

Department of Research and Evaluation
A Brief Overview of the Design/Methodology for the FY21 SPR-VAM Teacher Evaluation

The following subjects will be included in the SPR-VAM teacher evaluation for FY21.

- (a) K-2 Language Art and Math, (b) Grades 3 & 4 Language Art and Math
- (c) Grades 5-10 English Language Art (ELA) and Grades 5-8 Math
- (d) EOC courses: (i) Biology, (ii) Civics, (iii) US History, (iv) Algebra 1, and (v) Geometry
- (e) Statewide Science (Grades 5 and 8)
- (f) Reading Retakes, (g) SAT, (h) AP-IB-AICE, (i) Industry Certification

Design/Method

Outcome Measures: FY21 test scores and pass/fail status for students

Table 1: List of Models, Outcome Measures, and Covariates for the Included Assessments and Grade Levels

Models	Outcome Measures	Student level Covariates/Predictors	
K-2 Language Art Teachers	The end school year's iReady Scores	The beginning school year's iReady Scores, SWD, ELL, FRL, Gifted, Overage*, Percent days attended/present for a student, and Title 1 status of school	
Grade 3,4 Language Arts and Math Teachers	FY21 FSA Scale Scores	FY21's the beginning of school year iReady Score, SWD, ELL, FRL, Gifted, Over- age, Percent days attended/present for a student, and Title 1 status of school	
Grade 5-10 ELA and Grade 4-8 Math Teachers	FY21 FSA Scale Scores	FY19's test scores in FSA ELA and Math, SWD, ELL, FRL, Gifted, Overage, and Percent days attended/present for a student, and Title 1 status of	
Grade 9-12 Biology Teachers	FY21 Scale scores	FY19 test scores (FSA ELA for Biology, Civics, US History, Science, and Reading Retakes; PSAT for SAT; FSA Math or Math related courses for other remaining courses/models), SWD, ELL, FRL, Gifted, Overage, Percent days attended/present for a student, and Title 1 status of school	
Grade 7 Civics Teachers			
Grade 11 U.S. History Teachers			
Algebra 1 Teachers			
Geometry Teachers			
Grades 5 and 8 Science Teachers			
Grade 11 SAT Teachers (Reading & Math; two separate models)			
Grade 11 -12 Reading Retake Teachers			FY21 Pass/fail (0, 1)
AP-IB-AICE Teachers			
Industry Certification Teachers			
Grade K-11 Non-ELA/MATH teachers**	FY21 Scale scores (iReady ELA/FSA ELA/ SAT Reading)	The covariates used will be same as in K-2 ELA model, Grade 3 ELA model, Grade 4-10 ELA model and Grade 11 SAT Reading Models	

*Overage is defined as the difference between the student's age and the expected age for a specific grade level SAT = Scholastic Aptitude Test, PSAT = Preliminary Scholastic Aptitude Test; SWD = Students with Disability, ELL = English Language Learners; FRL = Free and/or Reduced Lunch.

** Teachers who are not included in K-3 ELA/Math model, or Grade 4-10 ELA/ Grade 4-8 Math models or Grade 11 SAT Reading/Math model.

The local growth models (LGMs) are used for the assessments/grade levels in Table 1. The LGMs are linear regression models predicting scale scores, except for Reading Retakes, AP-IB-AICE and industry certification courses where logistic (non-linear) regression models that predict the pass/fail status of students will be used. The models incorporate multiple covariates or predictors at student level. Table 1 provides the list of model types, outcome measures, and covariates for different assessments/grade levels for FY21 SPR-VAM teacher evaluation.

As a general FY21 SPR-VAM evaluation business rule, we include students in a teacher's evaluation only if the students are matched to the teacher in Surveys 2 and 3 and they have both pre- and post-test scores. However, the following are exceptions to this rule:

- For grades *11 and 12 reading retakes* model, we will include students in a teacher's evaluation if: (a) the student is enrolled with the teacher during Survey 2 or (b) the student is enrolled with the teacher both Surveys 2 and 3. The student will not be included in the model if he/she is enrolled with the teacher during Survey 3 only.
- For the *AP-IB-AICE model*, we will include students in a teacher's evaluation if: (a) the student is enrolled with the teacher during Surveys 2 or 3, or (b) the student is enrolled with the teacher both Surveys 2 and 3.
- For *Industry Certification (IC) model*, we will include students in a teacher's evaluation if: (a) the student is enrolled with the teacher during Surveys 2 or 3, or (b) the student is enrolled with the teacher both Surveys 2 and 3.

Example

For 7th Grade civics teachers, a Local Growth Model will be used to calculate FY21 Student Performance rating.

- This Local Growth Model will use the 5th Grade FSA ELA scores from FY19 as well as FY21 student demographics to create a student's individualized "expected score" on the 7th Grade EOC Civics test.
- The demographic variables include student's disability status (SWD), English Language Learner (ELL) status, Free/Reduced price Lunch (FRL) status, Gifted status, and overage status.

Variables, Model and Data Analysis Steps

The following technical steps are executed to compute the LGM for FY21.

1. Predict the current year (post-test) scores (outcome variable) incorporating the important covariates in the multiple regression (or logistic regression) model in order to generate *expected scores* for the students. Following covariates/predictors will be used in the models given in Table 1.
 - i. *Student's pretest scores*: Pretest score, which is a continuous covariate, is defined as prior year's test score in ELA/Reading or Mathematics (as specified in Table 1) related subjects. Any students with missing pretest scores will be deleted from the analysis.
 - ii. *Free/reduced lunch (FRL) status of student*: This is a dichotomous covariate with student's 'Yes' or 'No' status for free/reduced lunch participation, which is coded as 1 for 'Yes' and 0 for 'No'. Any students with missing FRL status will be replaced by 0.
 - iii. *Student with disability (SWD) status*: This is a dichotomous covariate with student's 'Yes' or 'No' status for disability condition, which is coded as 1 for 'Yes' and 0 for 'No'. Any students with missing FRL status will be substituted by 0.
 - iv. *Student with English Language Learner (ELL) status*: This is a dichotomous covariate representing student's ELL status with 'LY' and 'LF' codes given as 'Yes' and 'No' coded as 1 and 0, respectively. Any students with missing ELL status will be replaced by 0.
 - v. *Student's gifted status*: This is a dichotomous covariate (i.e., defined by code 'L' among student's primary exceptionality codes) with student's gifted status which is coded as 1 for 'Yes' and 0 for 'No'. Any students with missing Gifted status will be substituted by 0.
 - vi. *Overage for grade status for a student*: This is a continuous integer covariate defined as the difference between student's real age and expected age for respective grades. Any missing 'Overage' value for a student will be replaced by 0.
 - vii. *Percent days present for a student*: This is a continuous covariate representing the percentage (or proportion) of days present which is calculated as a ratio of the total days present for a particular student to the total school days during FY21. Any missing or percent days present for a student will be substituted by 1.

- viii. *Title 1 status of a school*: This is a dichotomous covariate with Title 1 status of a school which is coded as 1 for 'Yes' and 0 for 'No'. Any students with missing Title 1 status will be replaced by 0.
2. Compare student *expected scores* with current year (test) scores according to the following rules:
 - i. If the current year (post-test) score for a student is higher than or equal to the expected (predicted) score, then flag 1 (meeting expectation).
 - ii. If current year score is less than the expected (predicted) scores, then flag 0 (not meeting expectation).
 - iii. Use the "Ceiling Effect Adjustment" for those students who had Achievement Level 5 during current year. In other words, the student is flagged as 1 (meeting expectation) if he/she had Level 5 during current year.
 3. Compute the "percentage of students meeting expectation" for each teacher.
 4. Rank the teachers (1 to 100) based on "percentage of students meeting expectation."
 5. Evaluate the teachers based on the teacher (percentile) ranks (created in bullet #4) using following classification criteria:
 - Highly Effective: Equal or more than 80th Percentile
 - Effective: 20th to 79th Percentile
 - Needs Improvement: 10th to 19th Percentile
 - Unsatisfactory: 0 to 9th Percentile