20.71458 | 7.3352801 |
| Enrolled in 5 or more Courses | -9.96338 | 27.142661 |
| Enrolled in 6 or more Courses | 202.02481 | 134.70919 |
| Homogeneity of Class 1 Prior Year Test Scores | -0.027859 | 0.0040749 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.0462148 | 0.0051846 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 16.694914 | 3.0635009 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.0362593 | 0.0078308 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 3.3079391 | 3.7958 |
| Homogeneity of Class 4 Prior Year Test Scores | 0.0217078 | 0.0124716 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 23.07053 | 5.8059018 |
| Homogeneity of Class 5 Prior Year Test Scores | -0.000865 | 0.0213881 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | -11.55677 | 9.8111999 |
| Homogeneity of Class 6 Prior Year Test Scores | 0.0287411 | 0.0317961 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | 25.955701 | 13.486732 |
| Number of Students in Class 1 | -0.901254 | 0.0962286 |
| Number of Students in Class 2 | 0.1584682 | 0.1053166 |
| Number of Students in Class 3 | 0.2012458 | 0.1478354 |
| Number of Students in Class 4 | 0.5972375 | 0.2255181 |
| Number of Students in Class 5 | 0.3725754 | 0.380186 |
| Number of Students in Class 6 | 0.0998684 | 0.5126824 |
| Difference from Modal Age | -16.44447 | 0.6837645 |
| Gifted Student Indicator | -13.15494 | 9.3731567 |
| English Language Learner Indicator | 2.1767832 | 11.386944 |
| Achievement: Two Years Prior | 0.8056186 | 0.006981 |
| Achievement: Prior Year | 0.1295194 | 0.0053304 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 5. Fixed Effects: Grade 8 Reading, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 510.49606 | 12.002591 |
| Language Impaired | -11.21566 | 2.9756546 |
| Deaf or Hard of Hearing | -3.18073 | 16.191602 |
| Visually Impaired | -36.81783 | 27.275501 |
| Emotional/Behavioral Disability | 8.2108367 | 10.68379 |
| Specific Learning Disability | -9.494328 | 5.1545126 |
| Autism Spectrum Disorder | 6.5841139 | 16.937298 |
| Traumatic Brain Injured | 17.056477 | 64.747293 |
| Other Health Impaired | -5.090264 | 7.7142389 |
| Intellectual Disability | -18.16496 | 50.290433 |
| Enrolled in 2 or more Courses | 45.572332 | 1.5451605 |
| Enrolled in 3 or more Courses | 3.0205338 | 2.1703055 |
| Enrolled in 4 or more Courses | -6.864711 | 6.0855819 |
| Enrolled in 5 or more Courses | 7.5872759 | 21.488679 |
| Enrolled in 6 or more Courses | 29.619999 | 67.212724 |
| Homogeneity of Class 1 Prior Year Test Scores | -0.041485 | 0.0036467 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.021326 | 0.0045318 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 11.747275 | 2.3526687 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.0225521 | 0.0070363 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 8.0094497 | 3.0045083 |
| Homogeneity of Class 4 Prior Year Test Scores | -0.018295 | 0.0110015 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 7.8914209 | 4.3811562 |
| Homogeneity of Class 5 Prior Year Test Scores | -0.00221 | 0.016882 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | 2.6902304 | 7.6050919 |
| Homogeneity of Class 6 Prior Year Test Scores | 0.0349812 | 0.025556 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | 18.131107 | 10.55741 |
| Number of Students in Class 1 | -0.645369 | 0.0732871 |
| Number of Students in Class 2 | 0.1659604 | 0.0810282 |
| Number of Students in Class 3 | 0.2966507 | 0.116208 |
| Number of Students in Class 4 | 0.4030285 | 0.1651929 |
| Number of Students in Class 5 | 0.4898653 | 0.2967227 |
| Number of Students in Class 6 | 0.1426541 | 0.4275934 |
| Difference from Modal Age | -20.06601 | 0.5260609 |
| Gifted Student Indicator | 17.720123 | 8.1612659 |
| English Language Learner Indicator | -1.076096 | 9.0620833 |
| Achievement: Two Years Prior | 0.5882786 | 0.0061952 |
| Achievement: Prior Year | 0.155493 | 0.0046034 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 6. Fixed Effects: Grade 9 Reading, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 127.40448 | 15.481277 |
| Language Impaired | -0.840678 | 4.1586213 |
| Deaf or Hard of Hearing | 20.680689 | 19.605202 |
| Visually Impaired | 72.171264 | 28.722217 |
| Emotional/Behavioral Disability | 10.658685 | 12.7573 |
| Specific Learning Disability | 4.4612518 | 6.6694999 |
| Autism Spectrum Disorder | 45.555299 | 24.694002 |
| Traumatic Brain Injured | 45.625331 | 66.069946 |
| Other Health Impaired | -8.687757 | 10.139713 |
| Intellectual Disability | -24.64518 | 53.619393 |
| Enrolled in 2 or more Courses | 42.961783 | 1.7596205 |
| Enrolled in 3 or more Courses | 4.6682408 | 2.552918 |
| Enrolled in 4 or more Courses | -14.06406 | 8.5764983 |
| Enrolled in 5 or more Courses | 42.505823 | 27.673554 |
| Enrolled in 6 or more Courses | -174.0622 | 59.402781 |
| Homogeneity of Class 1 Prior Year Test Scores | -0.023468 | 0.0052577 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.0193842 | 0.00667 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 7.9542916 | 2.6044556 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.0365252 | 0.010047 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 9.3947016 | 3.5393383 |
| Homogeneity of Class 4 Prior Year Test Scores | 0.0239987 | 0.0155308 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 20.386083 | 5.3169434 |
| Homogeneity of Class 5 Prior Year Test Scores | 0.01049 | 0.0242804 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | 9.8431941 | 8.7922832 |
| Homogeneity of Class 6 Prior Year Test Scores | -0.002731 | 0.0356633 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | 0.1967386 | 12.657417 |
| Number of Students in Class 1 | -0.158205 | 0.0611601 |
| Number of Students in Class 2 | -0.125701 | 0.0716625 |
| Number of Students in Class 3 | 0.296568 | 0.1122744 |
| Number of Students in Class 4 | 0.4773906 | 0.1716203 |
| Number of Students in Class 5 | 0.4525574 | 0.2796822 |
| Number of Students in Class 6 | 0.3730067 | 0.3957175 |
| Difference from Modal Age | -21.6227 | 0.6116351 |
| Gifted Student Indicator | 27.458593 | 10.206285 |
| English Language Learner Indicator | 10.889199 | 11.509281 |
| Achievement: Two Years Prior | 0.5935253 | 0.0088751 |
| Achievement: Prior Year | 0.3535465 | 0.0062352 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 7. Fixed Effects: Grade 10 Reading, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | -431.1881 | 18.092754 |
| Language Impaired | -9.97231 | 5.2509912 |
| Deaf or Hard of Hearing | -61.10017 | 26.715485 |
| Visually Impaired | -45.68315 | 51.321393 |
| Emotional/Behavioral Disability | -42.64233 | 16.004993 |
| Specific Learning Disability | -19.17554 | 8.1293353 |
| Autism Spectrum Disorder | 57.924234 | 31.22077 |
| Traumatic Brain Injured | 81.188052 | 69.734566 |
| Other Health Impaired | 0.4199884 | 12.199827 |
| Intellectual Disability | -108.7019 | 71.258538 |
| Enrolled in 2 or more Courses | 62.059688 | 2.5594101 |
| Enrolled in 3 or more Courses | -2.129742 | 2.9216503 |
| Enrolled in 4 or more Courses | -5.015117 | 10.434636 |
| Enrolled in 5 or more Courses | -79.8523 | 49.90915 |
| Enrolled in6or more Courses | 98.073897 | 187.10616 |
| Homogeneity of Class 1 Prior Year Test Scores | 0.0255874 | 0.0058464 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.0387735 | 0.0065963 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | -2.880371 | 3.25385 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.038179 | 0.0094606 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | -9.038722 | 3.4148536 |
| Homogeneity of Class 4 Prior Year Test Scores | 0.02395 | 0.0148029 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 8.8502043 | 5.2435971 |
| Homogeneity of Class 5 Prior Year Test Scores | 0.027736 | 0.0261934 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | 4.1389856 | 9.439345 |
| Homogeneity of Class 6 Prior Year Test Scores | 0.1421912 | 0.0423349 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | 30.109126 | 15.091074 |
| Number of Students in Class 1 | -0.600012 | 0.0826493 |
| Number of Students in Class 2 | -0.979678 | 0.0856548 |
| Number of Students in Class 3 | -0.690289 | 0.1184854 |
| Number of Students in Class 4 | -0.150025 | 0.1887817 |
| Number of Students in Class 5 | -0.069648 | 0.3401006 |
| Number of Students in Class 6 | -0.588213 | 0.5329186 |
| Difference from Modal Age | -6.731747 | 0.7739671 |
| Gifted Student Indicator | -2.162806 | 12.69541 |
| English Language Learner Indicator | 12.944526 | 15.682365 |
| Achievement: Two Years Prior | 0.7324625 | 0.0094948 |
| Achievement: Prior Year | 0.4910035 | 0.008455 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 8. Fixed Effects: Grade 4 Mathematics, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 385.52231 | 23.339473 |
| Language Impaired | -3.840265 | 2.2364243 |
| Deaf or Hard of Hearing | -21.92341 | 20.422514 |
| Visually Impaired | 26.419334 | 30.738627 |
| Emotional/Behavioral Disability | -51.58701 | 15.515694 |
| Specific Learning Disability | -23.89384 | 6.052578 |
| Dual-Sensory Impaired | -497.13 | 251.98334 |
| Autism Spectrum Disorder | -58.00088 | 17.436335 |
| Traumatic Brain Injured | -252.2642 | 114.85163 |
| Other Health Impaired | -28.20661 | 8.6586249 |
| Intellectual Disability | -97.05666 | 53.59785 |
| Enrolled in 2 or more Courses | 3.4989894 | 2.2309281 |
| Enrolled in 3 or more Courses | -42.03273 | 18.825657 |
| Enrolled in 4 or more Courses | -368.5785 | 133.77785 |
| Homogeneity of Class 1 Prior Year Test Scores | -0.003366 | 0.0050922 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.0130493 | 0.0072015 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 18.333975 | 2.6051637 |
| Homogeneity of Class 3 Prior Year Test Scores | -0.033051 | 0.0132369 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 7.3096264 | 4.5309252 |
| Homogeneity of Class 4 Prior Year Test Scores | 0.0325901 | 0.0223476 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 11.337511 | 7.6242129 |
| Homogeneity of Class 5 Prior Year Test Scores | -0.001423 | 0.0440533 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | 1.1431406 | 13.665091 |
| Homogeneity of Class 6 Prior Year Test Scores | 0.0607841 | 0.0630242 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | 19.452163 | 23.807657 |
| Number of Students in Class 1 | 0.5862114 | 0.0650804 |
| Number of Students in Class 2 | 0.2833142 | 0.0639089 |
| Number of Students in Class 3 | 0.3276935 | 0.0830953 |
| Number of Students in Class 4 | 0.0899391 | 0.202489 |
| Number of Students in Class 5 | -0.153449 | 0.1965843 |
| Number of Students in Class 6 | 0.8720985 | 1.0114603 |
| Difference from Modal Age | -20.85472 | 0.6392342 |
| Gifted Student Indicator | -10.81665 | 7.4334099 |
| English Language Learner Indicator | 17.323791 | 1.2702079 |
| Achievement: Prior Year | 0.7604199 | 0.0019948 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 9. Fixed Effects: Grade 5 Mathematics, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 244.23767 | 19.500574 |
| Language Impaired | -5.669853 | 2.3171212 |
| Deaf or Hard of Hearing | 6.1600951 | 17.802791 |
| Visually Impaired | -28.47642 | 27.251441 |
| Emotional/Behavioral Disability | -29.07742 | 14.503526 |
| Specific Learning Disability | -21.68291 | 6.1518216 |
| Autism Spectrum Disorder | -42.1806 | 17.442558 |
| Other Health Impaired | -12.39181 | 7.9562714 |
| Intellectual Disability | -93.04941 | 53.300141 |
| Enrolled in 2 or more Courses | -1.319687 | 2.0525284 |
| Enrolled in 3 or more Courses | 20.84478 | 16.691847 |
| Enrolled in 4 or more Courses | -64.8428 | 154.72298 |
| Homogeneity of Class 1 Prior Year Test Scores | -0.018824 | 0.0054563 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.007351 | 0.0075638 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 11.534341 | 2.4500363 |
| Homogeneity of Class 3 Prior Year Test Scores | -0.021399 | 0.0137758 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 6.6551091 | 4.2433632 |
| Homogeneity of Class 4 Prior Year Test Scores | -0.068602 | 0.0222075 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | -9.904653 | 7.2831844 |
| Homogeneity of Class 5 Prior Year Test Scores | 0.0366288 | 0.0416947 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | 34.326822 | 14.746744 |
| Homogeneity of Class 6 Prior Year Test Scores | -0.179657 | 0.051917 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | -16.93585 | 20.531083 |
| Number of Students in Class 1 | 0.4621061 | 0.0578507 |
| Number of Students in Class 2 | 0.2718567 | 0.0651857 |
| Number of Students in Class 3 | 0.3214984 | 0.0771496 |
| Number of Students in Class 4 | 0.1247612 | 0.2014734 |
| Number of Students in Class 5 | 0.594554 | 0.4095525 |
| Number of Students in Class 6 | 0.9489815 | 0.9697296 |
| Difference from Modal Age | -26.47738 | 0.640783 |
| Gifted Student Indicator | 13.158922 | 7.0424124 |
| English Language Learner Indicator | -10.76592 | 6.8759636 |
| Achievement: Two Years Prior | 0.7413352 | 0.0088471 |
| Achievement: Prior Year | 0.1605177 | 0.0070271 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 10. Fixed Effects: Grade 6 Mathematics, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 215.16926 | 39.42855 |
| Language Impaired | -3.578054 | 2.7135199 |
| Deaf or Hard of Hearing | 3.2325699 | 18.248699 |
| Visually Impaired | -37.44276 | 28.841561 |
| Emotional/Behavioral Disability | -12.15046 | 14.321627 |
| Specific Learning Disability | -12.04852 | 5.7694111 |
| Autism Spectrum Disorder | 38.644588 | 17.710852 |
| Traumatic Brain Injured | 67.820831 | 90.205902 |
| Other Health Impaired | -19.99248 | 8.3185141 |
| Intellectual Disability | -49.41435 | 50.290204 |
| Enrolled in 2 or more Courses | 36.344955 | 1.5058887 |
| Enrolled in 3 or more Courses | -1.163721 | 5.4352515 |
| Enrolled in 4 or more Courses | -31.85544 | 44.447289 |
| Homogeneity of Class 1 Prior Year Test Scores | -0.037142 | 0.0048198 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.0060841 | 0.0075158 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 26.98604 | 2.7512198 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.0182785 | 0.0148413 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 21.803727 | 5.1053418 |
| Homogeneity of Class 4 Prior Year Test Scores | -0.013219 | 0.0289149 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 1.9647595 | 9.4642018 |
| Homogeneity of Class 5 Prior Year Test Scores | -0.044526 | 0.0716354 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | -3.504406 | 25.140907 |
| Homogeneity of Class 6 Prior Year Test Scores | 0.226856 | 0.1573563 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | -5.989918 | 43.07707 |
| Number of Students in Class 1 | 0.0546773 | 0.0781862 |
| Number of Students in Class 2 | 0.615998 | 0.0971443 |
| Number of Students in Class 3 | 0.5574255 | 0.1724428 |
| Number of Students in Class 4 | 0.0252668 | 0.2912048 |
| Number of Students in Class 5 | 0.5092225 | 0.9382771 |
| Number of Students in Class 6 | -2.913145 | 1.5274348 |
| Difference from Modal Age | -19.8003 | 0.5728757 |
| Gifted Student Indicator | -8.115738 | 6.748183 |
| English Language Learner Indicator | -14.21651 | 8.6379161 |
| Achievement: Two Years Prior | 0.6654549 | 0.0069056 |
| Achievement: Prior Year | 0.2282401 | 0.0061245 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 11. Fixed Effects: Grade 7 Mathematics, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 501.1168 | 33.944595 |
| Language Impaired | 9.5616769 | 2.457258 |
| Deaf or Hard of Hearing | -9.17414 | 17.010014 |
| Visually Impaired | 9.9147634 | 25.406372 |
| Emotional/Behavioral Disability | 9.6876221 | 9.4042094 |
| Specific Learning Disability | 2.3947086 | 4.5619344 |
| Autism Spectrum Disorder | 7.1054907 | 14.804152 |
| Traumatic Brain Injured | 89.863986 | 54.581504 |
| Other Health Impaired | 10.473004 | 7.2771765 |
| Intellectual Disability | -35.94316 | 45.337656 |
| Enrolled in 2 or more Courses | 33.768658 | 1.1395593 |
| Enrolled in 3 or more Courses | -1.180703 | 3.8026075 |
| Enrolled in 4 or more Courses | 43.180675 | 62.284664 |
| Homogeneity of Class 1 Prior Year Test Scores | 0.0010888 | 0.0035572 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.0190724 | 0.0056438 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 15.814171 | 2.1687938 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.0192297 | 0.0113031 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 10.617272 | 3.9666914 |
| Homogeneity of Class 4 Prior Year Test Scores | -0.000129 | 0.0226006 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | -4.832015 | 7.504312 |
| Homogeneity of Class 5 Prior Year Test Scores | -0.015029 | 0.0468479 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | 7.9309564 | 18.191022 |
| Homogeneity of Class 6 Prior Year Test Scores | 0.0312502 | 0.0983872 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | 9.516115 | 34.765109 |
| Number of Students in Class 1 | -0.151885 | 0.0596904 |
| Number of Students in Class 2 | 0.38913 | 0.0782597 |
| Number of Students in Class 3 | 0.1892102 | 0.1344612 |
| Number of Students in Class 4 | -0.012136 | 0.233502 |
| Number of Students in Class 5 | 0.2395993 | 0.6105321 |
| Number of Students in Class 6 | -0.057593 | 1.1487586 |
| Difference from Modal Age | -10.88687 | 0.4390447 |
| Gifted Student Indicator | -0.215478 | 5.1783613 |
| English Language Learner Indicator | 4.0689656 | 7.498834 |
| Achievement: Two Years Prior | 0.6764783 | 0.0053744 |
| Achievement: Prior Year | 0.0767584 | 0.004823 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 12. Fixed Effects: Grade 8 Mathematics, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 614.85536 | 26.888289 |
| Language Impaired | 10.803628 | 2.066494 |
| Deaf or Hard of Hearing | 18.824003 | 11.071911 |
| Visually Impaired | 32.532385 | 23.114175 |
| Emotional/Behavioral Disability | -6.132018 | 7.7828823 |
| Specific Learning Disability | 10.275597 | 3.6454513 |
| Autism Spectrum Disorder | 15.834316 | 11.482713 |
| Traumatic Brain Injured | 5.2355106 | 43.167249 |
| Other Health Impaired | 2.3817283 | 5.5117007 |
| Intellectual Disability | 28.355891 | 65.253012 |
| Enrolled in 2 or more Courses | 14.956464 | 0.8741064 |
| Enrolled in 3 or more Courses | -3.561152 | 2.5547497 |
| Enrolled in 4 or more Courses | 44.973758 | 20.952594 |
| Homogeneity of Class 1 Prior Year Test Scores | 0.0059785 | 0.0033737 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.0303504 | 0.0050766 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 20.774805 | 1.5353988 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.0190157 | 0.009875 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | -0.376343 | 2.83383 |
| Homogeneity of Class 4 Prior Year Test Scores | 0.0152513 | 0.0178199 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 6.5615044 | 5.0576898 |
| Homogeneity of Class 5 Prior Year Test Scores | -0.041089 | 0.0490118 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | -8.998075 | 11.911559 |
| Homogeneity of Class 6 Prior Year Test Scores | 0.121444 | 0.0961515 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | 55.356039 | 27.527077 |
| Number of Students in Class 1 | -0.085874 | 0.0472429 |
| Number of Students in Class 2 | 0.6632629 | 0.0558654 |
| Number of Students in Class 3 | 0.1601729 | 0.0990379 |
| Number of Students in Class 4 | 0.2032172 | 0.171318 |
| Number of Students in Class 5 | -0.295691 | 0.3921755 |
| Number of Students in Class 6 | 2.2442624 | 0.9671986 |
| Difference from Modal Age | -6.128462 | 0.3385457 |
| Gifted Student Indicator | 9.8469445 | 4.5067393 |
| English Language Learner Indicator | -4.747537 | 5.9790561 |
| Achievement: Two Years Prior | 0.5845132 | 0.0058883 |
| Achievement: Prior Year | 0.0932135 | 0.004312 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

**Table 13. Fixed Effects: Grade 10 Mathematics, 2010-11**

|  |  |  |
| --- | --- | --- |
| **Effect Name** | **Effect** | **Standard Error** |
| Constant Term | 281.31535 | 14.591631 |
| Language Impaired | 9.2714132 | 1.9721118 |
| Deaf or Hard of Hearing | 12.113933 | 9.5204873 |
| Visually Impaired | 3.0800174 | 25.00785 |
| Emotional/Behavioral Disability | 8.2883581 | 5.8676514 |
| Specific Learning Disability | 4.1541961 | 2.9946882 |
| Autism Spectrum Disorder | 1.1327465 | 9.5835244 |
| Traumatic Brain Injured | -16.96285 | 37.23783 |
| Other Health Impaired | -4.168503 | 4.3417563 |
| Intellectual Disability | 3.2234818 | 25.434598 |
| Enrolled in 2 or more Courses | 13.796268 | 0.630254 |
| Enrolled in 3 or more Courses | 4.1042532 | 1.8515109 |
| Enrolled in 4 or more Courses | -22.47413 | 8.5776429 |
| Enrolled in 5 or more Courses | -119.1727 | 56.524715 |
| Homogeneity of Class 1 Prior Year Test Scores | -0.016324 | 0.0023542 |
| Homogeneity of Class 2 Prior Year Test Scores | 0.008151 | 0.0040097 |
| Missing Homogeneity of Class 2 Prior Year Test Scores | 8.1471443 | 0.8601868 |
| Homogeneity of Class 3 Prior Year Test Scores | 0.0187226 | 0.0087236 |
| Missing Homogeneity of Class 3 Prior Year Test Scores | 5.9321266 | 1.9389153 |
| Homogeneity of Class 4 Prior Year Test Scores | 0.0042555 | 0.0150524 |
| Missing Homogeneity of Class 4 Prior Year Test Scores | 2.3356358 | 3.3620025 |
| Homogeneity of Class 5 Prior Year Test Scores | 0.080547 | 0.0322793 |
| Missing Homogeneity of Class 5 Prior Year Test Scores | -0.691126 | 7.5575477 |
| Homogeneity of Class 6 Prior Year Test Scores | -0.107014 | 0.0725176 |
| Missing Homogeneity of Class 6 Prior Year Test Scores | -37.2611 | 14.208512 |
| Number of Students in Class 1 | 0.2395978 | 0.0234322 |
| Number of Students in Class 2 | 0.2956542 | 0.03489 |
| Number of Students in Class 3 | 0.2864638 | 0.0819374 |
| Number of Students in Class 4 | 0.121552 | 0.1421114 |
| Number of Students in Class 5 | -0.668394 | 0.3191165 |
| Number of Students in Class 6 | -0.891107 | 0.5996503 |
| Difference from Modal Age | -8.971477 | 0.252136 |
| Gifted Student Indicator | 2.1513553 | 3.8364851 |
| English Language Learner Indicator | 15.791409 | 5.3689794 |
| Achievement: Two Years Prior | 0.6891791 | 0.0071194 |
| Achievement: Prior Year | 0.2085841 | 0.0061022 |

\*Attendance and mobility variables are not included in the model because the data is not reported until August during the Survey 5 data collection.

Appendix D. Teacher Value-Added Scores by District

**Table 1. Mean and Standard Deviation of Teacher Value-Added Scores by District:**

**Grade 4, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| **ALACHUA** | -0.79 | 46.72 | 147 | 2.05 | 21.75 | 145 |
| **BAKER** | -16.27 | 61.56 | 13 | -21.70 | 21.89 | 13 |
| **BAY** | -3.21 | 51.45 | 123 | 3.40 | 24.29 | 130 |
| **BRADFORD** | -25.90 | 36.54 | 14 | -15.33 | 13.72 | 16 |
| **BREVARD** | 4.81 | 40.24 | 387 | 3.17 | 17.58 | 416 |
| **BROWARD** | 9.28 | 43.94 | 1080 | 1.89 | 22.25 | 1125 |
| **CALHOUN** | -5.78 | 20.75 | 6 | -3.34 | 18.20 | 8 |
| **CHARLOTTE** | -8.93 | 29.88 | 73 | 3.65 | 21.90 | 77 |
| **CITRUS** | 17.65 | 36.59 | 78 | 4.35 | 22.98 | 93 |
| **CLAY** | -2.60 | 38.12 | 167 | -2.44 | 18.86 | 184 |
| **COLLIER** | -5.29 | 45.52 | 206 | -0.56 | 20.09 | 253 |
| **COLUMBIA** | -1.55 | 34.55 | 37 | -0.11 | 11.83 | 38 |
| **DADE** | 4.25 | 48.92 | 1250 | 5.16 | 26.37 | 1476 |
| **DEAF/BLIND** | \* | \* | 3 | \* | \* | 3 |
| **DESOTO** | 1.93 | 45.73 | 23 | -7.25 | 17.82 | 24 |
| **DIXIE** | 9.75 | 40.66 | 11 | -4.67 | 17.46 | 16 |
| **DUVAL** | 15.17 | 44.81 | 545 | -4.20 | 22.47 | 571 |
| **ESCAMBIA** | -0.09 | 45.97 | 242 | -2.28 | 21.90 | 249 |
| **FAMU LAB SCH** | \* | \* | 2 | \* | \* | 2 |
| **FAU LAB SCH** | 12.56 | 28.12 | 11 | -0.52 | 19.70 | 11 |
| **FL VIRTUAL** | \* | \* | 2 | \* | \* | 2 |
| **FLAGLER** | -20.07 | 46.72 | 42 | -3.95 | 22.21 | 54 |
| **FRANKLIN** | -0.60 | 54.70 | 5 | -8.85 | 34.06 | 7 |
| **FSU LAB SCH** | 38.37 | 27.59 | 11 | 25.65 | 8.31 | 14 |
| **GADSDEN** | 37.92 | 46.13 | 28 | 0.16 | 31.40 | 31 |
| **GILCHRIST** | 21.63 | 59.65 | 13 | 10.71 | 39.09 | 15 |
| **GLADES** | -13.48 | 25.96 | 8 | -3.28 | 13.30 | 8 |
| **GULF** | 30.91 | 45.66 | 11 | 1.83 | 26.02 | 12 |
| **HAMILTON** | 2.05 | 38.14 | 6 | -2.51 | 11.27 | 10 |
| **HARDEE** | 7.56 | 37.48 | 24 | -10.64 | 17.68 | 29 |
| **HENDRY** | 9.74 | 36.69 | 28 | -2.09 | 21.17 | 31 |
| **HERNANDO** | -9.45 | 40.48 | 105 | -3.02 | 21.65 | 108 |
| **HIGHLANDS** | -5.81 | 45.52 | 63 | -2.30 | 19.57 | 71 |
| **HILLSBOROUGH** | -4.38 | 41.28 | 910 | 2.95 | 19.84 | 973 |
| **HOLMES** | 22.93 | 37.03 | 14 | 1.36 | 33.05 | 12 |
| **INDIAN RIVER** | 3.26 | 35.64 | 78 | 1.91 | 20.32 | 74 |
| **JACKSON** | 28.48 | 45.55 | 31 | 12.51 | 17.59 | 36 |
| **JEFFERSON** | 11.86 | 53.72 | 7 | 59.02 | 31.98 | 7 |
| **LAFAYETTE** | \* | \* | 4 | -7.68 | 10.41 | 8 |
| **LAKE** | -1.48 | 45.03 | 190 | -4.86 | 18.12 | 201 |
| **LEE** | 6.05 | 42.29 | 421 | 1.11 | 20.67 | 448 |
| **LEON** | 1.07 | 35.32 | 168 | -0.57 | 20.51 | 173 |
| **LEVY** | -0.95 | 27.54 | 26 | -11.18 | 13.24 | 31 |
| **LIBERTY** | -8.69 | 33.56 | 6 | -3.21 | 12.49 | 9 |
| **MADISON** | -44.39 | 57.00 | 12 | -5.02 | 23.96 | 18 |
| **MANATEE** | 5.36 | 39.60 | 230 | 0.50 | 19.31 | 239 |
| **MARION** | 1.39 | 42.49 | 199 | -6.90 | 18.76 | 248 |
| **MARTIN** | 12.60 | 35.22 | 79 | -1.93 | 20.89 | 86 |
| **MONROE** | 18.91 | 44.62 | 37 | -12.70 | 18.36 | 44 |
| **NASSAU** | 10.73 | 48.33 | 45 | 8.05 | 17.98 | 48 |
| **OKALOOSA** | -9.35 | 35.38 | 95 | -0.61 | 18.38 | 127 |
| **OKEECHOBEE** | 2.50 | 35.05 | 33 | -3.69 | 23.72 | 36 |
| **ORANGE** | -0.25 | 41.21 | 848 | -2.01 | 20.48 | 892 |
| **OSCEOLA** | -2.99 | 36.66 | 229 | 5.27 | 17.75 | 279 |
| **PALM BEACH** | 3.70 | 43.95 | 546 | 7.55 | 19.76 | 945 |
| **PASCO** | -8.16 | 38.91 | 361 | -6.67 | 19.36 | 399 |
| **PINELLAS** | -10.58 | 39.92 | 451 | -1.14 | 19.02 | 456 |
| **POLK** | -8.78 | 39.15 | 528 | -3.79 | 21.80 | 531 |
| **PUTNAM** | 27.70 | 44.18 | 52 | 3.47 | 15.68 | 94 |
| **SANTA ROSA** | -1.55 | 44.22 | 115 | 3.16 | 20.04 | 119 |
| **SARASOTA** | -14.76 | 47.22 | 174 | 1.10 | 21.15 | 202 |
| **SEMINOLE** | 5.20 | 36.48 | 291 | 0.64 | 19.20 | 309 |
| **ST. JOHNS** | -6.50 | 39.85 | 134 | 7.30 | 22.94 | 141 |
| **ST. LUCIE** | 0.34 | 40.58 | 187 | -10.88 | 22.02 | 202 |
| **SUMTER** | 12.38 | 37.12 | 27 | 8.12 | 24.17 | 39 |
| **SUWANNEE** | 9.03 | 37.24 | 29 | -3.83 | 22.17 | 29 |
| **TAYLOR** | -20.71 | 64.60 | 8 | 3.75 | 29.05 | 12 |
| **UF LAB SCH** | \* | \* | 3 | \* | \* | 3 |
| **UNION** | 38.39 | 57.87 | 12 | 15.16 | 15.29 | 12 |
| **VOLUSIA** | -8.58 | 36.80 | 351 | -4.51 | 17.26 | 399 |
| **WAKULLA** | -13.99 | 49.23 | 29 | 2.34 | 24.85 | 28 |
| **WALTON** | 10.58 | 33.68 | 34 | 6.33 | 16.36 | 36 |
| **WASHINGTON** | 3.63 | 69.58 | 15 | 3.62 | 24.18 | 15 |
| **State Avg.** | 1.09 | 43.25 | 11734 | 0.65 | 21.67 | 13157 |

**Table 2. Mean and Standard Deviation of Teacher Value-Added Scores by District:**

**Grade 5, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| **ALACHUA** | 3.27 | 39.77 | 134 | 1.49 | 18.60 | 121 |
| **BAKER** | -25.54 | 37.57 | 12 | -22.96 | 12.38 | 12 |
| **BAY** | 2.07 | 39.81 | 112 | 1.53 | 16.07 | 121 |
| **BRADFORD** | -7.74 | 37.28 | 12 | -4.37 | 16.32 | 13 |
| **BREVARD** | 0.22 | 31.51 | 365 | -2.49 | 14.46 | 408 |
| **BROWARD** | 5.37 | 34.11 | 1021 | -1.38 | 18.32 | 1060 |
| **CALHOUN** | 3.89 | 32.97 | 9 | -6.61 | 11.51 | 14 |
| **CHARLOTTE** | -0.79 | 38.00 | 59 | 5.99 | 17.68 | 71 |
| **CITRUS** | 9.24 | 31.08 | 66 | 4.19 | 13.91 | 83 |
| **CLAY** | 0.03 | 32.48 | 132 | -3.47 | 14.47 | 157 |
| **COLLIER** | -6.54 | 36.54 | 203 | -7.09 | 14.07 | 229 |
| **COLUMBIA** | 2.10 | 11.12 | 13 | 2.48 | 9.04 | 14 |
| **DADE** | -0.76 | 43.62 | 1097 | 3.46 | 20.09 | 1345 |
| **DEAF/BLIND** | \* | \* | 4 | \* | \* | 4 |
| **DESOTO** | 1.11 | 34.49 | 19 | -17.17 | 31.51 | 18 |
| **DIXIE** | \* | \* | 4 | 15.04 | 20.08 | 7 |
| **DUVAL** | 0.91 | 35.98 | 507 | -1.35 | 16.89 | 548 |
| **ESCAMBIA** | -3.50 | 42.86 | 223 | -0.39 | 18.98 | 231 |
| **FAMU LAB SCH** | \* | \* | 2 | \* | \* | 2 |
| **FAU LAB SCH** | 17.13 | 23.53 | 9 | 3.00 | 17.79 | 11 |
| **FL VIRTUAL** | \* | \* | 2 | \* | \* | \* |
| **FLAGLER** | -12.98 | 41.51 | 37 | 5.25 | 15.55 | 45 |
| **FRANKLIN** | \* | \* | 4 | -0.78 | 8.67 | 6 |
| **FSU LAB SCH** | 4.64 | 32.07 | 9 | 2.32 | 9.65 | 9 |
| **GADSDEN** | 25.75 | 49.31 | 24 | 9.58 | 40.26 | 24 |
| **GILCHRIST** | -16.61 | 51.12 | 13 | 9.01 | 15.92 | 14 |
| **GLADES** | -8.40 | 20.53 | 5 | -17.60 | 25.51 | 9 |
| **GULF** | -16.23 | 39.92 | 9 | -1.76 | 15.11 | 12 |
| **HAMILTON** | -3.43 | 32.15 | 6 | -4.43 | 9.20 | 10 |
| **HARDEE** | -4.58 | 33.90 | 23 | -10.57 | 12.84 | 28 |
| **HENDRY** | 10.80 | 45.25 | 27 | 0.37 | 15.96 | 30 |
| **HERNANDO** | -14.58 | 27.50 | 99 | -3.52 | 16.23 | 103 |
| **HIGHLANDS** | -17.24 | 39.37 | 58 | -7.38 | 17.77 | 62 |
| **HILLSBOROUGH** | -1.15 | 30.70 | 892 | 1.23 | 14.73 | 955 |
| **HOLMES** | -14.25 | 49.93 | 11 | 3.09 | 13.35 | 13 |
| **INDIAN RIVER** | 8.69 | 30.20 | 75 | -3.57 | 13.13 | 74 |
| **JACKSON** | -20.35 | 63.69 | 28 | 2.57 | 14.29 | 35 |
| **JEFFERSON** | 42.80 | 29.43 | 8 | 19.65 | 25.48 | 8 |
| **LAFAYETTE** | \* | \* | 3 | -0.43 | 9.23 | 5 |
| **LAKE** | -2.70 | 33.34 | 163 | 0.27 | 15.99 | 182 |
| **LEE** | 12.28 | 35.84 | 382 | -4.83 | 15.24 | 396 |
| **LEON** | 3.41 | 35.62 | 168 | 6.61 | 20.38 | 166 |
| **LEVY** | -15.26 | 35.33 | 28 | -3.89 | 12.10 | 34 |
| **LIBERTY** | -3.50 | 32.23 | 6 | 21.80 | 11.33 | 8 |
| **MADISON** | -25.25 | 35.39 | 11 | 7.88 | 17.10 | 16 |
| **MANATEE** | 8.25 | 33.15 | 227 | -1.54 | 12.94 | 224 |
| **MARION** | 1.28 | 28.97 | 168 | -3.88 | 17.51 | 223 |
| **MARTIN** | 9.28 | 30.74 | 70 | 0.04 | 13.20 | 78 |
| **MONROE** | 4.23 | 24.62 | 30 | -4.46 | 11.03 | 38 |
| **NASSAU** | 3.31 | 28.68 | 40 | -3.29 | 13.77 | 46 |
| **OKALOOSA** | 0.80 | 32.03 | 85 | -1.86 | 13.32 | 123 |
| **OKEECHOBEE** | 6.25 | 47.94 | 24 | -12.38 | 18.24 | 32 |
| **ORANGE** | 3.30 | 32.81 | 765 | 1.57 | 15.66 | 808 |
| **OSCEOLA** | 8.56 | 30.42 | 221 | 2.99 | 14.61 | 276 |
| **PALM BEACH** | -1.58 | 34.76 | 503 | 3.33 | 15.40 | 791 |
| **PASCO** | 2.11 | 34.72 | 351 | -2.05 | 15.69 | 378 |
| **PINELLAS** | -5.76 | 37.26 | 454 | -1.69 | 14.72 | 455 |
| **POLK** | -6.68 | 33.95 | 532 | -1.04 | 16.62 | 535 |
| **PUTNAM** | 11.00 | 32.70 | 51 | -2.44 | 13.20 | 77 |
| **SANTA ROSA** | 0.35 | 35.39 | 108 | 4.27 | 18.56 | 114 |
| **SARASOTA** | 1.59 | 40.72 | 154 | 4.39 | 18.43 | 185 |
| **SEMINOLE** | 3.91 | 28.51 | 288 | 2.48 | 14.91 | 292 |
| **ST. JOHNS** | 4.31 | 33.20 | 116 | 9.97 | 15.92 | 129 |
| **ST. LUCIE** | 5.06 | 35.74 | 165 | -0.00 | 14.44 | 187 |
| **SUMTER** | 17.85 | 28.20 | 21 | 10.85 | 14.99 | 35 |
| **SUWANNEE** | 13.38 | 22.20 | 18 | 3.57 | 17.56 | 18 |
| **TAYLOR** | -33.25 | 53.33 | 7 | -13.05 | 13.78 | 13 |
| **UF LAB SCH** | \* | \* | 3 | \* | \* | 3 |
| **UNION** | -12.98 | 43.24 | 7 | -13.81 | 27.48 | 7 |
| **VOLUSIA** | -3.55 | 33.82 | 342 | -6.55 | 13.51 | 366 |
| **WAKULLA** | 1.47 | 30.03 | 26 | 6.22 | 17.35 | 26 |
| **WALTON** | 17.49 | 26.55 | 32 | 3.93 | 12.60 | 35 |
| **WASHINGTON** | -80.41 | 49.25 | 6 | -6.24 | 12.44 | 10 |
| **State Avg.** | 0.86 | 35.82 | 10878 | 0.10 | 16.90 | 12182 |

**Table 3. Mean and Standard Deviation of Teacher Value-Added Scores by District:**

**Grade 6, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| **ALACHUA** | -5.16 | 27.18 | 61 | -7.59 | 14.75 | 91 |
| **BAKER** | 48.04 | 34.67 | 14 | 2.47 | 7.84 | 12 |
| **BAY** | -2.99 | 25.79 | 54 | -6.56 | 14.88 | 78 |
| **BRADFORD** | -9.79 | 30.98 | 7 | -5.76 | 11.07 | 14 |
| **BREVARD** | 36.14 | 27.50 | 315 | 7.97 | 15.54 | 342 |
| **BROWARD** | -1.32 | 24.93 | 326 | 2.60 | 17.24 | 556 |
| **CALHOUN** | 3.25 | 23.48 | 8 | -6.47 | 11.56 | 10 |
| **CHARLOTTE** | -12.31 | 17.58 | 26 | -0.87 | 17.29 | 36 |
| **CITRUS** | -9.70 | 17.00 | 35 | -17.25 | 12.82 | 36 |
| **CLAY** | 19.83 | 21.58 | 96 | 4.26 | 12.61 | 126 |
| **COLLIER** | 11.21 | 20.34 | 71 | 9.05 | 12.94 | 131 |
| **COLUMBIA** | -8.09 | 8.43 | 8 | -13.90 | 4.63 | 11 |
| **DADE** | -10.68 | 27.72 | 713 | 6.70 | 19.50 | 962 |
| **DEAF/BLIND** | \* | \* | 2 | \* | \* | 4 |
| **DESOTO** | -9.52 | 20.30 | 10 | -18.48 | 19.71 | 11 |
| **DIXIE** | \* | \* | 2 | 18.43 | 7.34 | 5 |
| **DUVAL** | -15.79 | 23.49 | 238 | -6.23 | 15.19 | 310 |
| **ESCAMBIA** | -14.76 | 21.98 | 78 | -13.64 | 17.14 | 130 |
| **FAMU LAB SCH** | \* | \* | 1 | \* | \* | 2 |
| **FAU LAB SCH** | 25.14 | 19.11 | 7 | 36.86 | 10.10 | 10 |
| **FL VIRTUAL** | \* | \* | 1 | \* | \* | 1 |
| **FLAGLER** | 7.74 | 19.59 | 35 | 6.29 | 10.88 | 39 |
| **FRANKLIN** | -19.56 | 28.26 | 5 | -6.82 | 7.60 | 5 |
| **FSU LAB SCH** | \* | \* | 3 | \* | \* | 3 |
| **GADSDEN** | 0.48 | 30.31 | 17 | -21.17 | 25.24 | 21 |
| **GILCHRIST** | \* | \* | 3 | -4.79 | 4.22 | 9 |
| **GLADES** | \* | \* | 4 | -6.38 | 22.11 | 8 |
| **GULF** | -24.32 | 15.57 | 6 | -2.57 | 10.35 | 8 |
| **HAMILTON** | 51.76 | 42.09 | 6 | -12.47 | 10.34 | 12 |
| **HARDEE** | -12.72 | 13.12 | 8 | -3.81 | 12.43 | 11 |
| **HENDRY** | -20.22 | 21.30 | 9 | -19.16 | 9.51 | 13 |
| **HERNANDO** | -8.16 | 23.09 | 50 | -5.19 | 12.01 | 69 |
| **HIGHLANDS** | 15.80 | 23.80 | 34 | 4.36 | 12.35 | 39 |
| **HILLSBOROUGH** | 0.31 | 21.51 | 328 | -11.41 | 15.50 | 487 |
| **HOLMES** | 19.04 | 27.43 | 10 | -5.51 | 9.28 | 10 |
| **INDIAN RIVER** | 2.07 | 17.73 | 36 | -5.84 | 13.32 | 46 |
| **JACKSON** | -12.92 | 14.31 | 16 | -0.09 | 14.98 | 24 |
| **JEFFERSON** | -3.05 | 4.82 | 7 | 1.00 | 3.89 | 5 |
| **LAFAYETTE** | \* | \* | 1 | \* | \* | 1 |
| **LAKE** | -2.86 | 23.76 | 71 | -3.04 | 15.53 | 106 |
| **LEE** | -3.09 | 24.32 | 147 | -8.99 | 14.37 | 229 |
| **LEON** | 3.96 | 24.10 | 71 | -2.25 | 14.70 | 92 |
| **LEVY** | 2.35 | 22.94 | 19 | -4.99 | 15.18 | 26 |
| **LIBERTY** | 24.59 | 23.12 | 9 | \* | \* | 4 |
| **MADISON** | -10.83 | 8.30 | 6 | -15.94 | 7.57 | 8 |
| **MANATEE** | -5.87 | 23.55 | 83 | -1.38 | 13.25 | 114 |
| **MARION** | -8.16 | 17.98 | 77 | 2.40 | 12.02 | 128 |
| **MARTIN** | 3.51 | 23.57 | 29 | -0.93 | 9.86 | 52 |
| **MONROE** | 16.80 | 17.12 | 21 | 10.87 | 7.67 | 35 |
| **NASSAU** | 0.32 | 11.95 | 22 | -6.84 | 12.12 | 28 |
| **OKALOOSA** | 4.39 | 23.78 | 64 | 2.23 | 12.41 | 57 |
| **OKEECHOBEE** | 8.21 | 29.59 | 12 | -4.08 | 11.93 | 21 |
| **ORANGE** | -3.84 | 22.77 | 223 | 2.43 | 14.35 | 361 |
| **OSCEOLA** | 0.52 | 22.34 | 101 | 7.63 | 13.57 | 130 |
| **PALM BEACH** | 2.83 | 25.50 | 328 | 4.14 | 16.89 | 392 |
| **PASCO** | 7.57 | 22.87 | 137 | -2.25 | 12.15 | 240 |
| **PINELLAS** | -13.63 | 21.62 | 199 | -11.68 | 15.35 | 240 |
| **POLK** | -15.66 | 22.76 | 195 | -3.85 | 12.46 | 304 |
| **PUTNAM** | -4.22 | 34.23 | 26 | -18.65 | 15.53 | 57 |
| **SANTA ROSA** | -5.35 | 20.67 | 48 | 0.04 | 11.22 | 61 |
| **SARASOTA** | 5.79 | 25.66 | 91 | 8.85 | 17.63 | 87 |
| **SEMINOLE** | -2.06 | 23.78 | 118 | 5.97 | 11.20 | 163 |
| **ST. JOHNS** | 1.60 | 30.63 | 72 | 8.91 | 22.01 | 65 |
| **ST. LUCIE** | 3.16 | 23.57 | 85 | 1.25 | 12.30 | 142 |
| **SUMTER** | -6.50 | 30.87 | 10 | -13.14 | 12.57 | 23 |
| **SUWANNEE** | -6.48 | 12.16 | 13 | 0.41 | 9.28 | 17 |
| **TAYLOR** | -0.72 | 26.67 | 11 | 9.68 | 13.11 | 12 |
| **UF LAB SCH** | \* | \* | 1 | \* | \* | 3 |
| **UNION** | -7.34 | 10.99 | 5 | 12.22 | 6.61 | 8 |
| **VOLUSIA** | -10.49 | 21.84 | 110 | -12.11 | 11.23 | 179 |
| **WAKULLA** | 11.12 | 21.01 | 15 | -10.12 | 9.07 | 16 |
| **WALTON** | 19.35 | 22.34 | 22 | -0.97 | 15.83 | 22 |
| **WASHINGTON** | -8.91 | 16.85 | 6 | -6.84 | 13.75 | 7 |
| **State Avg.** | -0.88 | 27.48 | 5078 | -0.66 | 17.06 | 7091 |

**Table 4. Mean and Standard Deviation of Teacher Value-Added Scores by District:**

**Grade 7, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| **ALACHUA** | -0.67 | 16.68 | 67 | -3.14 | 14.27 | 94 |
| **BAKER** | -10.47 | 9.21 | 8 | 7.44 | 15.42 | 11 |
| **BAY** | 3.99 | 17.58 | 61 | -1.22 | 13.04 | 75 |
| **BRADFORD** | -0.16 | 14.34 | 9 | -5.73 | 8.21 | 13 |
| **BREVARD** | -11.05 | 16.87 | 127 | -8.52 | 15.45 | 152 |
| **BROWARD** | -3.47 | 17.47 | 364 | -2.50 | 17.11 | 572 |
| **CALHOUN** | -0.33 | 14.29 | 10 | -20.01 | 9.85 | 15 |
| **CHARLOTTE** | 7.16 | 18.27 | 26 | 8.85 | 15.42 | 43 |
| **CITRUS** | 2.54 | 18.14 | 44 | -11.81 | 17.09 | 47 |
| **CLAY** | -5.83 | 16.13 | 65 | 1.43 | 12.37 | 80 |
| **COLLIER** | 7.27 | 15.77 | 63 | 5.15 | 14.73 | 123 |
| **COLUMBIA** | -9.86 | 11.21 | 9 | 2.20 | 6.88 | 10 |
| **DADE** | -0.36 | 17.77 | 814 | 9.27 | 16.94 | 996 |
| **DEAF/BLIND** | \* | \* | 2 | \* | \* | 3 |
| **DESOTO** | -2.02 | 30.06 | 12 | 2.35 | 14.73 | 18 |
| **DIXIE** | -4.40 | 4.11 | 5 | 9.72 | 10.60 | 7 |
| **DUVAL** | 1.78 | 16.26 | 270 | 1.98 | 14.11 | 342 |
| **ESCAMBIA** | -3.09 | 14.89 | 81 | -9.45 | 17.34 | 124 |
| **FAMU LAB SCH** | \* | \* | 1 | \* | \* | 2 |
| **FAU LAB SCH** | -1.62 | 12.80 | 7 | 0.78 | 5.20 | 11 |
| **FL VIRTUAL** | \* | \* | 1 | \* | \* | 1 |
| **FLAGLER** | 2.86 | 14.68 | 31 | -1.50 | 13.72 | 29 |
| **FRANKLIN** | \* | \* | 4 | 1.99 | 19.60 | 7 |
| **FSU LAB SCH** | \* | \* | 3 | \* | \* | 4 |
| **GADSDEN** | -8.73 | 14.42 | 13 | -2.92 | 20.23 | 19 |
| **GILCHRIST** | \* | \* | 4 | -14.44 | 9.34 | 8 |
| **GLADES** | \* | \* | 4 | -15.88 | 9.33 | 12 |
| **GULF** | 4.99 | 13.68 | 8 | -1.32 | 14.72 | 9 |
| **HAMILTON** | \* | \* | 4 | -8.41 | 9.31 | 5 |
| **HARDEE** | -14.09 | 15.68 | 6 | 2.20 | 15.66 | 10 |
| **HENDRY** | -6.41 | 16.39 | 8 | -10.71 | 16.79 | 14 |
| **HERNANDO** | 3.08 | 15.01 | 51 | 3.58 | 13.87 | 61 |
| **HIGHLANDS** | 8.76 | 13.44 | 32 | 6.09 | 13.74 | 35 |
| **HILLSBOROUGH** | 2.92 | 15.77 | 383 | -5.10 | 15.39 | 492 |
| **HOLMES** | -0.07 | 19.36 | 9 | -15.91 | 16.52 | 19 |
| **INDIAN RIVER** | 4.15 | 15.47 | 36 | -13.14 | 17.89 | 49 |
| **JACKSON** | -2.06 | 14.51 | 17 | -9.19 | 16.35 | 27 |
| **JEFFERSON** | -10.52 | 11.89 | 7 | -0.50 | 2.24 | 7 |
| **LAFAYETTE** | \* | \* | 2 | \* | \* | 2 |
| **LAKE** | -0.45 | 15.15 | 79 | -0.09 | 15.61 | 112 |
| **LEE** | 7.98 | 16.16 | 170 | -2.42 | 16.59 | 279 |
| **LEON** | 1.22 | 17.91 | 94 | -0.33 | 19.44 | 89 |
| **LEVY** | 1.96 | 17.47 | 19 | -0.82 | 22.43 | 21 |
| **LIBERTY** | 7.75 | 16.35 | 9 | -13.41 | 16.52 | 9 |
| **MADISON** | 0.08 | 13.16 | 7 | 5.99 | 9.43 | 10 |
| **MANATEE** | 1.75 | 14.78 | 99 | 1.70 | 13.53 | 122 |
| **MARION** | -1.73 | 17.77 | 84 | 6.80 | 11.40 | 136 |
| **MARTIN** | 1.30 | 14.50 | 35 | -12.17 | 16.72 | 50 |
| **MONROE** | 1.38 | 17.33 | 25 | -2.39 | 10.67 | 38 |
| **NASSAU** | -0.93 | 15.90 | 22 | 5.05 | 12.53 | 22 |
| **OKALOOSA** | 2.29 | 16.10 | 75 | 2.78 | 17.21 | 68 |
| **OKEECHOBEE** | 2.08 | 12.45 | 15 | -2.07 | 15.26 | 22 |
| **ORANGE** | 3.64 | 16.88 | 256 | 6.11 | 16.13 | 338 |
| **OSCEOLA** | 3.97 | 14.14 | 111 | 4.19 | 15.94 | 140 |
| **PALM BEACH** | -0.05 | 16.22 | 371 | 3.32 | 17.17 | 421 |
| **PASCO** | 5.20 | 12.65 | 146 | 4.19 | 11.32 | 192 |
| **PINELLAS** | -8.52 | 14.31 | 225 | -1.64 | 19.55 | 237 |
| **POLK** | -3.90 | 14.25 | 220 | -6.74 | 15.37 | 327 |
| **PUTNAM** | -5.51 | 14.65 | 22 | 1.29 | 13.41 | 37 |
| **SANTA ROSA** | -1.86 | 14.98 | 51 | 1.89 | 16.88 | 50 |
| **SARASOTA** | 1.59 | 16.87 | 99 | 5.90 | 17.34 | 94 |
| **SEMINOLE** | 4.84 | 17.14 | 148 | 1.10 | 14.45 | 174 |
| **ST. JOHNS** | 5.08 | 15.21 | 86 | 10.04 | 16.97 | 73 |
| **ST. LUCIE** | 1.76 | 15.52 | 94 | -8.89 | 15.47 | 138 |
| **SUMTER** | 0.68 | 16.60 | 12 | -18.06 | 21.85 | 23 |
| **SUWANNEE** | 2.50 | 8.91 | 12 | 2.28 | 11.09 | 17 |
| **TAYLOR** | 0.85 | 12.00 | 12 | -13.81 | 14.40 | 14 |
| **UF LAB SCH** | \* | \* | 1 | \* | \* | 3 |
| **UNION** | 2.32 | 12.26 | 5 | 21.09 | 13.83 | 11 |
| **VOLUSIA** | -3.62 | 14.24 | 145 | -13.65 | 13.92 | 209 |
| **WAKULLA** | 9.74 | 18.51 | 12 | -15.28 | 14.94 | 17 |
| **WALTON** | 12.40 | 19.28 | 18 | 6.74 | 14.58 | 26 |
| **WASHINGTON** | 0.49 | 15.86 | 8 | -5.20 | 7.90 | 12 |
| **State Avg.** | 0.27 | 16.69 | 5425 | 0.23 | 17.17 | 7046 |

**Table 5. Mean and Standard Deviation of Teacher Value-Added Scores by District:**

**Grade 8, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| **ALACHUA** | 7.73 | 16.11 | 62 | -0.00 | 9.98 | 83 |
| **BAKER** | -12.59 | 11.33 | 8 | -0.72 | 5.50 | 10 |
| **BAY** | 0.73 | 18.66 | 59 | -0.48 | 7.67 | 71 |
| **BRADFORD** | -1.00 | 9.72 | 7 | 0.55 | 5.34 | 12 |
| **BREVARD** | -6.50 | 12.75 | 132 | -4.24 | 8.32 | 144 |
| **BROWARD** | 1.62 | 16.52 | 351 | 1.69 | 11.66 | 544 |
| **CALHOUN** | 5.53 | 13.27 | 10 | -6.43 | 4.02 | 13 |
| **CHARLOTTE** | 1.49 | 12.07 | 26 | 5.74 | 9.04 | 38 |
| **CITRUS** | 2.79 | 12.12 | 36 | -1.97 | 11.75 | 39 |
| **CLAY** | -0.14 | 14.60 | 64 | -0.10 | 7.87 | 77 |
| **COLLIER** | 7.81 | 14.22 | 65 | 2.68 | 10.75 | 115 |
| **COLUMBIA** | -3.37 | 7.06 | 8 | -5.58 | 6.16 | 11 |
| **DADE** | 2.33 | 16.15 | 747 | 6.68 | 11.39 | 917 |
| **DEAF/BLIND** | \* | \* | 3 | -4.79 | 5.81 | 6 |
| **DESOTO** | -6.18 | 16.26 | 12 | -3.27 | 6.63 | 18 |
| **DIXIE** | \* | \* | 2 | 2.95 | 5.24 | 6 |
| **DOZIER/OKEEC** | \* | \* | 1 | \* | \* | 2 |
| **DUVAL** | -0.02 | 14.23 | 227 | 3.33 | 8.65 | 277 |
| **ESCAMBIA** | -2.32 | 13.14 | 80 | -6.24 | 9.13 | 133 |
| **FAMU LAB SCH** | \* | \* | 1 | \* | \* | 3 |
| **FAU LAB SCH** | 4.27 | 16.57 | 5 | 9.22 | 7.35 | 7 |
| **FL VIRTUAL** | \* | \* | 1 | \* | \* | 2 |
| **FLAGLER** | -2.15 | 11.72 | 30 | 1.45 | 9.35 | 30 |
| **FRANKLIN** | -11.75 | 6.21 | 6 | -7.85 | 5.40 | 6 |
| **FSU LAB SCH** | \* | \* | 3 | 5.50 | 5.20 | 5 |
| **GADSDEN** | 4.77 | 17.31 | 15 | 2.46 | 17.85 | 17 |
| **GILCHRIST** | \* | \* | 4 | -9.47 | 3.43 | 7 |
| **GLADES** | \* | \* | 3 | -10.59 | 2.81 | 7 |
| **GULF** | 3.34 | 14.35 | 5 | -14.65 | 6.61 | 5 |
| **HAMILTON** | -15.02 | 8.65 | 5 | -8.59 | 11.48 | 8 |
| **HARDEE** | 4.09 | 17.24 | 6 | -8.02 | 10.49 | 8 |
| **HENDRY** | -0.71 | 15.16 | 9 | -8.91 | 14.97 | 15 |
| **HERNANDO** | -1.62 | 12.28 | 52 | -3.53 | 10.14 | 70 |
| **HIGHLANDS** | 1.35 | 13.25 | 36 | -0.65 | 8.71 | 38 |
| **HILLSBOROUGH** | -3.43 | 14.92 | 348 | -4.57 | 9.56 | 463 |
| **HOLMES** | -0.84 | 12.80 | 17 | -2.88 | 6.74 | 19 |
| **INDIAN RIVER** | -5.22 | 14.63 | 36 | -8.11 | 8.08 | 48 |
| **JACKSON** | -4.33 | 12.29 | 19 | -4.70 | 5.08 | 23 |
| **JEFFERSON** | \* | \* | 2 | \* | \* | 3 |
| **LAFAYETTE** | \* | \* | 2 | \* | \* | 1 |
| **LAKE** | 1.58 | 11.28 | 76 | 0.27 | 9.58 | 107 |
| **LEE** | 7.36 | 17.40 | 149 | -0.72 | 9.67 | 243 |
| **LEON** | 3.54 | 13.37 | 81 | 2.84 | 8.79 | 85 |
| **LEVY** | 0.37 | 12.82 | 20 | 3.69 | 12.73 | 22 |
| **LIBERTY** | -11.48 | 6.42 | 6 | -0.68 | 3.37 | 8 |
| **MADISON** | -0.53 | 9.38 | 8 | -16.73 | 8.68 | 12 |
| **MANATEE** | 1.48 | 12.93 | 91 | -4.81 | 7.45 | 114 |
| **MARION** | 2.21 | 11.94 | 86 | -0.13 | 7.96 | 122 |
| **MARTIN** | 3.70 | 12.09 | 36 | -0.13 | 7.05 | 55 |
| **MONROE** | 14.07 | 14.38 | 24 | 1.17 | 8.91 | 31 |
| **NASSAU** | -10.69 | 12.23 | 24 | 5.29 | 8.55 | 30 |
| **OKALOOSA** | 3.70 | 14.09 | 69 | 6.11 | 10.63 | 68 |
| **OKEECHOBEE** | -5.18 | 14.82 | 15 | -7.77 | 5.84 | 25 |
| **ORANGE** | -3.69 | 15.55 | 247 | 1.83 | 10.34 | 347 |
| **OSCEOLA** | 3.08 | 11.90 | 112 | -2.61 | 10.56 | 146 |
| **PALM BEACH** | 4.95 | 14.71 | 345 | 4.48 | 9.70 | 395 |
| **PASCO** | 0.69 | 14.44 | 140 | -0.08 | 8.36 | 198 |
| **PINELLAS** | -7.47 | 14.62 | 205 | -4.36 | 10.58 | 212 |
| **POLK** | -1.01 | 14.21 | 185 | -5.67 | 11.49 | 286 |
| **PUTNAM** | -5.36 | 11.54 | 23 | 5.35 | 7.20 | 31 |
| **SANTA ROSA** | 1.41 | 15.25 | 48 | 3.97 | 9.39 | 48 |
| **SARASOTA** | 5.68 | 15.66 | 84 | 0.68 | 8.52 | 103 |
| **SEMINOLE** | 5.17 | 14.33 | 118 | 2.14 | 9.44 | 148 |
| **ST. JOHNS** | 3.15 | 13.53 | 76 | 7.97 | 9.12 | 79 |
| **ST. LUCIE** | 3.77 | 15.84 | 86 | -5.84 | 10.43 | 118 |
| **SUMTER** | -3.35 | 10.58 | 13 | -7.34 | 7.57 | 25 |
| **SUWANNEE** | -7.04 | 12.04 | 12 | -2.70 | 7.31 | 11 |
| **TAYLOR** | 4.23 | 4.91 | 16 | 0.82 | 4.60 | 16 |
| **UF LAB SCH** | \* | \* | 1 | \* | \* | 2 |
| **UNION** | 2.67 | 10.49 | 6 | -2.16 | 5.41 | 11 |
| **VOLUSIA** | -1.45 | 14.15 | 139 | -10.77 | 9.03 | 206 |
| **WAKULLA** | -1.20 | 10.26 | 12 | -5.89 | 5.24 | 20 |
| **WALTON** | 5.52 | 14.85 | 24 | 5.28 | 11.11 | 26 |
| **WASHINGTON** | 11.89 | 18.23 | 7 | -3.50 | 8.76 | 12 |
| **State Avg.** | 0.77 | 15.23 | 5070 | 0.16 | 11.01 | 6633 |

**Table 6. Mean and Standard Deviation of Teacher Value-Added Scores by District:**

**Grade 9, 2010-11**

| **District** | **Reading** | | |
| --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** |
| **ALACHUA** | 6.63 | 8.28 | 59 |
| **BAKER** | 10.78 | 4.11 | 13 |
| **BAY** | 1.67 | 8.03 | 72 |
| **BRADFORD** | 3.56 | 4.07 | 7 |
| **BREVARD** | 5.04 | 6.56 | 193 |
| **BROWARD** | -6.91 | 8.82 | 475 |
| **CALHOUN** | -6.05 | 2.88 | 6 |
| **CHARLOTTE** | 3.66 | 6.83 | 29 |
| **CITRUS** | 7.36 | 7.37 | 44 |
| **CLAY** | 4.19 | 5.77 | 92 |
| **COLLIER** | 1.01 | 8.79 | 100 |
| **COLUMBIA** | -0.19 | 1.30 | 8 |
| **DADE** | -0.62 | 7.99 | 841 |
| **DEAF/BLIND** | 0.17 | 4.47 | 7 |
| **DESOTO** | -2.91 | 3.60 | 30 |
| **DIXIE** | \* | \* | 3 |
| **DOZIER/OKEEC** | -2.67 | 5.46 | 6 |
| **DUVAL** | 0.14 | 6.57 | 293 |
| **ESCAMBIA** | -2.37 | 6.38 | 157 |
| **FAMU LAB SCH** | \* | \* | 1 |
| **FAU LAB SCH** | \* | \* | 1 |
| **FL VIRTUAL** | \* | \* | 1 |
| **FLAGLER** | 5.24 | 6.79 | 33 |
| **FRANKLIN** | -4.27 | 2.54 | 7 |
| **FSU LAB SCH** | 8.41 | 3.87 | 9 |
| **GADSDEN** | -6.52 | 9.50 | 18 |
| **GILCHRIST** | 1.78 | 2.41 | 15 |
| **GLADES** | -4.79 | 3.79 | 5 |
| **GULF** | \* | \* | 3 |
| **HAMILTON** | -4.54 | 3.12 | 9 |
| **HARDEE** | -3.85 | 5.04 | 11 |
| **HENDRY** | -7.56 | 4.05 | 19 |
| **HERNANDO** | 3.96 | 6.36 | 67 |
| **HIGHLANDS** | -1.18 | 5.49 | 29 |
| **HILLSBOROUGH** | -3.76 | 7.50 | 450 |
| **HOLMES** | -3.15 | 8.36 | 15 |
| **INDIAN RIVER** | 4.22 | 6.77 | 34 |
| **JACKSON** | 3.30 | 6.80 | 23 |
| **JEFFERSON** | 4.37 | 0.91 | 7 |
| **LAFAYETTE** | \* | \* | 3 |
| **LAKE** | 1.03 | 6.69 | 78 |
| **LEE** | -1.29 | 7.52 | 155 |
| **LEON** | 3.69 | 6.52 | 83 |
| **LEVY** | 3.44 | 4.64 | 23 |
| **LIBERTY** | -5.72 | 5.07 | 8 |
| **MADISON** | 2.06 | 2.21 | 11 |
| **MANATEE** | 2.30 | 11.40 | 116 |
| **MARION** | 5.07 | 7.83 | 118 |
| **MARTIN** | -2.52 | 9.97 | 31 |
| **MONROE** | -2.60 | 6.23 | 24 |
| **NASSAU** | 3.35 | 7.24 | 22 |
| **OKALOOSA** | 2.10 | 10.49 | 73 |
| **OKEECHOBEE** | -7.04 | 6.94 | 15 |
| **ORANGE** | -0.49 | 7.95 | 312 |
| **OSCEOLA** | 0.38 | 6.02 | 144 |
| **PALM BEACH** | -1.19 | 9.21 | 408 |
| **PASCO** | 2.30 | 5.87 | 214 |
| **PINELLAS** | -0.47 | 6.24 | 233 |
| **POLK** | -2.75 | 7.37 | 237 |
| **PUTNAM** | 4.35 | 7.11 | 25 |
| **SANTA ROSA** | 9.28 | 8.09 | 53 |
| **SARASOTA** | 2.06 | 7.12 | 99 |
| **SEMINOLE** | -2.30 | 6.65 | 160 |
| **ST. JOHNS** | 12.38 | 9.61 | 75 |
| **ST. LUCIE** | -3.35 | 7.52 | 83 |
| **SUMTER** | 3.01 | 5.51 | 18 |
| **SUWANNEE** | 4.04 | 6.50 | 14 |
| **TAYLOR** | -0.91 | 3.17 | 6 |
| **UF LAB SCH** | \* | \* | 2 |
| **UNION** | -4.47 | 3.15 | 11 |
| **VOLUSIA** | 2.64 | 8.69 | 177 |
| **WAKULLA** | 11.26 | 4.88 | 16 |
| **WALTON** | 2.15 | 6.88 | 31 |
| **WASHINGTON** | 1.85 | 8.08 | 9 |
| **State Avg.** | -0.14 | 8.47 | 6256 |

**Table 7. Mean and Standard Deviation of Teacher Value-Added Scores by District:**

**Grade 10, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| **ALACHUA** | 1.72 | 5.48 | 70 | -0.14 | 29.47 | 76 |
| **BAKER** | -5.78 | 2.59 | 11 | 6.05 | 23.16 | 13 |
| **BAY** | -0.85 | 6.36 | 89 | -9.51 | 28.35 | 80 |
| **BRADFORD** | -1.04 | 2.65 | 10 | 4.55 | 37.65 | 13 |
| **BREVARD** | 1.80 | 5.77 | 193 | -4.53 | 25.91 | 206 |
| **BROWARD** | -4.59 | 5.93 | 690 | 5.54 | 31.12 | 753 |
| **CALHOUN** | 3.19 | 3.86 | 7 | 8.97 | 22.86 | 13 |
| **CHARLOTTE** | -2.72 | 5.29 | 47 | -8.34 | 23.50 | 50 |
| **CITRUS** | -0.39 | 6.19 | 58 | -6.01 | 23.15 | 54 |
| **CLAY** | 2.10 | 5.08 | 104 | 2.49 | 20.12 | 138 |
| **COLLIER** | 3.94 | 6.42 | 120 | -1.50 | 30.01 | 142 |
| **COLUMBIA** | 3.86 | 4.48 | 7 | -4.26 | 15.78 | 10 |
| **DADE** | 1.49 | 7.03 | 894 | 16.61 | 32.44 | 1058 |
| **DEAF/BLIND** | 8.42 | 5.55 | 9 | -15.10 | 18.94 | 10 |
| **DESOTO** | -2.40 | 5.72 | 16 | -3.32 | 25.41 | 25 |
| **DIXIE** | \* | \* | 4 | 12.99 | 17.03 | 6 |
| **DOZIER/OKEEC** | \* | \* | 4 | \* | \* | 4 |
| **DUVAL** | -4.52 | 6.40 | 328 | 1.38 | 29.15 | 434 |
| **ESCAMBIA** | 0.51 | 5.80 | 111 | -7.55 | 25.09 | 167 |
| **FAMU LAB SCH** | \* | \* | 1 | 10.87 | 18.09 | 5 |
| **FLAGLER** | -0.92 | 6.75 | 34 | 6.29 | 31.34 | 33 |
| **FRANKLIN** | -7.59 | 4.77 | 7 | -20.12 | 20.04 | 6 |
| **FSU LAB SCH** | 2.15 | 6.81 | 5 | 19.08 | 19.46 | 6 |
| **GADSDEN** | 1.79 | 8.92 | 16 | -11.05 | 23.88 | 21 |
| **GILCHRIST** | 2.19 | 3.49 | 8 | 4.94 | 22.95 | 13 |
| **GLADES** | \* | \* | 4 | 23.05 | 21.39 | 6 |
| **GULF** | 2.63 | 4.59 | 8 | 7.05 | 34.28 | 7 |
| **HAMILTON** | -1.20 | 2.88 | 7 | 0.78 | 17.88 | 8 |
| **HARDEE** | 7.75 | 6.44 | 10 | 8.60 | 25.12 | 16 |
| **HENDRY** | -0.38 | 7.40 | 22 | -7.07 | 24.52 | 32 |
| **HERNANDO** | 0.83 | 5.20 | 79 | -1.14 | 24.48 | 92 |
| **HIGHLANDS** | -0.62 | 4.79 | 28 | -4.87 | 24.82 | 39 |
| **HILLSBOROUGH** | 0.54 | 5.69 | 483 | -2.66 | 31.21 | 631 |
| **HOLMES** | -3.58 | 8.05 | 9 | -11.01 | 17.48 | 18 |
| **INDIAN RIVER** | -2.51 | 5.21 | 40 | -4.65 | 19.48 | 47 |
| **JACKSON** | 0.75 | 6.15 | 24 | -0.63 | 19.62 | 28 |
| **JEFFERSON** | 2.18 | 1.77 | 6 | -8.20 | 22.46 | 9 |
| **LAFAYETTE** | \* | \* | 3 | \* | \* | 4 |
| **LAKE** | -4.48 | 6.37 | 107 | -0.53 | 29.30 | 132 |
| **LEE** | 1.38 | 5.83 | 209 | 3.79 | 27.75 | 237 |
| **LEON** | -0.37 | 4.93 | 94 | -0.35 | 24.86 | 88 |
| **LEVY** | -1.70 | 5.64 | 23 | -10.82 | 25.40 | 28 |
| **LIBERTY** | 1.14 | 4.07 | 6 | -9.71 | 16.30 | 10 |
| **MADISON** | 3.85 | 5.49 | 9 | -23.50 | 17.98 | 17 |
| **MANATEE** | 0.66 | 6.14 | 102 | -2.46 | 26.42 | 123 |
| **MARION** | -0.45 | 5.93 | 114 | -5.30 | 24.99 | 132 |
| **MARTIN** | -0.46 | 5.79 | 51 | -1.59 | 25.94 | 57 |
| **MONROE** | 1.95 | 4.79 | 28 | 6.08 | 19.94 | 39 |
| **NASSAU** | -1.66 | 4.03 | 33 | -12.08 | 25.98 | 33 |
| **OKALOOSA** | -0.19 | 5.83 | 71 | -2.44 | 27.74 | 81 |
| **OKEECHOBEE** | -0.87 | 4.38 | 18 | 0.75 | 36.99 | 21 |
| **ORANGE** | -1.00 | 5.92 | 399 | 0.62 | 27.81 | 436 |
| **OSCEOLA** | 5.16 | 5.89 | 161 | 13.64 | 23.61 | 204 |
| **PALM BEACH** | -0.31 | 6.25 | 471 | 7.54 | 26.15 | 579 |
| **PASCO** | 1.79 | 5.60 | 201 | -3.34 | 22.26 | 255 |
| **PINELLAS** | 0.36 | 5.86 | 336 | 0.95 | 26.76 | 348 |
| **POLK** | -0.01 | 5.71 | 271 | -9.07 | 27.00 | 323 |
| **PUTNAM** | -0.67 | 5.62 | 30 | -2.73 | 23.44 | 30 |
| **SANTA ROSA** | -2.26 | 4.83 | 67 | 1.33 | 21.54 | 68 |
| **SARASOTA** | 1.09 | 5.85 | 119 | -1.49 | 28.15 | 119 |
| **SEMINOLE** | 3.83 | 6.57 | 186 | 0.75 | 26.02 | 190 |
| **ST. JOHNS** | 4.40 | 5.41 | 112 | 1.61 | 24.62 | 99 |
| **ST. LUCIE** | 0.42 | 6.66 | 90 | 1.77 | 27.15 | 112 |
| **SUMTER** | -0.54 | 4.52 | 20 | 1.19 | 22.34 | 23 |
| **SUWANNEE** | -0.01 | 4.19 | 20 | 7.20 | 26.09 | 17 |
| **TAYLOR** | -4.59 | 4.91 | 8 | -6.34 | 20.89 | 10 |
| **UF LAB SCH** | \* | \* | 3 | \* | \* | 3 |
| **UNION** | -4.75 | 4.88 | 8 | -16.00 | 23.67 | 12 |
| **VOLUSIA** | 1.44 | 6.57 | 202 | -6.51 | 30.38 | 228 |
| **WAKULLA** | -0.15 | 5.90 | 12 | 3.66 | 20.38 | 16 |
| **WALTON** | 1.14 | 6.16 | 26 | -7.43 | 18.89 | 35 |
| **WASHINGTON** | -1.02 | 11.96 | 12 | -14.65 | 22.63 | 17 |
| **State Avg.** | -0.00 | 6.56 | 7160 | 2.15 | 28.95 | 8359 |

Appendix E. School Component by District

**Table 1. Mean and Standard Deviation of the School Component by District:**

**Grade 4, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| ALACHUA | -4.65 | 35.85 | 32 | 0.11 | 19.57 | 31 |
| BAKER | -19.15 | NA | 1 | -34.64 | NA | 1 |
| BAY | -9.64 | 47.31 | 24 | 3.17 | 21.81 | 24 |
| BRADFORD | -21.71 | 19.17 | 5 | -12.94 | 10.86 | 5 |
| BREVARD | 3.65 | 33.11 | 69 | 4.02 | 15.25 | 69 |
| BROWARD | 9.91 | 33.49 | 180 | 0.68 | 19.28 | 180 |
| CALHOUN | -2.78 | 13.88 | 3 | -4.99 | 16.27 | 3 |
| CHARLOTTE | -11.89 | 23.80 | 10 | 6.19 | 24.32 | 10 |
| CITRUS | 22.87 | 34.91 | 13 | 5.41 | 25.14 | 13 |
| CLAY | -5.07 | 27.70 | 27 | -4.21 | 16.24 | 27 |
| COLLIER | -8.74 | 34.32 | 32 | -1.33 | 19.12 | 32 |
| COLUMBIA | 0.23 | 31.90 | 10 | -0.27 | 6.91 | 10 |
| DADE | 3.48 | 34.10 | 255 | 5.41 | 22.21 | 255 |
| DEAF/BLIND | \* | \* | 2 | \* | \* | 2 |
| DESOTO | 5.18 | 9.42 | 3 | -12.81 | 6.35 | 3 |
| DIXIE | 10.40 | 17.86 | 2 | -6.74 | 3.80 | 2 |
| DUVAL | 15.64 | 33.18 | 111 | -6.20 | 19.65 | 111 |
| ESCAMBIA | -3.71 | 42.06 | 39 | -4.71 | 22.61 | 39 |
| FAMU LAB SCH | \* | \* | 1 | \* | \* | 1 |
| FAU LAB SCH | 14.85 | 5.16 | 2 | 4.86 | 26.40 | 2 |
| FL VIRTUAL | \* | \* | 1 | \* | \* | 1 |
| FLAGLER | -29.02 | 27.14 | 8 | -5.47 | 13.29 | 9 |
| FRANKLIN | -11.93 | 23.43 | 2 | -14.17 | 18.87 | 2 |
| FSU LAB SCH | 48.82 | 13.97 | 2 | 33.88 | 2.77 | 2 |
| GADSDEN | 32.44 | 29.61 | 11 | -0.58 | 17.09 | 11 |
| GILCHRIST | 30.09 | 13.38 | 2 | 16.37 | 7.88 | 2 |
| GLADES | -12.77 | 4.77 | 3 | -3.51 | 9.56 | 3 |
| GULF | 40.56 | 2.49 | 2 | 4.95 | 33.38 | 2 |
| HAMILTON | 5.86 | 27.12 | 3 | -1.73 | 11.85 | 3 |
| HARDEE | 8.42 | 20.03 | 5 | -11.98 | 13.84 | 5 |
| HENDRY | 12.91 | 30.52 | 6 | -2.13 | 19.82 | 6 |
| HERNANDO | -15.43 | 23.07 | 12 | -4.74 | 20.52 | 12 |
| HIGHLANDS | -9.39 | 41.74 | 9 | -2.69 | 21.39 | 9 |
| HILLSBOROUGH | -6.47 | 32.27 | 161 | 2.80 | 18.37 | 161 |
| HOLMES | 23.02 | 18.70 | 4 | -1.88 | 16.92 | 4 |
| INDIAN RIVER | 4.31 | 25.01 | 17 | 1.61 | 12.58 | 17 |
| JACKSON | 24.48 | 34.71 | 8 | 12.50 | 15.77 | 8 |
| JEFFERSON | 13.22 | 8.88 | 2 | 44.33 | 51.99 | 2 |
| LAFAYETTE | \* | \* | 1 | -11.15 | NA | 1 |
| LAKE | -6.52 | 38.69 | 30 | -6.25 | 15.61 | 30 |
| LEE | 5.60 | 28.04 | 60 | -0.34 | 17.33 | 61 |
| LEON | 0.40 | 28.66 | 27 | -2.39 | 18.12 | 27 |
| LEVY | -6.04 | 15.42 | 6 | -12.02 | 12.21 | 6 |
| LIBERTY | -0.14 | 36.29 | 2 | -4.41 | 1.67 | 2 |
| MADISON | -35.80 | 50.37 | 4 | -3.64 | 17.33 | 4 |
| MANATEE | 5.31 | 32.10 | 43 | -0.13 | 17.37 | 43 |
| MARION | 0.89 | 27.00 | 34 | -8.68 | 15.89 | 35 |
| MARTIN | 17.93 | 24.11 | 13 | -1.82 | 22.78 | 13 |
| MONROE | 22.47 | 30.23 | 11 | -10.06 | 17.45 | 11 |
| NASSAU | 12.80 | 35.01 | 6 | 8.52 | 11.07 | 6 |
| OKALOOSA | -10.85 | 19.84 | 25 | -2.30 | 15.96 | 25 |
| OKEECHOBEE | 2.54 | 18.32 | 6 | -5.17 | 21.51 | 6 |
| ORANGE | -1.38 | 32.95 | 137 | -2.73 | 17.93 | 137 |
| OSCEOLA | -2.51 | 23.67 | 34 | 6.05 | 15.84 | 34 |
| PALM BEACH | 3.13 | 29.88 | 123 | 9.48 | 19.83 | 123 |
| PASCO | -10.91 | 28.86 | 52 | -9.37 | 18.13 | 52 |
| PINELLAS | -14.80 | 30.93 | 85 | -2.13 | 14.71 | 84 |
| POLK | -11.17 | 32.82 | 84 | -5.38 | 20.46 | 84 |
| PUTNAM | 23.05 | 36.33 | 11 | 5.45 | 16.63 | 11 |
| SANTA ROSA | -5.96 | 31.90 | 14 | 3.19 | 18.83 | 14 |
| SARASOTA | -16.26 | 32.42 | 33 | 2.16 | 17.42 | 33 |
| SEMINOLE | 4.39 | 27.28 | 40 | 0.65 | 17.24 | 40 |
| ST. JOHNS | -8.56 | 35.13 | 19 | 9.69 | 22.05 | 19 |
| ST. LUCIE | -2.41 | 29.65 | 30 | -14.97 | 20.76 | 30 |
| SUMTER | 13.88 | 12.39 | 5 | 11.77 | 27.69 | 5 |
| SUWANNEE | 1.28 | 24.17 | 3 | -5.05 | 11.49 | 3 |
| TAYLOR | -25.60 | 6.92 | 2 | -0.85 | 4.54 | 2 |
| UF LAB SCH | \* | \* | 1 | \* | \* | 1 |
| UNION | 44.10 | NA | 1 | 24.30 | NA | 1 |
| VOLUSIA | -12.13 | 27.05 | 48 | -7.33 | 15.29 | 48 |
| WAKULLA | -14.55 | 21.78 | 5 | 3.39 | 19.48 | 5 |
| WALTON | 11.74 | 8.35 | 7 | 6.55 | 7.00 | 7 |
| WASHINGTON | 16.32 | 48.80 | 2 | 0.53 | 19.65 | 2 |
| State Avg. | 0.16 | 33.02 | 2,083 | 0.02 | 19.43 | 2,084 |

**Table 2. Mean and Standard Deviation of the School Component by District:**

**Grade 5, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| ALACHUA | 1.75 | 26.82 | 31 | 0.75 | 16.33 | 31 |
| BAKER | -39.24 | NA | 1 | -36.86 | NA | 1 |
| BAY | -0.74 | 28.99 | 24 | 1.48 | 12.63 | 24 |
| BRADFORD | -7.01 | 18.27 | 5 | -3.00 | 9.76 | 5 |
| BREVARD | -0.54 | 23.31 | 69 | -3.21 | 13.43 | 69 |
| BROWARD | 5.26 | 26.33 | 178 | -1.87 | 16.98 | 178 |
| CALHOUN | 3.13 | 26.95 | 3 | -11.08 | 9.00 | 3 |
| CHARLOTTE | -0.35 | 18.42 | 12 | 8.48 | 14.98 | 11 |
| CITRUS | 8.17 | 17.36 | 12 | 5.91 | 13.46 | 12 |
| CLAY | -0.35 | 24.64 | 27 | -3.33 | 14.68 | 27 |
| COLLIER | -10.75 | 22.24 | 34 | -9.63 | 12.59 | 34 |
| COLUMBIA | 1.66 | 9.05 | 8 | 3.67 | 7.19 | 8 |
| DADE | -1.96 | 25.99 | 255 | 4.03 | 17.17 | 254 |
| DEAF/BLIND | \* | \* | 2 | \* | \* | 2 |
| DESOTO | -1.16 | 5.07 | 3 | -27.99 | 7.70 | 3 |
| DIXIE | \* | \* | 2 | 17.29 | 17.70 | 2 |
| DUVAL | 0.94 | 24.18 | 112 | -2.03 | 15.10 | 112 |
| ESCAMBIA | -5.80 | 27.01 | 39 | -0.78 | 18.08 | 39 |
| FAMU LAB SCH | \* | \* | 1 | \* | \* | 1 |
| FAU LAB SCH | 9.91 | 29.77 | 2 | -0.92 | 22.42 | 2 |
| FL VIRTUAL | \* | \* | 1 | \* | \* | \* |
| FLAGLER | -10.12 | 25.44 | 8 | 5.60 | 7.31 | 8 |
| FRANKLIN | \* | \* | 2 | -1.22 | 3.62 | 2 |
| FSU LAB SCH | 1.58 | 27.27 | 2 | 2.54 | 1.81 | 2 |
| GADSDEN | 15.51 | 28.06 | 10 | 4.41 | 33.40 | 10 |
| GILCHRIST | -19.43 | 54.69 | 2 | 12.67 | 23.33 | 2 |
| GLADES | -5.78 | 6.63 | 3 | -16.67 | 18.92 | 3 |
| GULF | -18.19 | 1.55 | 2 | -4.27 | 24.28 | 2 |
| HAMILTON | -1.14 | 17.60 | 3 | -4.11 | 9.69 | 3 |
| HARDEE | -6.36 | 23.75 | 5 | -14.37 | 9.28 | 5 |
| HENDRY | 3.62 | 41.63 | 6 | 0.73 | 7.02 | 6 |
| HERNANDO | -17.95 | 16.93 | 13 | -4.81 | 13.88 | 13 |
| HIGHLANDS | -21.62 | 26.63 | 9 | -8.03 | 18.78 | 9 |
| HILLSBOROUGH | -1.99 | 21.37 | 165 | 1.37 | 13.56 | 165 |
| HOLMES | -11.32 | 28.68 | 4 | 3.87 | 10.31 | 4 |
| INDIAN RIVER | 12.50 | 20.10 | 16 | -3.50 | 9.45 | 16 |
| JACKSON | -20.02 | 29.41 | 8 | -0.74 | 11.51 | 8 |
| JEFFERSON | 34.11 | 33.19 | 2 | 15.44 | 20.10 | 2 |
| LAFAYETTE | \* | \* | 1 | -0.53 | NA | 1 |
| LAKE | -2.63 | 21.39 | 30 | -0.70 | 13.94 | 30 |
| LEE | 14.15 | 23.75 | 59 | -6.44 | 13.10 | 60 |
| LEON | 3.71 | 28.86 | 27 | 7.03 | 23.61 | 27 |
| LEVY | -14.58 | 21.24 | 7 | -3.07 | 10.15 | 7 |
| LIBERTY | -7.39 | 19.76 | 2 | 25.55 | 6.25 | 2 |
| MADISON | -19.96 | 26.47 | 4 | 5.39 | 14.40 | 4 |
| MANATEE | 8.93 | 22.25 | 42 | -1.60 | 10.92 | 42 |
| MARION | 0.80 | 19.83 | 35 | -5.08 | 14.65 | 35 |
| MARTIN | 11.48 | 25.17 | 12 | -1.00 | 10.04 | 12 |
| MONROE | 2.30 | 14.76 | 11 | -4.42 | 9.38 | 11 |
| NASSAU | 4.42 | 12.39 | 6 | -3.47 | 12.91 | 5 |
| OKALOOSA | 0.98 | 18.38 | 24 | -1.13 | 10.34 | 24 |
| OKEECHOBEE | 9.68 | 46.51 | 5 | -12.88 | 22.69 | 5 |
| ORANGE | 2.35 | 25.52 | 138 | 1.92 | 14.22 | 138 |
| OSCEOLA | 8.97 | 19.94 | 34 | 3.36 | 15.35 | 34 |
| PALM BEACH | -1.49 | 19.82 | 123 | 3.77 | 14.91 | 123 |
| PASCO | 2.05 | 23.65 | 55 | -2.99 | 13.95 | 52 |
| PINELLAS | -7.87 | 27.21 | 88 | -2.07 | 13.37 | 86 |
| POLK | -8.51 | 28.63 | 85 | -1.59 | 16.03 | 85 |
| PUTNAM | 9.34 | 22.17 | 10 | -2.27 | 15.93 | 10 |
| SANTA ROSA | -3.93 | 26.79 | 15 | 5.03 | 17.30 | 15 |
| SARASOTA | 1.83 | 22.35 | 33 | 6.28 | 14.81 | 33 |
| SEMINOLE | 4.92 | 22.15 | 40 | 3.23 | 13.76 | 40 |
| ST. JOHNS | 5.90 | 15.99 | 21 | 13.21 | 12.65 | 20 |
| ST. LUCIE | 5.89 | 29.11 | 30 | -0.19 | 13.13 | 30 |
| SUMTER | 16.09 | 15.03 | 6 | 14.67 | 12.92 | 5 |
| SUWANNEE | 15.96 | 13.96 | 2 | 3.43 | 8.21 | 2 |
| TAYLOR | -30.04 | 10.69 | 2 | -9.68 | 11.88 | 2 |
| UF LAB SCH | \* | \* | 1 | \* | \* | 1 |
| UNION | -17.10 | NA | 1 | -19.43 | NA | 1 |
| VOLUSIA | -5.63 | 20.69 | 48 | -8.72 | 13.04 | 48 |
| WAKULLA | 2.84 | 17.83 | 5 | 3.20 | 19.47 | 5 |
| WALTON | 20.40 | 15.02 | 7 | 5.45 | 10.63 | 7 |
| WASHINGTON | -75.58 | 25.39 | 2 | -9.26 | 15.87 | 2 |
| State Avg. | 0.04 | 24.78 | 2,092 | 0.02 | 15.49 | 2,082 |

**Table 3. Mean and Standard Deviation of the School Component by District:**

**Grade 6, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| ALACHUA | -8.12 | 34.52 | 16 | -9.09 | 18.94 | 17 |
| BAKER | 89.28 | NA | 1 | 4.41 | NA | 1 |
| BAY | -6.47 | 24.52 | 13 | -9.53 | 18.99 | 13 |
| BRADFORD | 0.15 | 46.23 | 3 | -4.68 | 9.43 | 3 |
| BREVARD | 50.92 | 38.80 | 70 | 11.49 | 19.39 | 70 |
| BROWARD | -2.09 | 25.64 | 78 | 2.28 | 20.41 | 79 |
| CALHOUN | 13.20 | 27.24 | 3 | -4.18 | 17.68 | 3 |
| CHARLOTTE | -13.20 | 20.75 | 6 | 0.45 | 21.43 | 6 |
| CITRUS | -10.92 | 18.60 | 6 | -22.02 | 15.84 | 6 |
| CLAY | 28.92 | 26.45 | 25 | 6.43 | 16.57 | 25 |
| COLLIER | 16.03 | 23.38 | 21 | 10.86 | 16.35 | 21 |
| COLUMBIA | -15.09 | 7.27 | 3 | -19.30 | 2.63 | 3 |
| DADE | -12.20 | 36.56 | 140 | 11.98 | 24.98 | 144 |
| DEAF/BLIND | \* | \* | 2 | \* | \* | 2 |
| DESOTO | -4.53 | 25.04 | 3 | -19.62 | 29.76 | 2 |
| DIXIE | \* | \* | 1 | 28.74 | NA | 1 |
| DUVAL | -21.47 | 31.90 | 39 | -8.00 | 20.97 | 40 |
| ESCAMBIA | -19.67 | 25.06 | 15 | -17.88 | 21.13 | 15 |
| FAMU LAB SCH | \* | \* | 1 | \* | \* | 1 |
| FAU LAB SCH | 29.18 | 40.24 | 2 | 44.43 | 29.59 | 2 |
| FL VIRTUAL | \* | \* | 1 | \* | \* | 1 |
| FLAGLER | 9.44 | 19.68 | 8 | 6.27 | 15.25 | 8 |
| FRANKLIN | -23.70 | 37.51 | 2 | -4.81 | 14.42 | 2 |
| FSU LAB SCH | \* | \* | 1 | \* | \* | 1 |
| GADSDEN | -1.64 | 40.85 | 8 | -19.21 | 32.75 | 8 |
| GILCHRIST | \* | \* | 2 | -6.99 | 5.07 | 2 |
| GLADES | \* | \* | 3 | -3.10 | 27.52 | 3 |
| GULF | -39.71 | 21.38 | 2 | -3.03 | 9.46 | 2 |
| HAMILTON | 55.42 | 55.85 | 4 | -13.39 | 13.04 | 4 |
| HARDEE | -18.49 | 5.72 | 2 | -4.76 | 3.64 | 2 |
| HENDRY | -30.58 | 8.39 | 3 | -26.99 | 13.31 | 3 |
| HERNANDO | -6.73 | 22.48 | 10 | -4.94 | 16.94 | 10 |
| HIGHLANDS | 15.73 | 32.13 | 6 | 7.17 | 16.58 | 5 |
| HILLSBOROUGH | -0.24 | 25.41 | 71 | -15.57 | 21.58 | 70 |
| HOLMES | 28.46 | 33.72 | 5 | -5.61 | 11.18 | 5 |
| INDIAN RIVER | 7.32 | 18.47 | 7 | -4.24 | 16.71 | 7 |
| JACKSON | -17.79 | 8.97 | 7 | -5.82 | 13.69 | 6 |
| JEFFERSON | -0.65 | 2.92 | 3 | 0.46 | 4.84 | 2 |
| LAFAYETTE | \* | \* | 1 | \* | \* | 1 |
| LAKE | -4.19 | 24.16 | 16 | -1.81 | 20.13 | 16 |
| LEE | -6.80 | 25.74 | 33 | -11.17 | 19.54 | 35 |
| LEON | 2.58 | 27.02 | 18 | -0.51 | 19.25 | 19 |
| LEVY | 2.57 | 23.29 | 8 | -7.88 | 17.91 | 8 |
| LIBERTY | 22.71 | 41.88 | 3 | \* | \* | 3 |
| MADISON | -16.24 | 0.76 | 2 | -18.46 | 13.03 | 2 |
| MANATEE | -10.22 | 24.94 | 23 | -2.98 | 15.30 | 24 |
| MARION | -11.97 | 17.60 | 15 | 1.23 | 13.72 | 15 |
| MARTIN | 4.84 | 21.60 | 6 | -3.57 | 9.43 | 6 |
| MONROE | 20.74 | 21.99 | 8 | 15.11 | 9.51 | 8 |
| NASSAU | 0.64 | 9.53 | 5 | -13.06 | 12.21 | 5 |
| OKALOOSA | 8.31 | 25.13 | 17 | 2.76 | 11.95 | 17 |
| OKEECHOBEE | 13.90 | 4.86 | 2 | -5.85 | 6.19 | 3 |
| ORANGE | -4.97 | 24.06 | 55 | 2.98 | 16.30 | 57 |
| OSCEOLA | 2.42 | 23.80 | 21 | 12.88 | 16.05 | 21 |
| PALM BEACH | 2.90 | 28.50 | 54 | 4.77 | 22.10 | 54 |
| PASCO | 12.65 | 30.14 | 22 | -0.91 | 18.46 | 22 |
| PINELLAS | -19.35 | 23.57 | 33 | -17.03 | 16.96 | 33 |
| POLK | -19.54 | 30.40 | 41 | -3.81 | 16.07 | 42 |
| PUTNAM | 1.78 | 55.11 | 6 | -25.71 | 26.98 | 6 |
| SANTA ROSA | -8.57 | 20.73 | 13 | -0.40 | 12.86 | 13 |
| SARASOTA | 9.57 | 30.53 | 18 | 13.37 | 21.20 | 18 |
| SEMINOLE | -5.28 | 16.40 | 15 | 8.68 | 12.83 | 15 |
| ST. JOHNS | 3.96 | 41.76 | 10 | 12.06 | 28.99 | 10 |
| ST. LUCIE | 5.57 | 25.59 | 20 | 3.47 | 13.76 | 20 |
| SUMTER | -12.66 | 41.06 | 5 | -11.59 | 22.39 | 5 |
| SUWANNEE | -9.63 | 4.40 | 4 | 1.68 | 3.96 | 4 |
| TAYLOR | -3.84 | 5.41 | 2 | 14.52 | 2.40 | 2 |
| UF LAB SCH | \* | \* | 1 | \* | \* | 1 |
| UNION | -12.10 | NA | 1 | 20.78 | NA | 1 |
| VOLUSIA | -15.48 | 25.54 | 20 | -18.16 | 11.97 | 20 |
| WAKULLA | 13.86 | 14.11 | 4 | -14.37 | 10.96 | 4 |
| WALTON | 36.99 | 24.16 | 5 | 8.84 | 21.43 | 5 |
| WASHINGTON | -13.11 | 0.20 | 2 | -8.01 | 24.08 | 2 |
| State Avg. | 0.14 | 33.70 | 1,102 | 0.03 | 21.63 | 1,112 |
|  |  |  |  |  |  |  |

**Table 4. Mean and Standard Deviation of the School Component by District:**

**Grade 7, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| ALACHUA | 0.32 | 9.63 | 20 | -4.18 | 8.91 | 19 |
| BAKER | -14.96 | NA | 1 | 11.95 | NA | 1 |
| BAY | 1.39 | 13.31 | 13 | -1.94 | 8.92 | 14 |
| BRADFORD | 0.13 | 1.37 | 2 | -9.53 | 12.44 | 2 |
| BREVARD | -11.34 | 12.01 | 29 | -10.60 | 12.88 | 29 |
| BROWARD | -3.04 | 12.17 | 77 | -2.93 | 15.86 | 79 |
| CALHOUN | 0.03 | 10.13 | 3 | -22.39 | 14.93 | 3 |
| CHARLOTTE | 6.16 | 13.80 | 6 | 8.90 | 13.28 | 6 |
| CITRUS | 2.54 | 15.70 | 7 | -14.65 | 12.38 | 7 |
| CLAY | -7.57 | 12.48 | 8 | 1.49 | 11.60 | 8 |
| COLLIER | 6.45 | 11.65 | 17 | 3.33 | 13.76 | 18 |
| COLUMBIA | -9.96 | 9.36 | 3 | -0.05 | 6.30 | 3 |
| DADE | -0.54 | 12.76 | 141 | 10.84 | 16.20 | 141 |
| DEAF/BLIND | \* | \* | 2 | \* | \* | 2 |
| DESOTO | -1.95 | 4.35 | 4 | 2.32 | 6.10 | 4 |
| DIXIE | -5.36 | NA | 1 | 14.03 | NA | 1 |
| DUVAL | 2.01 | 12.48 | 45 | 2.18 | 12.32 | 46 |
| ESCAMBIA | -3.74 | 8.97 | 15 | -13.66 | 15.51 | 15 |
| FAMU LAB SCH | \* | \* | 1 | \* | \* | 1 |
| FAU LAB SCH | -1.79 | 4.74 | 2 | 2.26 | 2.00 | 2 |
| FL VIRTUAL | \* | \* | 1 | \* | \* | 1 |
| FLAGLER | 0.24 | 12.66 | 5 | -4.18 | 8.03 | 5 |
| FRANKLIN | \* | \* | 2 | 4.79 | 14.86 | 2 |
| FSU LAB SCH | \* | \* | 1 | \* | \* | 1 |
| GADSDEN | -7.78 | 9.72 | 6 | -4.24 | 18.39 | 6 |
| GILCHRIST | \* | \* | 2 | -17.51 | 9.54 | 2 |
| GLADES | \* | \* | 3 | -16.98 | 8.54 | 3 |
| GULF | 6.22 | 6.90 | 2 | -2.72 | 21.83 | 2 |
| HAMILTON | \* | \* | 2 | -8.47 | 4.68 | 2 |
| HARDEE | -18.56 | NA | 1 | 3.46 | NA | 1 |
| HENDRY | -4.60 | 11.38 | 3 | -11.50 | 21.53 | 3 |
| HERNANDO | 3.28 | 8.17 | 10 | 4.59 | 5.31 | 10 |
| HIGHLANDS | 8.74 | 9.32 | 6 | 5.82 | 13.45 | 6 |
| HILLSBOROUGH | 2.97 | 13.40 | 74 | -5.25 | 12.85 | 75 |
| HOLMES | -1.49 | 12.58 | 5 | -15.12 | 15.71 | 6 |
| INDIAN RIVER | 4.66 | 10.42 | 7 | -11.78 | 21.58 | 7 |
| JACKSON | -2.55 | 7.92 | 8 | -10.29 | 18.16 | 7 |
| JEFFERSON | -7.19 | 14.39 | 2 | -0.68 | 0.43 | 2 |
| LAFAYETTE | \* | \* | 1 | \* | \* | 1 |
| LAKE | -0.02 | 12.78 | 15 | 0.11 | 11.96 | 15 |
| LEE | 7.28 | 13.99 | 33 | -1.66 | 15.92 | 33 |
| LEON | -0.94 | 14.45 | 20 | -1.88 | 21.06 | 20 |
| LEVY | 2.33 | 12.71 | 8 | -3.57 | 20.00 | 8 |
| LIBERTY | 1.59 | 14.61 | 4 | -10.79 | 11.50 | 4 |
| MADISON | 2.48 | 3.00 | 3 | 3.76 | 8.76 | 3 |
| MANATEE | 1.31 | 11.45 | 25 | 0.66 | 11.79 | 25 |
| MARION | -3.09 | 9.30 | 15 | 7.32 | 12.11 | 15 |
| MARTIN | 1.21 | 10.17 | 6 | -17.55 | 4.61 | 6 |
| MONROE | 2.25 | 10.10 | 7 | -0.24 | 8.82 | 7 |
| NASSAU | -0.55 | 13.89 | 5 | 3.88 | 12.17 | 5 |
| OKALOOSA | 1.02 | 13.24 | 17 | 2.79 | 11.83 | 18 |
| OKEECHOBEE | 0.59 | 9.59 | 4 | -9.09 | 16.75 | 3 |
| ORANGE | 4.00 | 13.14 | 54 | 6.48 | 14.55 | 55 |
| OSCEOLA | 4.13 | 11.49 | 20 | 5.31 | 13.95 | 20 |
| PALM BEACH | -0.83 | 13.46 | 54 | 3.16 | 16.44 | 54 |
| PASCO | 4.82 | 9.65 | 26 | 4.51 | 10.04 | 26 |
| PINELLAS | -8.70 | 11.16 | 36 | -2.57 | 15.92 | 37 |
| POLK | -4.74 | 9.45 | 43 | -6.58 | 16.73 | 42 |
| PUTNAM | -5.64 | 6.98 | 6 | 4.44 | 13.20 | 6 |
| SANTA ROSA | -2.67 | 8.08 | 12 | 1.28 | 16.60 | 12 |
| SARASOTA | 1.36 | 12.46 | 20 | 5.08 | 14.51 | 20 |
| SEMINOLE | 5.18 | 13.57 | 17 | -0.20 | 13.01 | 17 |
| ST. JOHNS | 5.62 | 11.83 | 13 | 9.45 | 18.30 | 14 |
| ST. LUCIE | 1.14 | 10.88 | 19 | -10.58 | 14.28 | 19 |
| SUMTER | 1.38 | 8.65 | 6 | -11.52 | 23.45 | 6 |
| SUWANNEE | 1.15 | 4.44 | 4 | 0.72 | 6.00 | 4 |
| TAYLOR | -1.39 | 11.12 | 2 | -9.52 | 20.21 | 2 |
| UF LAB SCH | \* | \* | 1 | \* | \* | 1 |
| UNION | 3.85 | NA | 1 | 24.84 | 16.37 | 2 |
| VOLUSIA | -4.13 | 9.32 | 23 | -17.04 | 12.98 | 23 |
| WAKULLA | 6.75 | 9.90 | 4 | -12.24 | 15.96 | 4 |
| WALTON | 7.86 | 14.10 | 8 | 6.02 | 13.78 | 8 |
| WASHINGTON | 0.88 | 3.99 | 2 | -4.41 | 9.95 | 3 |
| State Avg. | -0.02 | 12.38 | 1,071 | 0.00 | 16.01 | 1,080 |
|  |  |  |  |  |  |  |

**Table 5. Mean and Standard Deviation of School the School Component by District:**

**Grade 8, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| ALACHUA | 5.43 | 10.21 | 21 | 0.75 | 8.03 | 19 |
| BAKER | -18.66 | NA | 1 | -1.59 | NA | 1 |
| BAY | -1.92 | 13.73 | 13 | -0.87 | 6.97 | 14 |
| BRADFORD | 0.72 | 7.85 | 3 | 1.74 | 6.33 | 2 |
| BREVARD | -7.21 | 7.96 | 30 | -5.37 | 6.91 | 29 |
| BROWARD | 0.85 | 11.19 | 74 | 2.97 | 12.18 | 74 |
| CALHOUN | 5.22 | 9.13 | 3 | -8.75 | 5.64 | 3 |
| CHARLOTTE | 0.95 | 7.76 | 6 | 6.96 | 9.86 | 6 |
| CITRUS | 1.91 | 3.99 | 8 | -5.49 | 15.52 | 6 |
| CLAY | -0.07 | 11.82 | 11 | -0.54 | 4.41 | 10 |
| COLLIER | 5.90 | 10.82 | 20 | 1.32 | 11.23 | 19 |
| COLUMBIA | -2.38 | 2.12 | 4 | -5.44 | 8.49 | 4 |
| DADE | 1.98 | 12.33 | 141 | 7.74 | 12.97 | 141 |
| DEAF/BLIND | \* | \* | 2 | -1.49 | 13.30 | 2 |
| DESOTO | -5.73 | 3.57 | 4 | -3.37 | 4.77 | 5 |
| DIXIE | \* | \* | 1 | 3.65 | NA | 1 |
| DOZIER/OKEEC | \* | \* | 1 | \* | \* | 1 |
| DUVAL | -0.37 | 10.19 | 41 | 4.02 | 9.71 | 42 |
| ESCAMBIA | -4.43 | 10.06 | 16 | -7.31 | 10.57 | 17 |
| FAMU LAB SCH | \* | \* | 1 | \* | \* | 1 |
| FAU LAB SCH | 3.67 | 1.20 | 2 | 9.79 | 11.39 | 2 |
| FL VIRTUAL | \* | \* | 2 | \* | \* | 2 |
| FLAGLER | -3.76 | 6.78 | 6 | -1.35 | 9.21 | 6 |
| FRANKLIN | -9.97 | 3.02 | 2 | -7.28 | 7.83 | 2 |
| FSU LAB SCH | \* | \* | 1 | 6.73 | NA | 1 |
| GADSDEN | 2.26 | 11.88 | 6 | 0.73 | 20.63 | 6 |
| GILCHRIST | \* | \* | 2 | -12.37 | 1.00 | 2 |
| GLADES | \* | \* | 2 | -13.15 | 3.10 | 2 |
| GULF | 3.02 | 0.02 | 2 | -13.77 | 1.60 | 2 |
| HAMILTON | -14.20 | 4.93 | 2 | -4.60 | 24.46 | 2 |
| HARDEE | 2.26 | 7.69 | 2 | -9.53 | 3.51 | 2 |
| HENDRY | -1.12 | 8.03 | 4 | -10.81 | 18.27 | 4 |
| HERNANDO | -2.07 | 10.58 | 10 | -3.17 | 11.54 | 10 |
| HIGHLANDS | -0.26 | 8.87 | 8 | -1.44 | 7.75 | 6 |
| HILLSBOROUGH | -3.77 | 9.01 | 76 | -5.29 | 11.10 | 77 |
| HOLMES | -2.10 | 8.57 | 6 | -4.70 | 7.71 | 5 |
| INDIAN RIVER | -5.87 | 10.07 | 6 | -9.97 | 9.63 | 7 |
| JACKSON | -3.83 | 8.68 | 7 | -6.60 | 3.54 | 6 |
| JEFFERSON | \* | \* | 1 | \* | \* | 1 |
| LAFAYETTE | \* | \* | 1 | \* | \* | 1 |
| LAKE | 0.64 | 7.66 | 15 | -0.13 | 7.89 | 15 |
| LEE | 6.81 | 14.96 | 34 | -1.25 | 11.57 | 34 |
| LEON | 1.81 | 9.44 | 22 | 1.40 | 11.08 | 22 |
| LEVY | 0.36 | 8.52 | 8 | 1.85 | 13.82 | 8 |
| LIBERTY | -8.87 | 4.03 | 3 | -0.52 | 2.68 | 5 |
| MADISON | -1.49 | 4.13 | 3 | -16.33 | 15.10 | 3 |
| MANATEE | 0.12 | 9.10 | 24 | -5.62 | 7.22 | 24 |
| MARION | 0.64 | 11.51 | 15 | -1.75 | 9.97 | 15 |
| MARTIN | 3.39 | 7.04 | 7 | 0.09 | 6.11 | 7 |
| MONROE | 13.47 | 12.90 | 7 | 1.19 | 10.20 | 6 |
| NASSAU | -9.90 | 12.28 | 5 | 3.61 | 5.95 | 7 |
| OKALOOSA | 1.20 | 11.88 | 20 | 6.73 | 11.62 | 18 |
| OKEECHOBEE | -5.00 | 15.80 | 3 | -11.71 | 4.47 | 3 |
| ORANGE | -3.98 | 11.96 | 60 | 1.86 | 11.56 | 58 |
| OSCEOLA | 3.49 | 9.59 | 20 | -2.62 | 11.34 | 20 |
| PALM BEACH | 4.59 | 12.59 | 57 | 5.49 | 10.91 | 53 |
| PASCO | 0.30 | 11.31 | 36 | -0.21 | 9.57 | 26 |
| PINELLAS | -7.39 | 8.65 | 37 | -4.79 | 10.28 | 37 |
| POLK | -1.52 | 8.50 | 42 | -6.11 | 13.70 | 43 |
| PUTNAM | -4.61 | 6.10 | 8 | 5.76 | 5.33 | 6 |
| SANTA ROSA | -0.69 | 12.66 | 11 | 3.94 | 10.46 | 13 |
| SARASOTA | 5.08 | 12.24 | 21 | 1.00 | 8.11 | 20 |
| SEMINOLE | 4.68 | 11.22 | 17 | 1.83 | 11.49 | 17 |
| ST. JOHNS | 1.71 | 11.08 | 17 | 8.17 | 12.28 | 17 |
| ST. LUCIE | 3.20 | 11.33 | 19 | -6.64 | 13.41 | 19 |
| SUMTER | -3.98 | 5.05 | 5 | -10.20 | 6.56 | 5 |
| SUWANNEE | -6.75 | 2.58 | 5 | -1.60 | 3.52 | 5 |
| TAYLOR | 2.96 | 7.18 | 2 | 2.31 | 2.00 | 2 |
| UF LAB SCH | \* | \* | 1 | \* | \* | 1 |
| UNION | 3.54 | NA | 1 | -4.83 | 3.77 | 2 |
| VOLUSIA | -3.26 | 9.28 | 25 | -13.83 | 11.10 | 25 |
| WAKULLA | -1.43 | 7.12 | 4 | -6.93 | 4.33 | 4 |
| WALTON | 5.27 | 12.25 | 8 | 3.69 | 12.98 | 8 |
| WASHINGTON | 8.56 | 12.42 | 3 | -3.66 | 9.96 | 3 |
| State Avg. | 0.05 | 11.19 | 1,114 | 0.03 | 12.07 | 1,094 |

**Table 6. Mean and Standard Deviation of School the School Component by District:**

**Grade 9, 2010-11**

| **District** | **Reading** | | |
| --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** |
| ALACHUA | 7.44 | 10.83 | 14 |
| BAKER | 19.53 | NA | 1 |
| BAY | 2.32 | 9.71 | 14 |
| BRADFORD | 3.51 | 6.70 | 2 |
| BREVARD | 6.40 | 10.29 | 24 |
| BROWARD | -9.13 | 12.11 | 60 |
| CALHOUN | -8.32 | 3.74 | 2 |
| CHARLOTTE | 5.38 | 7.46 | 7 |
| CITRUS | 6.35 | 10.82 | 10 |
| CLAY | 6.64 | 7.97 | 9 |
| COLLIER | 0.08 | 10.11 | 16 |
| COLUMBIA | -0.48 | 1.16 | 2 |
| DADE | -0.71 | 9.20 | 99 |
| DEAF/BLIND | 2.30 | 5.62 | 2 |
| DESOTO | -2.18 | 4.47 | 6 |
| DIXIE | \* | \* | 1 |
| DOZIER/OKEEC | -2.52 | 7.05 | 2 |
| DUVAL | 0.91 | 8.09 | 37 |
| ESCAMBIA | -3.51 | 8.58 | 17 |
| FAMU LAB SCH | \* | \* | 1 |
| FAU LAB SCH | \* | \* | 1 |
| FL VIRTUAL | \* | \* | 1 |
| FLAGLER | 5.18 | 7.36 | 4 |
| FRANKLIN | -4.64 | 4.18 | 2 |
| FSU LAB SCH | 14.71 | NA | 1 |
| GADSDEN | -6.58 | 12.76 | 5 |
| GILCHRIST | 2.97 | 1.13 | 2 |
| GLADES | -7.68 | NA | 1 |
| GULF | \* | \* | 2 |
| HAMILTON | -4.52 | 8.12 | 2 |
| HARDEE | -6.91 | NA | 1 |
| HENDRY | -8.90 | 5.52 | 4 |
| HERNANDO | 5.57 | 7.49 | 8 |
| HIGHLANDS | 0.83 | 7.66 | 6 |
| HILLSBOROUGH | -4.12 | 9.52 | 53 |
| HOLMES | -2.48 | 10.59 | 6 |
| INDIAN RIVER | 5.23 | 7.85 | 5 |
| JACKSON | 4.47 | 10.45 | 7 |
| JEFFERSON | 7.33 | NA | 1 |
| LAFAYETTE | \* | \* | 1 |
| LAKE | 1.59 | 7.60 | 13 |
| LEE | 0.60 | 10.21 | 25 |
| LEON | 3.74 | 7.79 | 15 |
| LEVY | 5.90 | 6.83 | 6 |
| LIBERTY | -4.70 | 6.24 | 4 |
| MADISON | 2.15 | 3.81 | 3 |
| MANATEE | -0.81 | 17.52 | 13 |
| MARION | 4.43 | 11.35 | 14 |
| MARTIN | -2.89 | 11.36 | 5 |
| MONROE | 0.02 | 9.03 | 4 |
| NASSAU | 4.75 | 7.75 | 6 |
| OKALOOSA | 2.02 | 12.55 | 16 |
| OKEECHOBEE | -8.84 | 10.55 | 3 |
| ORANGE | -0.91 | 9.71 | 48 |
| OSCEOLA | -0.67 | 7.86 | 17 |
| PALM BEACH | -0.71 | 12.41 | 48 |
| PASCO | 3.13 | 7.59 | 21 |
| PINELLAS | -1.02 | 5.52 | 38 |
| POLK | -1.92 | 9.46 | 33 |
| PUTNAM | 4.10 | 11.40 | 5 |
| SANTA ROSA | 6.96 | 12.87 | 11 |
| SARASOTA | 4.38 | 10.03 | 13 |
| SEMINOLE | -4.39 | 8.27 | 14 |
| ST. JOHNS | 14.46 | 17.43 | 12 |
| ST. LUCIE | -2.66 | 10.94 | 14 |
| SUMTER | 2.53 | 7.43 | 5 |
| SUWANNEE | 2.54 | 10.22 | 3 |
| TAYLOR | -2.16 | 0.76 | 2 |
| UF LAB SCH | \* | \* | 1 |
| UNION | -4.85 | 5.02 | 2 |
| VOLUSIA | 1.11 | 12.46 | 25 |
| WAKULLA | 10.04 | 17.74 | 2 |
| WALTON | 1.01 | 10.27 | 6 |
| WASHINGTON | 3.37 | 11.59 | 3 |
| State Avg. | 0.04 | 10.64 | 889 |

**Table 7. Mean and Standard Deviation of the School Component by District:**

**Grade 10, 2010-11**

| **District** | **Mathematics** | | | **Reading** | | |
| --- | --- | --- | --- | --- | --- | --- |
| **Mean** | **Std. Dev.** | **N** | **Mean** | **Std. Dev.** | **N** |
| ALACHUA | 1.32 | 3.96 | 11 | -1.49 | 15.05 | 12 |
| BAKER | -9.33 | NA | 1 | 7.63 | NA | 1 |
| BAY | -0.68 | 6.20 | 11 | -8.58 | 12.20 | 11 |
| BRADFORD | -1.06 | 0.95 | 2 | 3.33 | 0.19 | 2 |
| BREVARD | 2.03 | 4.87 | 24 | -4.62 | 11.55 | 23 |
| BROWARD | -6.18 | 6.25 | 58 | 3.84 | 16.87 | 59 |
| CALHOUN | 3.82 | 0.60 | 2 | 7.11 | 4.93 | 2 |
| CHARLOTTE | -2.04 | 5.19 | 7 | -6.11 | 9.66 | 8 |
| CITRUS | 0.01 | 3.37 | 8 | -4.93 | 7.43 | 9 |
| CLAY | 1.97 | 4.59 | 10 | 2.31 | 7.99 | 9 |
| COLLIER | 3.05 | 6.56 | 18 | -3.94 | 13.30 | 17 |
| COLUMBIA | 4.58 | 5.33 | 2 | -2.82 | 1.66 | 2 |
| DADE | 2.57 | 7.86 | 92 | 13.45 | 19.89 | 92 |
| DEAF/BLIND | 11.14 | 7.38 | 2 | -13.82 | 3.45 | 2 |
| DESOTO | -1.10 | 4.89 | 5 | -0.57 | 12.08 | 4 |
| DIXIE | \* | \* | 1 | 4.67 | 8.36 | 2 |
| DOZIER/OKEEC | \* | \* | 2 | \* | \* | 2 |
| DUVAL | -4.96 | 7.09 | 35 | -0.36 | 15.59 | 38 |
| ESCAMBIA | 0.05 | 3.08 | 17 | -7.47 | 10.84 | 17 |
| FAMU LAB SCH | \* | \* | 1 | 1.21 | NA | 1 |
| FLAGLER | -3.24 | 6.89 | 5 | 2.81 | 16.80 | 5 |
| FRANKLIN | -6.60 | 8.42 | 2 | -10.07 | 9.83 | 2 |
| FSU LAB SCH | 2.95 | NA | 1 | 16.82 | NA | 1 |
| GADSDEN | 3.44 | 12.19 | 4 | -7.32 | 8.08 | 4 |
| GILCHRIST | 2.88 | 4.13 | 2 | 4.20 | 13.00 | 2 |
| GLADES | \* | \* | 1 | 16.99 | NA | 1 |
| GULF | 3.41 | 5.96 | 2 | 4.98 | 16.92 | 2 |
| HAMILTON | -1.04 | 2.34 | 2 | 1.61 | 1.01 | 2 |
| HARDEE | 12.62 | NA | 1 | 11.66 | NA | 1 |
| HENDRY | -0.15 | 4.83 | 4 | -8.46 | 16.90 | 4 |
| HERNANDO | 0.13 | 7.18 | 7 | -3.98 | 11.82 | 7 |
| HIGHLANDS | 1.08 | 4.17 | 5 | -5.53 | 6.23 | 6 |
| HILLSBOROUGH | 0.67 | 4.73 | 46 | -3.58 | 9.28 | 61 |
| HOLMES | -2.90 | 4.94 | 4 | -6.50 | 8.40 | 5 |
| INDIAN RIVER | -4.23 | 1.19 | 4 | -5.15 | 7.80 | 4 |
| JACKSON | 1.89 | 4.82 | 6 | -1.20 | 3.44 | 7 |
| JEFFERSON | 1.81 | 2.45 | 2 | -4.42 | 8.22 | 2 |
| LAFAYETTE | \* | \* | 1 | \* | \* | 1 |
| LAKE | -6.18 | 5.26 | 11 | -2.42 | 9.68 | 12 |
| LEE | 0.47 | 5.63 | 30 | 1.97 | 15.55 | 30 |
| LEON | -0.85 | 3.25 | 12 | -2.10 | 12.45 | 13 |
| LEVY | -1.35 | 2.58 | 7 | -7.42 | 9.49 | 6 |
| LIBERTY | 0.71 | 1.21 | 3 | -3.70 | 5.57 | 4 |
| MADISON | 1.59 | 6.46 | 3 | -13.75 | 9.73 | 4 |
| MANATEE | -1.04 | 6.23 | 15 | -2.25 | 8.75 | 16 |
| MARION | -1.56 | 5.34 | 15 | -6.91 | 11.60 | 15 |
| MARTIN | -1.08 | 4.01 | 6 | -1.03 | 9.80 | 6 |
| MONROE | 1.94 | 3.03 | 5 | 5.24 | 4.39 | 5 |
| NASSAU | -2.63 | 1.43 | 4 | -9.52 | 11.38 | 5 |
| OKALOOSA | -0.03 | 3.64 | 16 | -1.93 | 13.60 | 17 |
| OKEECHOBEE | -0.19 | 3.05 | 3 | -0.12 | 14.23 | 3 |
| ORANGE | -1.50 | 5.12 | 43 | -1.82 | 13.13 | 44 |
| OSCEOLA | 5.13 | 7.72 | 19 | 10.90 | 14.87 | 20 |
| PALM BEACH | -0.76 | 6.29 | 48 | 6.13 | 15.54 | 48 |
| PASCO | 1.85 | 5.07 | 20 | -3.48 | 10.15 | 22 |
| PINELLAS | 0.13 | 4.09 | 38 | -1.18 | 9.90 | 38 |
| POLK | 0.04 | 5.29 | 32 | -8.86 | 10.87 | 33 |
| PUTNAM | -0.60 | 3.72 | 6 | -2.72 | 6.98 | 5 |
| SANTA ROSA | -3.27 | 2.10 | 8 | -2.33 | 12.15 | 9 |
| SARASOTA | 2.22 | 5.63 | 13 | -1.20 | 13.02 | 13 |
| SEMINOLE | 5.05 | 6.63 | 13 | 0.00 | 12.15 | 14 |
| ST. JOHNS | 5.40 | 5.68 | 13 | 0.79 | 15.14 | 13 |
| ST. LUCIE | -0.06 | 4.77 | 13 | 1.25 | 12.20 | 14 |
| SUMTER | -0.56 | 1.50 | 5 | 0.85 | 6.14 | 5 |
| SUWANNEE | 0.64 | 1.75 | 4 | 1.46 | 12.49 | 4 |
| TAYLOR | -5.94 | 0.31 | 2 | -2.76 | 8.02 | 2 |
| UF LAB SCH | \* | \* | 1 | \* | \* | 1 |
| UNION | -3.09 | 8.89 | 2 | -11.51 | 6.43 | 2 |
| VOLUSIA | 0.93 | 5.25 | 23 | -7.60 | 10.50 | 26 |
| WAKULLA | 0.72 | 3.44 | 2 | -0.75 | 12.98 | 2 |
| WALTON | 1.97 | 6.39 | 5 | -6.03 | 6.52 | 6 |
| WASHINGTON | 0.07 | 18.02 | 2 | -10.00 | 14.08 | 3 |
| State Avg. | -0.03 | 6.31 | 850 | 0.03 | 14.49 | 890 |

Appendix F. Expected Student Growth by Student Characteristics Gifted and English Language Learner (ELL) Status

Table 1. Conditional Estimates of Student Growth in Mathematics, 2010-11

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Gifted** | |  | **Non-Gifted** | |  |  |
| **Grade** | **Expected Growth** | **N** |  | **Expected Growth** | **N** |  | **Difference** |
| 4 | 2.0649064 | 433 |  | 88.476418 | 175993 |  | -86.41151 |
| 5 | 88.307073 | 352 |  | 94.806761 | 163861 |  | -6.499688 |
| 6 | 22.395686 | 265 |  | 44.540499 | 163134 |  | -22.14481 |
| 7 | 61.926867 | 266 |  | 110.13964 | 158809 |  | -48.21278 |
| 8 | 46.248282 | 223 |  | 84.55398 | 162877 |  | -38.3057 |
| 10 | 37.537472 | 189 |  | 49.837181 | 156023 |  | -12.29971 |
|  | **ELL** | |  | **Non-ELL** | |  |  |
| **Grade** | **Expected Growth** | **N** |  | **Expected Growth** | **N** |  | **Difference** |
| 4 | 153.8212 | 12649 |  | 83.201182 | 163777 |  | 70.620016 |
| 5 | 88.530364 | 318 |  | 94.80498 | 163895 |  | -6.274616 |
| 6 | 42.75846 | 194 |  | 44.50666 | 163205 |  | -1.7482 |
| 7 | 163.83582 | 157 |  | 110.0059 | 158918 |  | 53.829926 |
| 8 | 134.31363 | 162 |  | 84.452081 | 162938 |  | 49.86155 |
| 10 | 81.997501 | 123 |  | 49.796945 | 156089 |  | 32.200556 |

Table 2. Conditional Estimates of Student Growth in Reading, 2010-11

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Gifted** | |  | **Non-Gifted** | |  |  |
| **Grade** | **Expected Growth** | **N** |  | **Expected Growth** | **N** |  | **Difference** |
| 4 | 146.44818 | 435 |  | 184.83559 | 176048 |  | -38.3874 |
| 5 | 63.433327 | 349 |  | 43.207596 | 163983 |  | 20.225731 |
| 6 | 83.647422 | 265 |  | 84.322599 | 163500 |  | -0.675177 |
| 7 | 37.421107 | 273 |  | 87.788687 | 160446 |  | -50.36758 |
| 8 | 12.554883 | 225 |  | 55.417656 | 163607 |  | -42.86277 |
| 9 | 77.075954 | 191 |  | 45.612021 | 156303 |  | 31.463933 |
| 10 | 29.283435 | 194 |  | 25.894549 | 175184 |  | 3.3888864 |
|  | **ELL** | |  | **Non-ELL** | |  |  |
| **Grade** | **Expected Growth** | **N** |  | **Expected Growth** | **N** |  | **Difference** |
| 4 | 259.4523 | 12601 |  | 178.99637 | 163882 |  | 80.455937 |
| 5 | 70.388208 | 318 |  | 43.197934 | 164014 |  | 27.190274 |
| 6 | 101.54432 | 196 |  | 84.300869 | 163569 |  | 17.243452 |
| 7 | 118.70982 | 155 |  | 87.673199 | 160564 |  | 31.036619 |
| 8 | 131.12756 | 161 |  | 55.284258 | 163671 |  | 75.843303 |
| 9 | 54.950931 | 139 |  | 45.642154 | 156355 |  | 9.3087774 |
| 10 | 29.830353 | 143 |  | 25.895089 | 175235 |  | 3.9352639 |

Appendix G. Teacher Value-Added Estimates by Teacher and Classroom Characteristics

Table 1. Correlations between Teacher Value-Added Estimates in Mathematics and Teacher/Classroom Characteristics, by Grade, 2010-11

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Teacher Experience (Years Teaching)** | |  | **Percent ELLs** | |  | **Percent Students with a Disability** | |
| **Grade** | **R** | **N** |  | **R** | **N** |  | **R** | **N** |
| 4 | 0.013535 | 11475 |  | 0.0123558 | 11734 |  | -0.064932 | 11734 |
| 5 | 0.0477178 | 10648 |  | -0.018851 | 10878 |  | -0.077937 | 10878 |
| 6 | 0.0506977 | 4899 |  | -0.015185 | 5078 |  | -0.044967 | 5078 |
| 7 | 0.0023436 | 5212 |  | -0.003385 | 5425 |  | -0.010703 | 5425 |
| 8 | -0.001707 | 4871 |  | -0.018281 | 5070 |  | -0.009976 | 5070 |
| 10 | 0.0436482 | 6906 |  | -0.010229 | 7160 |  | 0.0002018 | 7160 |

Note: a Correlation not statistically significant at the 0.05 level.

Table 2. Average Teacher Value-Added Estimate in Mathematics Conditional on Teacher Education (Highest Degree Completed), by Grade, 2010-11

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Bachelors** | | |  | **Masters** | | |  | **Doctorate** | | |
| **Grade** | **M** | **SD** | **N** |  | **M** | **SD** | **N** |  | **M** | **SD** | **N** |
| 4 | 0.707631 | 43.309965 | 7484 |  | 2.1478431 | 42.765888 | 3769 |  | 3.0575055 | 45.88601 | 62 |
| 5 | 0.4541213 | 36.044323 | 6833 |  | 2.2942905 | 34.878624 | 3567 |  | -4.908657 | 33.474936 | 65 |
| 6 | -1.323573 | 27.351898 | 3216 |  | 0.4051395 | 27.952464 | 1528 |  | -6.060915 | 31.297507 | 47 |
| 7 | 0.2634426 | 16.903718 | 3430 |  | 0.6566031 | 16.291611 | 1619 |  | 0.4773194 | 18.795162 | 61 |
| 8 | 0.6113125 | 15.310613 | 3165 |  | 1.4521285 | 14.901622 | 1575 |  | -0.332615 | 19.222769 | 53 |
| 10 | -0.101409 | 6.5856408 | 4404 |  | 0.3717048 | 6.5016061 | 2294 |  | -1.296313 | 6.3220687 | 90 |

Table 3. Correlations between Teacher Value-Added Estimates in Reading and Teacher/Classroom Characteristics, by Grade, 2010-11

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Teacher Experience (Years Teaching)** | |  | **Percent ELLs** | |  | **Percent Students with a Disability** | |
| **Grade** | **R** | **N** |  | **R** | **N** |  | **R** | **N** |
| 4 | 0.0748987 | 12867 |  | 0.0105451 | 13157 |  | -0.043796 | 13157 |
| 5 | 0.0502077 | 11921 |  | -0.002441 | 12182 |  | -0.004587 | 12182 |
| 6 | 0.0352315 | 6817 |  | -0.01287 | 7091 |  | 0.0124078 | 7091 |
| 7 | 0.0152124 | 6748 |  | 0.0073637 | 7046 |  | -0.010088 | 7046 |
| 8 | 0.0092342 | 6350 |  | -0.009317 | 6633 |  | 0.0138814 | 6633 |
| 9 | 0.0416766 | 5989 |  | -0.011594 | 6256 |  | -0.015138 | 6256 |
| 10 | 0.0474101 | 8026 |  | 0.005232 | 8359 |  | -0.052846 | 8359 |

Note: a Correlation not statistically significant at the 0.05 level.

Table 4. Average Teacher Value-Added Estimate in Reading Conditional on Teacher Education (Highest Degree Completed), by Grade, 2010-11

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Bachelors** | | |  | **Masters** | | |  | **Doctorate** | | |
| **Grade** | **M** | **SD** | **N** |  | **M** | **SD** | **N** |  | **M** | **SD** | **N** |
| 4 | 0.1547858 | 21.869046 | 8265 |  | 1.5076607 | 21.267432 | 4344 |  | 3.9394647 | 19.237942 | 79 |
| 5 | -0.188169 | 17.140617 | 7630 |  | 0.7753865 | 16.496278 | 4021 |  | -1.603951 | 14.136687 | 75 |
| 6 | -1.479213 | 17.02065 | 4213 |  | 0.5371795 | 16.977228 | 2366 |  | -0.811501 | 17.857964 | 73 |
| 7 | -0.285201 | 16.893277 | 4155 |  | 0.9167672 | 17.644285 | 2355 |  | 2.9334063 | 19.19087 | 79 |
| 8 | -0.270946 | 11.011726 | 3877 |  | 0.8783048 | 11.018134 | 2286 |  | -0.820585 | 10.177734 | 64 |
| 9 | -0.240805 | 8.4838509 | 3606 |  | 0.3335485 | 8.5322502 | 2176 |  | -0.673678 | 8.8387403 | 95 |
| 10 | 1.4265224 | 28.606342 | 4658 |  | 3.3076111 | 29.425248 | 3070 |  | 1.3153821 | 27.1821 | 139 |

1. The 2010-11 model does not include the attendance or mobility covariates because the data was not available from the FLDOE at the time of the analysis; these covariates will be included and results provided to the state in late fall 2011. [↑](#footnote-ref-1)
2. The model does link some students into different classrooms given the linkages derived from the course code catalog. Consequently students are not always linked to one and only one teacher. It is therefore more appropriate to refer to this model as having crossed random effects [↑](#footnote-ref-2)
3. The teacher effect described here is the mathematical description of the empirical Bayes estimate. The “final” teacher effect includes some of the school component added back in. We later show the mathematical construction of the final teacher effect and its variance. [↑](#footnote-ref-3)
4. This framework generalizes beyond teachers and can yield classification probabilities for any aggregate unit [↑](#footnote-ref-4)
5. The 2010-11 model does not include the attendance or mobility covariates because the data was not available from the FLDOE at the time of the analysis; these covariates will be included and results provided to the state in late fall 2011. [↑](#footnote-ref-5)