Eastern Suffolk BOCES, Student Data Services

Regional Correlation Analysis

Documentation

Longitudinal Analysis of 2009 to 2015

Student Performance from Grades 6 to Grades 12

Released: September 2015

Index

Introduction

Goals of the Research

The research began in 2012 to analyze the stability of student scores in content connected test sequences from grade 6 to grade 12. The big question being explored in this study is whether regional data warehouse student performance on previously taken tests could predict future performance with a high degree of confidence. If regional longitudinal data correlations between tests justify predictions for similar students, regional data warehouses could begin identifying expected future performance of students based upon the performance of similar students in the past.

A second level group of issues for this research includes the identification of the assessments that are linked together in predictable sequences or paths. Asking, are there any paths that connect one departmental discipline to another in a highly correlated way? Given that historically based projections might be used to identify student future performance and set Annual Professional Performance Review (APPR) related targets, can future performance be established and projected with a higher rate of successful prediction?

Factors

Historically, testing score scales on the English Language Arts and Mathematics testing program for grades 3 through 8, and the Regents testing program have not been aligned.

- The grades 3 to 8 testing scales historically have been based on 400-point testing scales, and the related assessments were designed upon the principles of Item Response Theory (IRT).
- The secondary level Regents tests have historically been constructed with a 100-point scale and although Regents test questions have a variable range of difficulty and are not uniformly aligned with the grade 3 through 8 IRT tests.

Doing a correlation analysis that explores the stability of scores from the lower to the upper testing system required the translation of test scores to a test scale that would allow for accurate comparisons.

Another challenge facing this analysis is the changes that were introduced to the NYS testing program since 2009.In 2010, a new standard was set for establishing leveled performance for the English Language Arts and Mathematics testing program for grades 3 to 8. When the changes were announced in the summer of 2010, the bottom of level 3 was equated with “college and career readiness”. An equivalent “college and career readiness” cut-point was identified for the English and Mathematics Regents tests.

In 2013 the standard based definition changed again with the introduction of the Common Core ELA3-8 and Mathematics 3-8 NYS Assessments. These factors required that

an alternate comparable scale to be developed for scores, and all scores had to be adjusted to the 2010 or the 2013 standard determined by the test scores being analyzed.

Benefits of this Research and Related Historical Based Reporting

If regional historical data can be used to accurately project student future performance, a significant benefit will be the potential to lesson unnecessary baseline testing for the purposes of setting future performance targets.

As students transition from grade 8 to the high school grades, there is no simple way to establish benchmarks for where students' starting-points on the major skills in most high school courses. Under pressure to develop "APPR" plans for setting performance targets for teachers and students, many schools have developed Fall Baseline Tests that use Regents testing questions, relating to the course that they are entering into. If it can be document that historically based projections are accurate, teachers and students can avoid Fall Baseline Tests. The fairest projection of student performance on the NYS assessments is found in the performance between similar students who historically scored in the same score range, and who are in the same non-status or status groups (Students with Disabilities, English Language Learners and Low Income).

Historically grounded projections, of student performance, could also be used as a valuable counseling and instructional tool. If students are in danger of failing a future course, counseling steps can be taken to prepare students for the best outcomes. Response to Intervention (RTI)protocol could be implemented to help the student avoid the worst outcome. As major skills are identified in each testing program, these programs are linked to major skills in later tests. Accessing historical data might allow teachers to address specific skill opportunities before students' performance falters.

Accurate student projections are based upon the use of historical data of similar students. This data is most easily obtained through data collection, via a regional data warehouse. Therefore, the research and analysis conducted by Eastern Suffolk BOCES justifies the beginning of a new reporting system based upon the use of regional historical data which supports rational planning for students and schools.

File Construction and Layout

The continuing regional correlation research conducted in the summer of 2015 had to adjust to the challenge of the test refusal movement in 2015 and still provide the basis of validly projecting reasonable growth expectations for students based upon prior performance. The regional correlation research had to be extended to document the strong correlations between grade 6 and 7 ELA and Math performance with ELA and Mathematics Regents performance several years later. If strong correlations between ELA-7 and Common Core English performance could be documented English 7 could be used as a "back-up" to English-8 results to project English Regents future performance. The following research also documents strong correlations between Math-6 and Math-7 to Common Core Algebra in two to three years later.

The organization of our regional correlation files had to be adjusted to document these longer term correlations to recent Common Core Regents Assessments in ELA and Math. As a result, 6 different regional correlation files were constructed to support this research project. The first research file contained student records starting with the 2011 ELA-7 exam scores. Included on each line of data are the same individual student's scores in grade 8 through grade 11exams with a focus on English and Science assessments. In order to be included in this longitudinal data file, students had to have scores in three or more years of this sequence. The number of student cases included in the complete file used to study English and Science correlations was 24,576. This first file was used to analyze the correlations between English tests, most Science tests (with the exception of Physics) and the relationship between Global History and U.S. History.

The second research file contained student records starting with the 2012 ELA-7 exam scores. Included on each line of data are the same individual student's scores in grade 8 through grade 10 exams in 2015 with a focus on just English assessments in grades 7 and 8 and grade 10 Global History in 2015.In order to be included in this longitudinal data file, students had to have scores in at least one of the two ELA tests and the Global History Regents in grade 10. This longitudinal research file was used to study correlations between the ELA7, ELA8 and the Global Regents Assessment in its most recent year (2015). The number of student cases in this file was20,055.

The third research file contained student records starting with the 2013Math-6exam scores. Included on each line of data are the same individual student's scores in grades7and 8 in 2015 with a focus on just Math assessments in grades 6 and 7 culminating in the grade 8 Common Core Algebra in 2015.In order to be included in this longitudinal data file, students had to have scores in at least one of the two Math tests and the 2015 Algebra Regents in grade 8. This research file was used to study correlations between both Math-6, Math-7 and

the Algebra Regents Assessment among grade 8 students. This file was considered necessary because most students taking Algebra in grade 8 had a higher profile of performance than Algebra in grade 9. The number of student cases in this file was 20,359.

The fourth research file contained student records starting with the 2012Math-6exam scores. Included on each line of data are the same individual student's math scores in grades7and 8 in 2013 and 2014 along with grade 9 Common Core Algebra or Common Core Geometry scores in 2015. In order to be included in this longitudinal data file, students had to have scores in at least one of the three Math6-8 tests and one or both of the Algebra and Geometry Regents Assessments in grades 8 or 9. This research file was used to study two correlation "paths". The first was between the Math6-8 Assessments and the Algebra Regents Assessment. The other correlation "path" analyzed with this file was the relationship between Algebra scores in grade 8 and Geometry scores of the same students in grade 9. The number of student cases in this file was16,956.

The fifth research file contained student records starting with the 2012Math-7exam scores. Included on each line of data are the same individual student's math scores in grades8 in 2013 along with grade 9 Common Core Algebra in 2014 and grade 10 Common Core Geometry scores in 2015. In order to be included in this longitudinal data file, students had to have scores in at least one of the two Math7-8 tests and the Algebra test in grade 9 and the Geometry Regents score in grades 10. This research file was considered necessary to study the correlations between Algebra and Geometry in grade 9 and 10 when students are thought to have a lower profile of performance. The number of student cases in this file was12,443.

The sixth research file contained student records starting with students who took Chemistry in either 2013 or 2014 and then took the Physics Regents Exam in 2015. This file was necessary because the number of students in the first correlation file who took the three or four Science exams between grade 8 and 11 and then took Physics was too few to support valid correlation analysis and projections based upon historically similar students. The number of student cases in this file was6,902.

Test Scores Included in File 1 from 2011-2015
2011 ELA-7
2011 Math-7
2012 ELA-8
2012 Math-8
2012 Science-8
2012 Grade 8 Living Environment Regents
2012 Grade 8 Earth Science Regents
2013 Pre CC Grade 9 Integrated Algebra
2013 Pre CC Grade 9 Geometry
2013 Grade 9 Living Environment Regents
2013 Grade 9 Earth Science Regents
2014 Pre CC Grade 10 Integrated Algebra
2014 Pre CC Grade 10 Geometry
2014 Grade 10 Living Environment Regents
2014 Grade 10 Earth Science Regents
2014 Grade 10 Chemistry Regents
2014 Grade 10 Global History Regents
2014 Grade 10 U.S. History Regents
2014 Grade 10 English Regents
2015 Grade 11 Algebra 2 Trigonometry
2015 Grade 11 Living Environment Regents
2015 Grade 11 Earth Science Regents
2015 Grade 11 Chemistry Regents
2015 Grade 11 Global History Regents
2015 Grade 11 U.S. History Regents
2015 Grade 11 English Regents

Test Scores Included in File 2 from 2011-2015
2012 ELA-7
2013 ELA-8
2015 Grade 10 Global History Regents

Test Scores Included in File 3 from 2011-2015
2012Math-7
2013 Math-8
2014 CC Grade 9 Algebra
2015 CC Grade 10 Geometry

Test Scores Included in File 4 from 2011-2015
2013 Math-7
2014 Math-8
2014 CC Grade 8 Algebra
2015 CC Grade 9 Geometry

Test Scores Included in File 5 from 2011-2015
2013 Math-6
2014 Math-7
2015 CC Grade 8 Algebra

Test Scores Included in File 1 from 2011-2015
2013 Grade 10 Chemistry Regents
2014 Grade 11 Chemistry Regents
2015 Grade 12Physics Regents

Student Demographics and Relevant Control Variables

NYS Student Identification Number
School District
Middle School Name
High School Name
Gender
Ethnicity
Poverty Status
LEP Status
Disability Status

Establishing Common Levels and Scales

The 2010 Shift in ELA3-8 and Math3-8 Performance Levels

In 2010, after administration of the ELA3-8 and Math3-8 Assessments, NYS announced a redefinition of performance levels. The performance levels "cut-points" were applied to the 2008 and 2009 scores in the longitudinal data file to calculate student performance levels so that the earlier student scores could be compared with later scores. The 2010 scale score ranges applied as performance level definitions to 2008 ELA-7 and Math-7 scores and to 2009 ELA-8 and Math-8 scores follow.

2009 ELA-7	**2009 Math-7**
Level 1 = 470 – 641	Level 1 = 500 – 638
Level 2 = 642 – 663	Level 2 =639 – 669
Level 3 = 664 – 697	Level 3 = 670 - 693
Level 4 = 698 – 790	Level 4 = 694 – 800

2010 ELA-8	**2010 Math-8**
Level 1 = 430 – 626	Level 1 = 480 – 638
Level 2 = 627 – 657	Level 2 =639 – 672
Level 3 = 658 – 698	Level 3 = 673 – 701
Level 4 = 699 – 790	Level 4 = 702 - 775

The 2013 Shift in ELA3-8 and Math3-8 Performance Levels

In 2013, with the introduction of Common Core ELA3-8 and Math3-8 Assessments, NYS introduced new performance levels that were not equated with prior performance levels. In support of this research project, a separate multi-year longitudinal Suffolk County file was created in August of 2013 that included 2011 grade 6; 2012 grade 7, and 2013 grade 8 scale score performance for students on both NYS ELA and Mathematics Assessments. The analysis of the data file found the equivalent scores on the pre-Common Core ELA and Math assessments for each of the new Common Core levels. The analysis was confirmed when NYSED released a translation table for translating new scores to old levels which could be used for RTI/AIS identification. The translation table was used to convert Math-7 and Math-8 from the years 2008 and 2009 to Common Core performance levels. The translation was only necessary in 2013 for Math-7 and Math-8 scores because scores from this year's 2013 Math-7 and Math-8 will be scaled to the Common Core levels are used to project Integrated Algebra results in grades 8 and 9.

The 2015 projections for the English Regents using results from the ELA-8 will use data from 2012 prior to the introduction of the Common Core standards. The projections for this year's Global History will be based upon the 2013 Common Core ELA-8 results. The historical correlation analysis to support these grade 10 Global History projections were based upon conversion of 2010, 2011 and 2012 ELA-8 scores to their equivalent Common Core equivalent scale score and their related leveled percentile scores. Math-7 and Math-8 scale scores in the data file were recoded to equivalent Common Core scale scores and Common Core performance levels were calculated. The 2013 and 2014 ELA-8, Math-7 and Math-8 scale score ranges and their equivalent scale score ranges on earlier ELA-8, Math-7 and Math-8 tests follow.

2013/2014 Common Core Math-7 Scores	**Equivalent Pre CC Math-7 Scores**
Level 1 = 133 – 292	Level 1 = 500 – 672
Level 2 = 294 – 321	Level 2 =673 – 696
Level 3 = 324 – 346	Level 3 = 697 - 718
Level 4 = 349 – 390	Level 4 = 719 – 800

2013/2014 Common Core Math-8 Scores	**Equivalent Pre CC Math-8 Scores**
Level 1 = 119 – 286	Level 1 = 480 – 668
Level 2 = 288 – 321	Level 2 =669 – 697
Level 3 = 323 – 345	Level 3 = 698 – 716
Level 4 = 349 – 394	Level 4 = 717 - 775

2013/2014 Common Core ELA-8 Scores	**Equivalent Pre CC ELA-8 Scores**
Level 1 = 100 – 283	**Level 1 = 430 – 648**
Level 2 = 284 – 315	**Level 2 =649 – 666**
Level 3 = 316 – 342	**Level 3 = 667 – 683**
Level 4 = 343 – 417	**Level 4 = 684 – 790**

Calculation of Comparable "Leveled" Scales

Scale score ranges related to performance levels on the grades 3 to 8 testing system and the secondary level Regents tests have different ranges for each level. A correlation analysis that compared movement using the 100-point scale of the Regents tests being compared to the 300 or 400 point scales of the earlier tests would distort the significance of relative movement within the levels. In order to correlate results between the two testing systems, scores from all tests were converted to a comparable scale. The scale chosen to convert all test scores to a level-based percentile score with 25 points is available in each performance level. The conversion of the Regents performance levels to level percentile score levels is based upon the following translation table for Science and Social Studies.

Science and Social Studies Regents Scale Scores	**Equivalent Level Percentile Scale Scores**
Level 1 = 1 – 54	Level 1 = 1 – 24
Level 2 = 55 – 64	Level 2 =25 – 49
Level 3 = 65 – 84	Level 3 = 50 – 74
Level 4 = 85 – 100	Level 4 = 75 - 100

When NYS announced the college ready expectations for the English Regents, the equivalent to the bottom of level 3 on the new ELA-8 assessment was a score of 75 on the English Regents test. As a result, the conversion of the English Regents performance levels to level percentile score levels is based upon the following translation table.

English Regents Scale Scores Scale Scores	**Equivalent Level Percentile**
Level 1 = 1 – 54	Level 1 = 1 – 24
Level 2 = 55 – 74	Level 2 =25 – 49
Level 3 = 75 – 84	Level 3 = 50 – 74
Level 4 = 85 – 100	Level 4 = 75 - 100

Likewise, the college ready expectation for the Math Regents tests, the equivalent to the bottom of level 3 on the new Math-8 assessment was a score of 80 on math Regents test. As a result the conversion of all mathematics Regents performance levels to level percentile score levels is based upon the following translation table.

Math Regents Scale Scores	**Equivalent Level Percentile Scale Scores**
Level 1 = 1 – 54	Level 1 = 1 – 24
Level 2 = 55 – 79	Level 2 =25 – 49
Level 3 = 80 – 89	Level 3 = 50 – 74
Level 4 = 90 – 100	Level 4 = 75 - 100

Mathematics Common Core Regents Scale Score Ranges for "Sub-Group" Projections from a Prior Math Regents

1 – 19
20 - 38
39 - 54
55 - 62
63 - 70
71 - 79
80 - 82
83 – 86
87 – 89
90 – 93
94 – 96
97 - 100

Identifying Correlations – English

After computing leveled Percentile Scale Scores for each of the tests from grade 7 to grade 12 using the SPSS Modeler, the first step in identifying the degree of correlation between English Regents scores in grade 11 and prior tests was an ordinal correlation analysis student position within performance levels on the ELA-7 and following English tests. This tabular analysis indicated that student performance levels on following tests were significantly aligned with prior performance levels.

Next, a factor analysis was conducted to explore the correlations of student scores on the ELA-7 and ELA-8 Assessments and all following Regents Assessments regardless of the content. The initial correlation analysis indicated that degree of correlation between scores was largely dependent on the assessments being in the same discipline. English was highly correlated from the ELA-7, through the ELA-8 (ELA-7 to ELA-8 r = .792 to the English Regents (ELA-8 to English Regents in grade 11 r = .686). Correlations between assessments in different disciplines (English to Math, Math to Science) were significant, but lower (r coefficients ranging from .4 to .55).

Correlation Matrix

		New CC ELA711 Level P-Score	New CC ELA812 Level P-Score	Earth Science913 Level P-Score	Living Environment1014 Level P-Score	Global History1014 Level New P-Score	English1115 Level New P-Score	Geometry1014 Level New P-Score
Correlation	New CC ELA711 Level P-Score	1.000	.792	.354	.460	.666	.672	.260
	New CC ELA812 Level P-Score	.792	1.000	.374	.473	.692	.686	.290
	Earth Science913 Level P-Score	.354	.374	1.000	.692	.549	.423	.607
	Living Environment1014 Level P-Score	.460	.473	.692	1.000	.599	.498	.600
	Global History1014 Level New P-Score	.666	.692	.549	.599	1.000	.738	.467
	English1115 Level New P-Score	.672	.686	.423	.498	.738	1.000	.430
	Geometry1014 Level New P-Score	.260	.290	.607	.600	.467	.430	1.000

There was one exception to this rule. The correlations between English and Social Studies assessments were very strong. These assessments were judged to be correlated because they test many of the same cognitive skills despite the additional focus on content knowledge in the Social Studies tests. The correlation between ELA-8 and the grade 10 Global History Regents was .692. The Global History Regents in grade 10 was also strongly correlated with the grade 11 English Regents (.738). Based upon this information the next step in the analysis was a Factor Analysis to explore the strength of the relationship between students taking just the ELA-8 and the grade 11 English Regents, followed by a similar analysis of ELA-8 and grade 10 Global History Regents scores. There were 3,096 students who took the ELA-8 in 2012 and the Common Core English Regents 3 years later in grade 11. The projections of Global History scores were done with ELA8 scores converted to ELA-8 Common Core scale and leveled percentile scores based upon the translation table on page 7 above.

Factor Analysis – ELA-8 to English Regents Common Core

Correlation Matrix

		English1115 Level New P-Score	New CC ELA812 Level P-Score
Correlation	English1115 Level New P-Score	1.000	.686
	New CC ELA812 Level P-Score	.686	1.000
Sig. (1-tailed)	English1115 Level New P-Score		.000
	New CC ELA812 Level P-Score	.000	

Communalities

	Initial	Extraction
English1115 Level New P-Score	1.000	.843
New CC ELA812 Level P-Score	1.000	.843

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.686	84.304	84.304	1.686	84.304	84.304
2	.314	15.696	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis – ELA-7 to English Regents Common Core

Correlation Matrix

		New CC ELA711 Level P-Score	English1115 Level New P-Score
Correlation	New CC ELA711 Level P-Score	1.000	.672
	English1115 Level New P-Score	.672	1.000
Sig. (1-tailed)	New CC ELA711 Level P-Score		.000
	English1115 Level New P-Score	.000	

Communalities

	Initial	Extraction
New CC ELA711 Level P-Score	1.000	.836
English1115 Level New P-Score	1.000	.836

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.672	83.622	83.622	1.672	83.622	83.622
2	.328	16.378	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis – ELA-8 (Common Core) to Global History Regents

Correlation Matrix

		Global History1015 Level New P-Score	New CC ELA812 Level P-Score
Correlation	Global History1015 Level New P-Score	1.000	.692
	New CC ELA812 Level P-Score	.692	1.000
Sig. (1-tailed)	Global History1015 Level New P-Score		.000
	New CC ELA812 Level P-Score	.000	

Communalities

	Initial	Extraction
Global History1015 Level New P-Score	1.000	.846
New CC ELA812 Level P-Score	1.000	.846

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.692	84.576	84.576	1.692	84.576	84.576
2	.308	15.424	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis – ELA-7(Common Core) to Global History Regents

Correlation Matrix

		Global History1015 Level New P-Score	New CC ELA712 Level P-Score
Correlation	Global History1015 Level New P-Score	1.000	.666
	New CC ELA712 Level P-Score	.666	1.000
Sig. (1-tailed)	Global History1015 Level New P-Score		.000
	New CC ELA712 Level P-Score	.000	

Communalities

	Initial	Extraction
Global History1015 Level New P-Score	1.000	.833
New CC ELA712 Level P-Score	1.000	.833

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.666	83.304	83.304	1.666	83.304	83.304
2	.334	16.696	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis –Global History Regents to Common Core English Regents

```
[DataSet1] F:\ESBOCES\2015-16\ELA\ELA7toELA11CC#2.sav
```

Correlation Matrix

		English1115 Level New P-Score	Global History1014 Level New P-Score
Correlation	English1115 Level New P-Score	1.000	.738
	Global History1014 Level New P-Score	.738	1.000
Sig. (1-tailed)	English1115 Level New P-Score		.000
	Global History1014 Level New P-Score	.000	

Communalities

	Initial	Extraction
English1115 Level New P-Score	1.000	.869
Global History1014 Level New P-Score	1.000	.869

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.738	86.891	86.891	1.738	86.891	86.891
2	.262	13.109	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis –Global History Regents to U.S. History Regents

Correlation Matrix

		Global History1014 Level New P-Score	US History1115 Level New P-Score
Correlation	Global History1014 Level New P-Score	1.000	.781
	US History1115 Level New P-Score	.781	1.000
Sig. (1-tailed)	Global History1014 Level New P-Score		.000
	US History1115 Level New P-Score	.000	

Partial Correlation Analysis – English

Although the initial analysis of the relationship between ELA-8 and English-11 scores indicated that they were strongly related, we wanted to ensure that this relationship held true for students with special statuses. A partial correlation analysis was done to evaluate the strength of the relatedness of English scores among Students with Disabilities (SWD), Limited English Proficient (LEP) students and low-income students. The following SPSS analysis tables indicates that the relationship between the ELA-8 and following Global History and English-11 scores is quite strong for all status groups. There were 2,039 disabled students who took both the ELA-8 and the Common Core English Regents in grade 11. There were 437 LEP students who took both the ELA-8 and the grade 11 Common Core English Regents three years later. There were 4,580 low-income students who took the ELA-8 in 2012 and the Common Core English Regents in grade 11 in 2015. For the purposes of this analysis we have converted 2012 ELA-8 scores to their Common Core equivalent scores using the translation table published by the NYSED in 2013.

A comparable partial correlation analysis was conducted on the scores of students who took both the ELA-7 Assessment in 2011 and the new Common Core English Regents in 2015. There were 368 ELL students who took both of these tests. There were 1,994 students with disabilities who took the 2015 Common after taking the ELA-7four years earlier. There were 4,369 low income students who took both the ELA7 Assessment and the new English Common Core Regents in 2015.

ELA-8 to the Grade 11 Common Core English Regents among Students with Disabilities

Correlation Matrix[a]

		English1115 Level New P-Score	New CC ELA812 Level P-Score
Correlation	English1115 Level New P-Score	1.000	.617
	New CC ELA812 Level P-Score	.617	1.000
Sig. (1-tailed)	English1115 Level New P-Score		.000
	New CC ELA812 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
English1115 Level New P-Score	1.000	.808
New CC ELA812 Level P-Score	1.000	.808

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.617	80.830	80.830	1.617	80.830	80.830
2	.383	19.170	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

ELA-8 to the Grade 11 Common Core English Regents among English Language Learners

Correlation Matrix[a]

		English1115 Level New P-Score	New CC ELA812 Level P-Score
Correlation	English1115 Level New P-Score	1.000	.470
	New CC ELA812 Level P-Score	.470	1.000
Sig. (1-tailed)	English1115 Level New P-Score		.000
	New CC ELA812 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
English1115 Level New P-Score	1.000	.735
New CC ELA812 Level P-Score	1.000	.735

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.470	73.482	73.482	1.470	73.482	73.482
2	.530	26.518	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

ELA-8 to the Grade 11 Common Core English Regents among Low Income Students

Correlation Matrix[a]

		English1115 Level New P-Score	New CC ELA812 Level P-Score
Correlation	English1115 Level New P-Score	1.000	.660
	New CC ELA812 Level P-Score	.660	1.000
Sig. (1-tailed)	English1115 Level New P-Score		.000
	New CC ELA812 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
English1115 Level New P-Score	1.000	.830
New CC ELA812 Level P-Score	1.000	.830

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.660	83.024	83.024	1.660	83.024	83.024
2	.340	16.976	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

ELA-7 to the Grade 11 Common Core English Regents - Students with Disabilities

Correlation Matrix[a]

		New CC ELA711 Level P-Score	English1115 Level New P-Score
Correlation	New CC ELA711 Level P-Score	1.000	.588
	English1115 Level New P-Score	.588	1.000
Sig. (1-tailed)	New CC ELA711 Level P-Score		.000
	English1115 Level New P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New CC ELA711 Level P-Score	1.000	.794
English1115 Level New P-Score	1.000	.794

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.588	79.396	79.396	1.588	79.396	79.396
2	.412	20.604	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

ELA-7 to the Grade 11 Common Core English Regents –English Language Learners

Correlation Matrix[a]

		New CC ELA711 Level P-Score	English1115 Level New P-Score
Correlation	New CC ELA711 Level P-Score	1.000	.492
	English1115 Level New P-Score	.492	1.000
Sig. (1-tailed)	New CC ELA711 Level P-Score		.001
	English1115 Level New P-Score	.001	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New CC ELA711 Level P-Score	1.000	.696
English1115 Level New P-Score	1.000	.696

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.392	69.606	69.606	1.392	69.606	69.606
2	.608	30.394	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

ELA-7 to the Grade 11Common English Regents among Low Income Students

Correlation Matrix[a]

		New CC ELA711 Level P-Score	English1115 Level New P-Score
Correlation	New CC ELA711 Level P-Score	1.000	.668
	English1115 Level New P-Score	.668	1.000
Sig. (1-tailed)	New CC ELA711 Level P-Score		.000
	English1115 Level New P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New CC ELA711 Level P-Score	1.000	.834
English1115 Level New P-Score	1.000	.834

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.668	83.395	83.395	1.668	83.395	83.395
2	.332	16.605	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

ELA-8 to Grade 10 Global History Regents among Students with Disabilities

Correlation Matrix[a]

		Global History1015 Level New P-Score	New CC ELA812 Level P-Score
Correlation	Global History1015 Level New P-Score	1.000	.607
	New CC ELA812 Level P-Score	.607	1.000
Sig. (1-tailed)	Global History1015 Level New P-Score		.000
	New CC ELA812 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Global History1015 Level New P-Score	1.000	.804
New CC ELA812 Level P-Score	1.000	.804

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.607	80.355	80.355	1.607	80.355	80.355
2	.393	19.645	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

ELA-8 to the Grade 10 Global History Regents among English Language Learners

The partial correlations of ELA-8 and Grade 10 Global History Regents scores indicate that the correlations between the tests are not as strong for English Language Learners.

Correlation Matrix[a]

		Global History1015 Level New P-Score	New CC ELA812 Level P-Score
Correlation	Global History1015 Level New P-Score	1.000	.505
	New CC ELA812 Level P-Score	.505	1.000
Sig. (1-tailed)	Global History1015 Level New P-Score		.000
	New CC ELA812 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Global History1015 Level New P-Score	1.000	.749
New CC ELA812 Level P-Score	1.000	.749

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.498	74.914	74.914	1.498	74.914	74.914
2	.502	25.086	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

ELA-8 to the Grade 10 Global History Regents among Low-Income Students

Correlation Matrix[a]

		Global History1015 Level New P-Score	New CC ELA812 Level P-Score
Correlation	Global History1015 Level New P-Score	1.000	.652
	New CC ELA812 Level P-Score	.652	1.000
Sig. (1-tailed)	Global History1015 Level New P-Score		.000
	New CC ELA812 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Global History1015 Level New P-Score	1.000	.826
New CC ELA812 Level P-Score	1.000	.826

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.652	82.619	82.619	1.652	82.619	82.619
2	.348	17.381	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

ELA-7 to Grade 10 Global History Regents among Students with Disabilities

Correlation Matrix[a]

		Global History1015 Level New P-Score	New CC ELA712 Level P-Score
Correlation	Global History1015 Level New P-Score	1.000	.590
	New CC ELA712 Level P-Score	.590	1.000
Sig. (1-tailed)	Global History1015 Level New P-Score		.000
	New CC ELA712 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Global History1015 Level New P-Score	1.000	.795
New CC ELA712 Level P-Score	1.000	.795

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.590	79.520	79.520	1.590	79.520	79.520
2	.410	20.480	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

ELA-7 to the Grade 10 Global History Regents among English Language Learners

The partial correlations of ELA-7 and Grade 10 Global History Regents scores indicate that the correlations between the tests are not as strong for English Language Learners.

Correlation Matrix[a]

		Global History1015 Level New P-Score	New CC ELA712 Level P-Score
Correlation	Global History1015 Level New P-Score	1.000	.510
	New CC ELA712 Level P-Score	.510	1.000
Sig. (1-tailed)	Global History1015 Level New P-Score		.000
	New CC ELA712 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Global History1015 Level New P-Score	1.000	.755
New CC ELA712 Level P-Score	1.000	.755

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.510	75.513	75.513	1.510	75.513	75.513
2	.490	24.487	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

ELA-7 to the Grade 10 Global History Regents among Low-Income Students

Correlation Matrix[a]

		Global History1015 Level New P-Score	New CC ELA712 Level P-Score
Correlation	Global History1015 Level New P-Score	1.000	.649
	New CC ELA712 Level P-Score	.649	1.000
Sig. (1-tailed)	Global History1015 Level New P-Score		.000
	New CC ELA712 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Global History1015 Level New P-Score	1.000	.825
New CC ELA712 Level P-Score	1.000	.825

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.649	82.465	82.465	1.649	82.465	82.465
2	.351	17.535	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Grade 10 Global History Regents and Common Core English Regents Correlations among Students with Disabilities

Correlation Matrix[a]

		English1115 Level New P-Score	Global History1014 Level New P-Score
Correlation	English1115 Level New P-Score	1.000	.673
	Global History1014 Level New P-Score	.673	1.000
Sig. (1-tailed)	English1115 Level New P-Score		.000
	Global History1014 Level New P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
English1115 Level New P-Score	1.000	.836
Global History1014 Level New P-Score	1.000	.836

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.673	83.631	83.631	1.673	83.631	83.631
2	.327	16.369	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Grade 10 Global History Regents and Common Core English Regents Correlations among English Language Learners

The partial correlations of Grade 10 Global History Regents and Grade 11 Common English Regents scores indicate that the correlations between the tests are not as strong for English Language Learners.

Correlation Matrix[a]

		English1115 Level New P-Score	Global History1014 Level New P-Score
Correlation	English1115 Level New P-Score	1.000	.641
	Global History1014 Level New P-Score	.641	1.000
Sig. (1-tailed)	English1115 Level New P-Score		.000
	Global History1014 Level New P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
English1115 Level New P-Score	1.000	.821
Global History1014 Level New P-Score	1.000	.821

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.641	82.075	82.075	1.641	82.075	82.075
2	.359	17.925	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Grade 10 Global History and Common Core English Regents Correlations among Low Income Students

Correlation Matrix[a]

		English1115 Level New P-Score	Global History1014 Level New P-Score
Correlation	English1115 Level New P-Score	1.000	.679
	Global History1014 Level New P-Score	.679	1.000
Sig. (1-tailed)	English1115 Level New P-Score		.000
	Global History1014 Level New P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
English1115 Level New P-Score	1.000	.839
Global History1014 Level New P-Score	1.000	.839

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.679	83.948	83.948	1.679	83.948	83.948
2	.321	16.052	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Grade 10 Global History Regents and U.S, History Regents Correlations among Students with Disabilities

Correlation Matrix[a]

		Global History1014 Level New P-Score	US History1115 Level New P-Score
Correlation	Global History1014 Level New P-Score	1.000	.742
	US History1115 Level New P-Score	.742	1.000
Sig. (1-tailed)	Global History1014 Level New P-Score		.000
	US History1115 Level New P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Global History1014 Level New P-Score	1.000	.871
US History1115 Level New P-Score	1.000	.871

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.742	87.099	87.099	1.742	87.099	87.099
2	.258	12.901	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Grade 10 Global History Regents and U.S, History Regents Correlations among English Language Learners

Correlation Matrix[a]

		Global History1014 Level New P-Score	US History1115 Level New P-Score
Correlation	Global History1014 Level New P-Score	1.000	.632
	US History1115 Level New P-Score	.632	1.000
Sig. (1-tailed)	Global History1014 Level New P-Score		.000
	US History1115 Level New P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Global History1014 Level New P-Score	1.000	.816
US History1115 Level New P-Score	1.000	.816

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.632	81.592	81.592	1.632	81.592	81.592
2	.368	18.408	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Grade 10 Global History and U.S, History Regents Correlations among Low Income Students

Correlation Matrix[a]

		Global History1014 Level New P-Score	US History1115 Level New P-Score
Correlation	Global History1014 Level New P-Score	1.000	.751
	US History1115 Level New P-Score	.751	1.000
Sig. (1-tailed)	Global History1014 Level New P-Score		.000
	US History1115 Level New P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Global History1014 Level New P-Score	1.000	.876
US History1115 Level New P-Score	1.000	.876

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.751	87.553	87.553	1.751	87.553	87.553
2	.249	12.447	100.000			

Extraction Method: Principal Component Analysis.

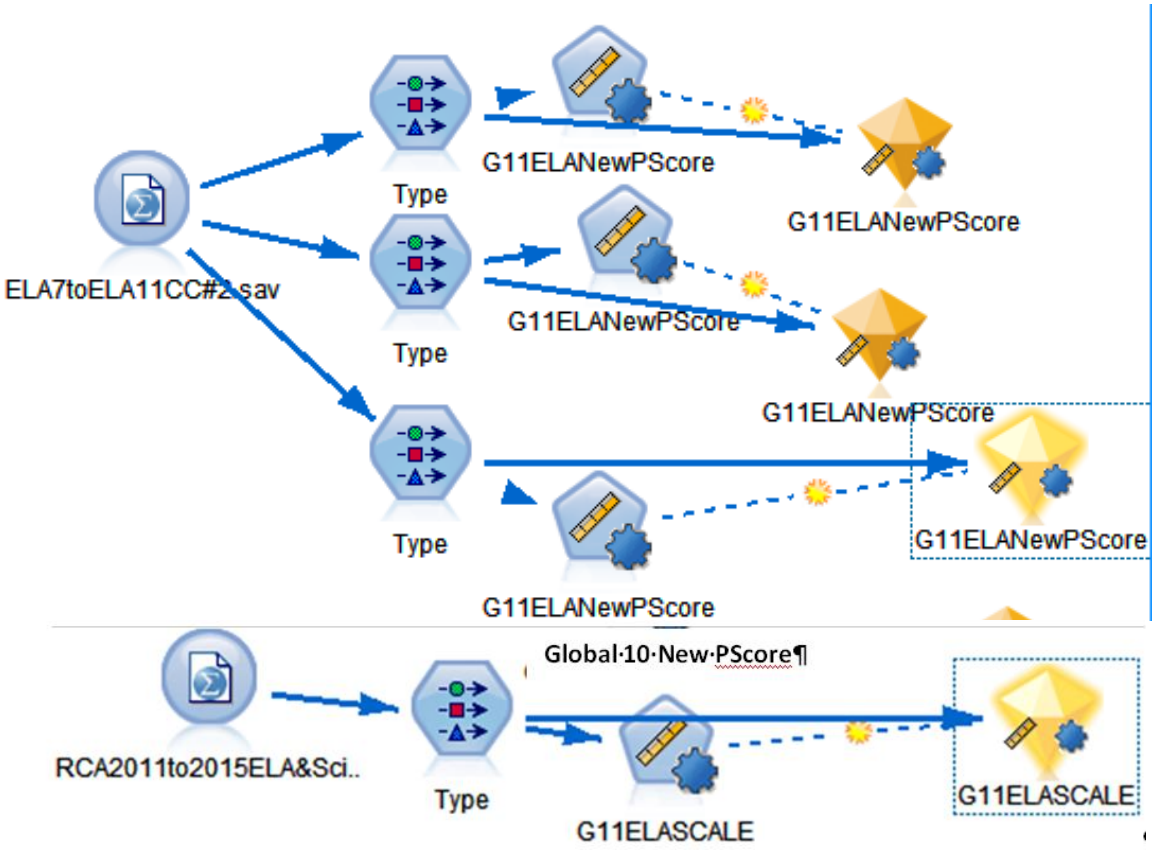
a. Only cases for which Low-Income = 1 are used in the analysis phase.

Predictive Analytic Tests/Processes-English and Social Studies

Rule Induction Tests

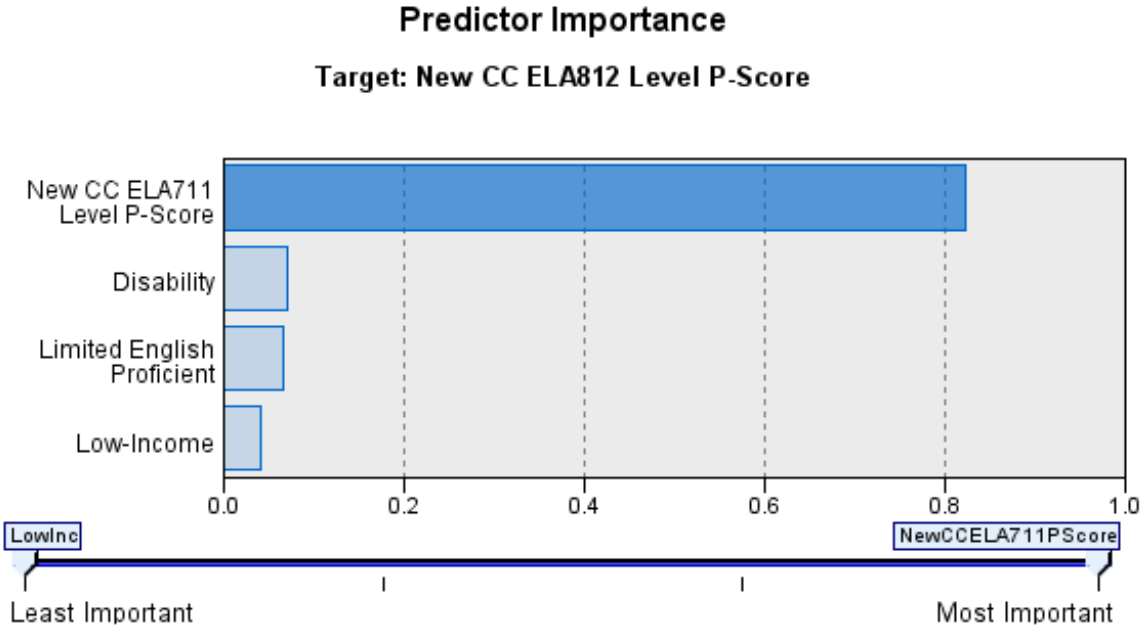
SPSS Modeler provides a series of predictive analytic tests that allow users to create prediction models based upon sequenced data that is strongly correlated. These predictive analytic tests apply rules that are appropriate for nominal, ordinal or interval data. Because our dependent or target variables in our study are the leveled percentile outcomes on specific Regents tests (English and Global History), the Rule Induction Test used to develop predictions based upon ELA-7 and ELA-8 data was the Neural Net. The first image below is the data stream test for the prediction of English grade 11 P-scores from prior ELA-7, ELA-8 and Global History P-scores as well as IEP, LEP and disability statuses. The following Modeler Neural Net Chart indicates the relative prediction significance of ELA-7, ELA-8 and Global P-Scores, LEP status, disability status and low income status in the prediction of grade 11 English scores (p-scores). The top three paths or correlation lines below indicate the strong relationship between the ELA-7 to ELA8 and the Common Core English Regents. The bottom path displays the strong relationship of Global History scores in grade 10 to Common Core English Regents scores in grade 11. The successful prediction of English Regents scores is disproportionately based upon prior ELA and Global scores, but ELL and Disability status play a significant role.

ELA-7 to ELA-8 and ELA-7 and ELA-8 to the Common Core Grade 11 English Regents and the Global Regents to the English Regents



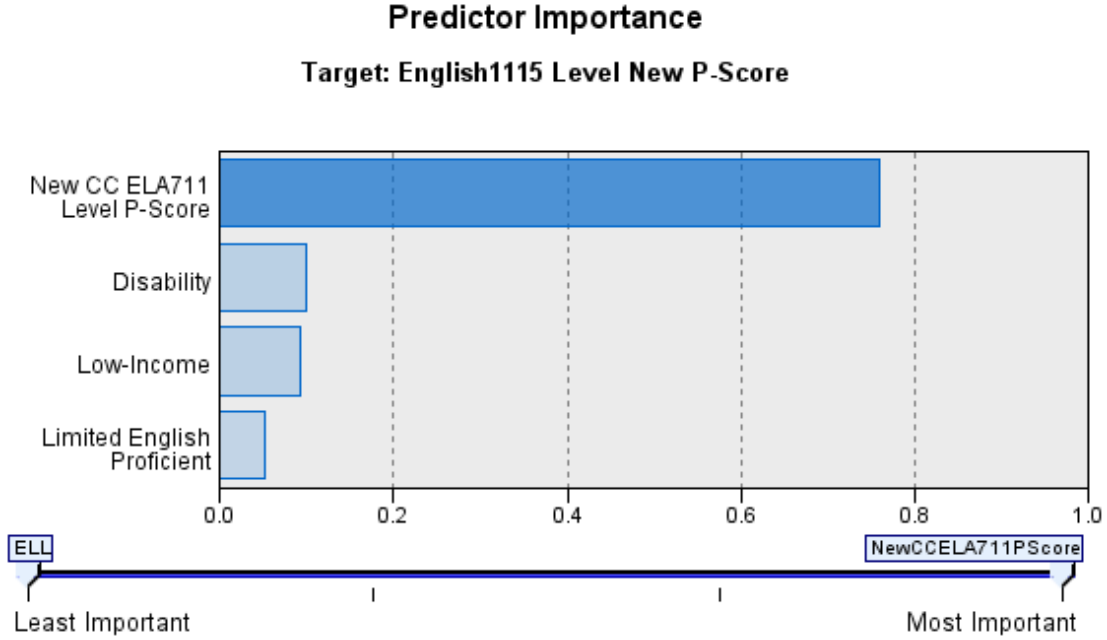
ELA-7to ELA-8

The Modeler Neural Net Chart below indicates the relative significance of ELA-7 P-Scores, SWD status, LEP status, and Low Income status in the prediction of ELA-8 scores (p-scores). The successful prediction of ELA-8 scores is based upon the strong correlation with prior ELA-7 scores.



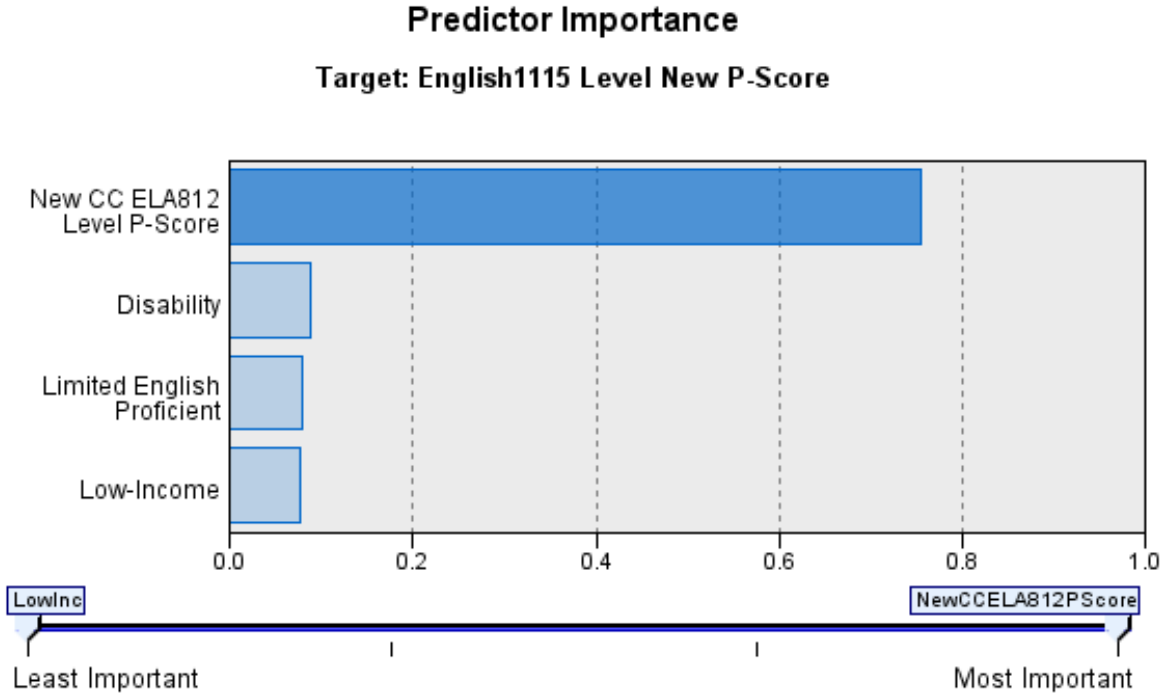
ELA-7to Common Core English Regents

The Modeler Neural Net Chart below follows the strong relative significance of ELA-7 P-Scoresin the prediction of grade 11 Common Core English Regents scores (p-scores).



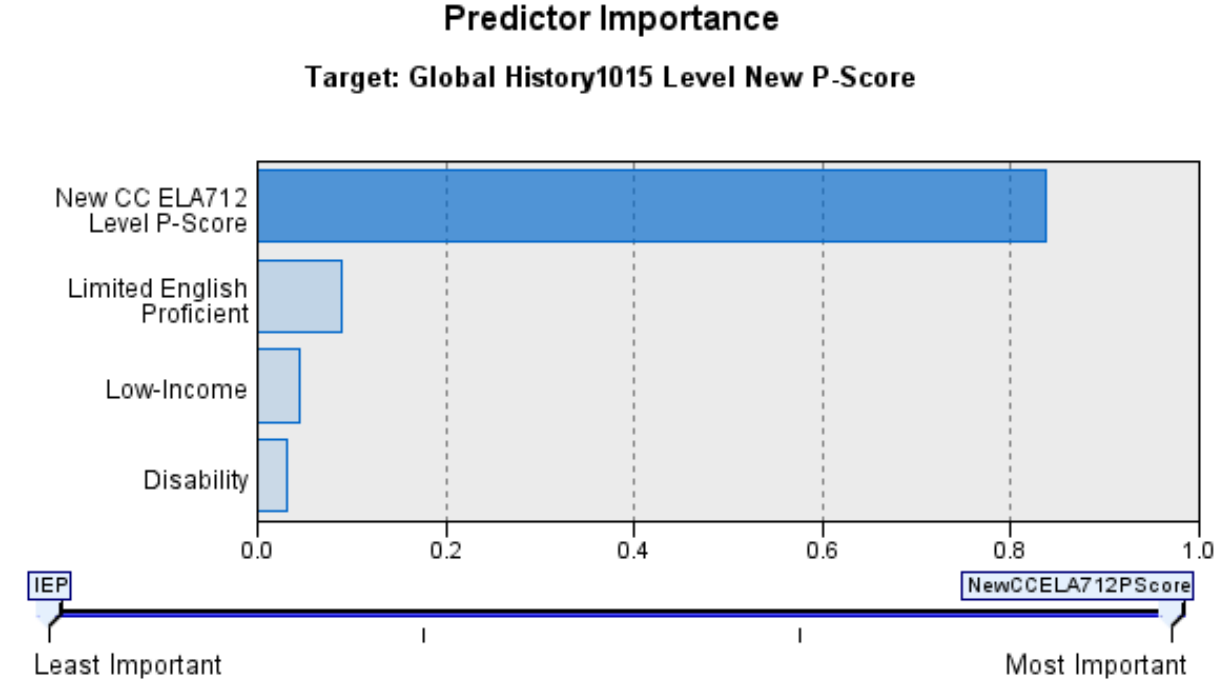
ELA-8to Common Core English Regents

The Modeler Neural Net Chart below indicates the relative significance of ELA-8 P-Scores, SWD status, LEP status, and Low Income status in the prediction of Common Core English Regents scores (p-scores). The successful prediction of Common Core English Regents scores three years later is based upon the strong correlation with prior ELA-8 scores.



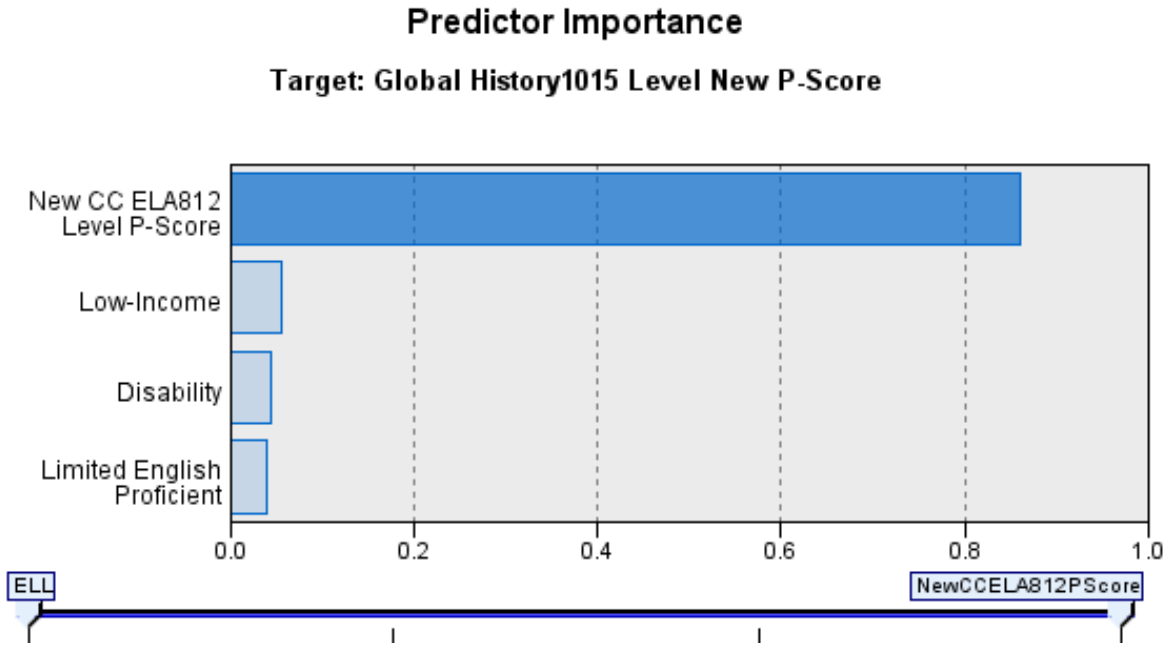
ELA-7to Grade 10 Global History Regents

The Modeler Neural Net Chart below indicates the relative significance of ELA-7 P-Scores in the prediction of grade 10 Global History scores (p-scores).



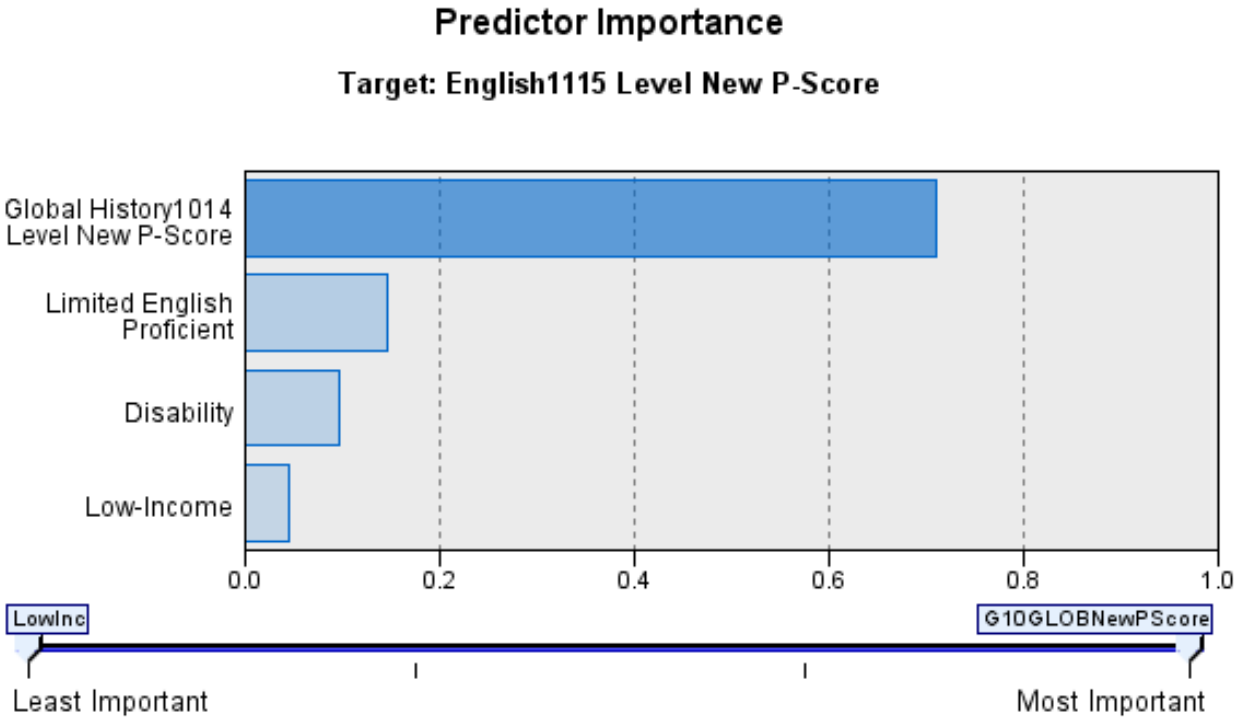
ELA-8to Grade 10 Global History Regents

The Modeler Neural Net Chart below indicates the relative significance of ELA-8 P-Scores in the prediction of grade 10 Global History scores (p-scores). It is notable that the significance of the ELA-8 to Global History scores is slightly greater than the ELA-8 impact on English 11 scores a year later.



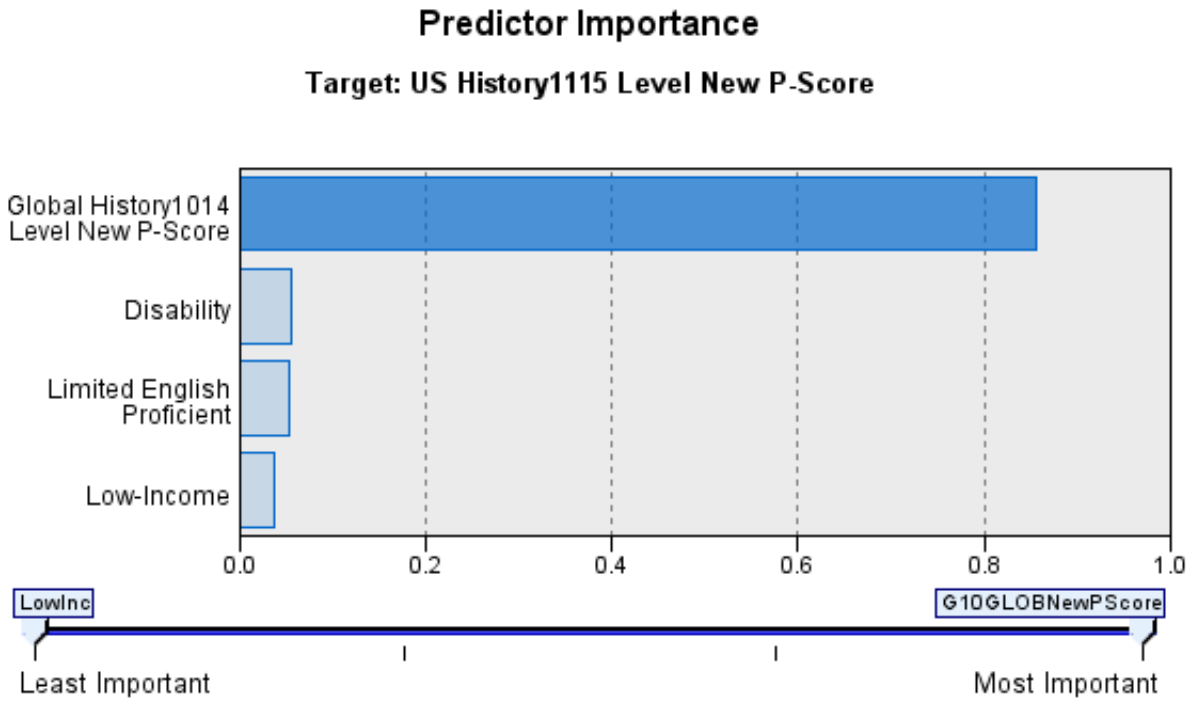
Grade 10 Global History Regents to Grade 11 English Regents

The next Modeler Neural Net Chart shows the relative role of Global History P-scores, SWD status, LEP status, and Low Income status in the prediction of grade 11 Common Core English Regents P-scores in 2015. The successful prediction of English Regents scores is also possible with the strong correlation with Global History-10 scores.



Grade 10 Global History Regents to Grade 11 U.S. History Regents

The next Modeler Neural Net Chart shows the relative role of grade 10 Global History P-scores, SWD status, LEP status, and Low Income status in the prediction of grade 11U.S. History P-scores. The successful prediction of U.S. History Regents scores is based primarily on the strong correlation with U.S. History scores.



Establish Rule Sets for English Projections

The SPSS Modeler includes a series of predictive analytic statistical models that allow the setting of rule sets or conditions for the determination of a successful prediction. The C5.0 model is one of the models used in rule setting for evaluation of predictions. It simplifies the complexity of the data by identifying target cases that do not meet the pre-established rules. Sub-levels were introduced into the predictive model so that future scores would be predicted based upon the scores of students in short score ranges separately for non-status students, Students with Disabilities, Limited English Proficiency students/English Language Learners and Low Income students. Two related sets of predictions were generated to set high and low predictions with different rates of confidence.

The following two rules were used for the "high-end" predictions of English, Global History and U.S. History Regents results from prior ELA-8 or Global History scores. Rule 1 applies to each sub-level group and each status group including students with disabilities, English Language Learners and Low Income students. Rule 2 = Projections will not be supported unless at least 100 students or more connect the two tests for any status group. The prediction is essentially determined at the top end of the predictive range by the mean average performance of students in prior performance sub-levels on the ELA-7, ELA-8 or Global History Assessments.

The following three rules were used for the "low-end" predictions of English, Global History and U.S. History Regents results from prior ELA-8 or Global History scores. Rule 1 = 80% or more of all target cases should be equal to above the minimum projection for all sublevel groups based upon prior scores. Rule 2 = Rule 1, applies to each sub-level group and each status group including students with disabilities, English Language Learners and Low Income students. Rule 3 = Projections will not be supported unless at least 100 students or more connect the two tests for any status group. The "low-end" projections are calculated by expanding the confidence interval to ensure that the target of 80% successful prediction for each short score range from the prior test. If there were fewer than 20 students in any sub-level group from the prior test, the generated projection was suppressed in the projection tables to ensure that projections were based upon representative clusters of students. If insufficient numbers of higher performing English Language Learner (ELL) students took the ELA-7 and ELA-8 and the Common Core English Regents in grade 11 no projections could be done for ELL students who scored above in most score sub-levels on the ELA-7 or ELA-8.

Generating Projections

Using the rule sets described above the projections below were exported into Excel. The first projections are from ELA-7and ELA-8 sub-levels to the Global History Regents English Regents. The following projection tables are from the ELA-7 and ELA-8 to the Common Core English Regents in 2015. The next table is the projection from the Global History Regents in grade 10 to the Common Core English Regents in grade 11, followed by the projections to the U.S. History Regents from the Global Regents. The English Regents scores have been converted to equivalent scale scores for use as projections for similar students. Once the high and low projections were generated a mid-point projection was added in order to give the end-user a range from low to high to establish student performance targets.

Testing Projections

After the projections were written to the regional longitudinal data file for all students who took the ELA-7, ELA-8 and the following Global History and English Regents, the most conservative "low-end" projections were validated with a series of tables in the SPSS Modeler that identified successful predictions and unsuccessful predictions. In each of the tables below, the counts and percentages in the "yes" column identifies the rate of that actual student outcomes on the target test were at or above the projection for the relevant sub-level group. The projections are validated when the successful prediction rate is 80% or higher for every sub-group with a projection.

Test of ELA-7 to Non Common Core English Regents Projections Non-Status Students

New ELA711 Sub Levels * NOSTATELA7to11Pre Crosstabulation

			NOSTATELA7to11Pre		
			No	Yes	Total
New ELA711 Sub Levels	High Level 1	Count	125	783	908
		% within New ELA711 Sub Levels	13.8%	86.2%	100.0%
	Low Level 2	Count	140	792	932
		% within New ELA711 Sub Levels	15.0%	85.0%	100.0%
	Mid Level 2	Count	121	935	1056
		% within New ELA711 Sub Levels	11.5%	88.5%	100.0%
	High Level 2	Count	220	1661	1881
		% within New ELA711 Sub Levels	11.7%	88.3%	100.0%
	Low Level 3	Count	110	1023	1133
		% within New ELA711 Sub Levels	9.7%	90.3%	100.0%
	Mid Level 3	Count	42	492	534
		% within New ELA711 Sub Levels	7.9%	92.1%	100.0%
	High Level 3	Count	104	892	996
		% within New ELA711 Sub Levels	10.4%	89.6%	100.0%
	Low Level 4	Count	69	557	626
		% within New ELA711 Sub Levels	11.0%	89.0%	100.0%
	Mid Level 4	Count	30	155	185
		% within New ELA711 Sub Levels	16.2%	83.8%	100.0%
	High Level 4	Count	11	51	62
		% within New ELA711 Sub Levels	17.7%	82.3%	100.0%
Total		Count	972	7341	8313
		% within New ELA711 Sub Levels	11.7%	88.3%	100.0%

Test of ELA-7 to Non Common Core English Regents Projections Students with Disabilities

New ELA711 Sub Levels * IEPELA7to11Pre Crosstabulation

			IEPELA7to11Pre		
			No	Yes	Total
New ELA711 Sub Levels	Mid Level 1	Count	20	192	212
		% within New ELA711 Sub Levels	9.4%	90.6%	100.0%
	High Level 1	Count	122	999	1121
		% within New ELA711 Sub Levels	10.9%	89.1%	100.0%
	Low Level 2	Count	23	247	270
		% within New ELA711 Sub Levels	8.5%	91.5%	100.0%
	Mid Level 2	Count	16	131	147
		% within New ELA711 Sub Levels	10.9%	89.1%	100.0%
	High Level 2	Count	20	128	148
		% within New ELA711 Sub Levels	13.5%	86.5%	100.0%
	Low Level 3	Count	3	42	45
		% within New ELA711 Sub Levels	6.7%	93.3%	100.0%
	Mid Level 3	Count	3	12	15
		% within New ELA711 Sub Levels	20.0%	80.0%	100.0%
Total		Count	207	1751	1958
		% within New ELA711 Sub Levels	10.6%	89.4%	100.0%

Test of ELA-7 to Non Common Core English Regents Projections
English Language Learners

New ELA711 Sub Levels * LEPELA7to11Pre Crosstabulation

			LEPELA7to11Pre		
			No	Yes	Total
New ELA711 Sub Levels	Mid Level 1	Count	6	69	75
		% within New ELA711 Sub Levels	8.0%	92.0%	100.0%
	High Level 1	Count	27	229	256
		% within New ELA711 Sub Levels	10.5%	89.5%	100.0%
	Low Level 2	Count	4	16	20
		% within New ELA711 Sub Levels	20.0%	80.0%	100.0%
Total		Count	37	314	351
		% within New ELA711 Sub Levels	10.3%	89.7%	100.0%

Test of ELA-7 to Non Common Core English Regents Projections
Low Income Students

New ELA711 Sub Levels * LowIncELA7to11Pre Crosstabulation

			LowIncELA7to11Pre		
			No	Yes	Total
New ELA711 Sub Levels	Mid Level 1	Count	19	149	168
		% within New ELA711 Sub Levels	11.3%	88.7%	100.0%
	High Level 1	Count	190	1384	1574
		% within New ELA711 Sub Levels	12.1%	87.9%	100.0%
	Low Level 2	Count	71	605	676
		% within New ELA711 Sub Levels	10.5%	89.5%	100.0%
	Mid Level 2	Count	72	478	550
		% within New ELA711 Sub Levels	13.1%	86.9%	100.0%
	High Level 2	Count	70	633	703
		% within New ELA711 Sub Levels	10.0%	90.0%	100.0%
	Low Level 3	Count	26	273	299
		% within New ELA711 Sub Levels	8.7%	91.3%	100.0%
	Mid Level 3	Count	13	91	104
		% within New ELA711 Sub Levels	12.5%	87.5%	100.0%
	High Level 3	Count	14	150	164
		% within New ELA711 Sub Levels	8.5%	91.5%	100.0%
	Low Level 4	Count	10	80	90
		% within New ELA711 Sub Levels	11.1%	88.9%	100.0%
	Mid Level 4	Count	1	21	22
		% within New ELA711 Sub Levels	4.5%	95.5%	100.0%
Total		Count	486	3864	4350
		% within New ELA711 Sub Levels	11.2%	88.8%	100.0%

Test of ELA-7 to Common Core English Regents Projections
Non-Status Students

New ELA711 Sub Levels * NOSTATELA7to11Pre Crosstabulation

			NOSTATELA7to11Pre		
			No	Yes	Total
New ELA711 Sub Levels	Hiigh Level 1	Count	23	141	164
		% within New ELA711 Sub Levels	14.0%	86.0%	100.0%
	Low Level 2	Count	22	175	197
		% within New ELA711 Sub Levels	11.2%	88.8%	100.0%
	Mid Level 2	Count	25	231	256
		% within New ELA711 Sub Levels	9.8%	90.2%	100.0%
	High Level 2	Count	27	376	403
		% within New ELA711 Sub Levels	6.7%	93.3%	100.0%
	Low Level 3	Count	10	264	274
		% within New ELA711 Sub Levels	3.6%	96.4%	100.0%
	Mid Level 3	Count	7	150	157
		% within New ELA711 Sub Levels	4.5%	95.5%	100.0%
	High Level 3	Count	7	227	234
		% within New ELA711 Sub Levels	3.0%	97.0%	100.0%
	Low Level 4	Count	6	151	157
		% within New ELA711 Sub Levels	3.8%	96.2%	100.0%
	Mid Level 4	Count	6	53	59
		% within New ELA711 Sub Levels	10.2%	89.8%	100.0%
	High Level 4	Count	2	18	20
		% within New ELA711 Sub Levels	10.0%	90.0%	100.0%
Total		Count	135	1786	1921
		% within New ELA711 Sub Levels	7.0%	93.0%	100.0%

Test of ELA-7 to Common Core English Regents Projections
Students with Disabilities

New ELA711 Sub Levels * IEPELA7to11Pre Crosstabulation

			IEPELA7to11Pre		
			No	Yes	Total
New ELA711 Sub Levels	Mid Level 1	Count	5	30	35
		% within New ELA711 Sub Levels	14.3%	85.7%	100.0%
	High Level 1	Count	44	209	253
		% within New ELA711 Sub Levels	17.4%	82.6%	100.0%
	Low Level 2	Count	2	40	42
		% within New ELA711 Sub Levels	4.8%	95.2%	100.0%
	Mid Level 2	Count	4	32	36
		% within New ELA711 Sub Levels	11.1%	88.9%	100.0%
	High Level 2	Count	3	31	34
		% within New ELA711 Sub Levels	8.8%	91.2%	100.0%
	Low Level 3	Count	3	15	18
		% within New ELA711 Sub Levels	16.7%	83.3%	100.0%
Total		Count	61	357	418
		% within New ELA711 Sub Levels	14.6%	85.4%	100.0%

Test of ELA-7 to Common Core English Regents Projections
English Language Learners

New ELA711 Sub Levels * LEPELA7to11Pre Crosstabulation

			LEPELA7to11Pre		
			No	Yes	Total
New ELA711 Sub Levels	High Level 1	Count	7	37	44
		% within New ELA711 Sub Levels	15.9%	84.1%	100.0%
Total		Count	7	37	44
		% within New ELA711 Sub Levels	15.9%	84.1%	100.0%

Test of ELA-7 to Common Core English Regents Projections
Low Income Students

New ELA711 Sub Levels * LowIncELA7to11Pre Crosstabulation

			LowIncELA7to11Pre		
			No	Yes	Total
New ELA711 Sub Levels	Mid Level 1	Count	5	25	30
		% within New ELA711 Sub Levels	16.7%	83.3%	100.0%
	High Level 1	Count	54	255	309
		% within New ELA711 Sub Levels	17.5%	82.5%	100.0%
	Low Level 2	Count	13	100	113
		% within New ELA711 Sub Levels	11.5%	88.5%	100.0%
	Mid Level 2	Count	16	79	95
		% within New ELA711 Sub Levels	16.8%	83.2%	100.0%
	High Level 2	Count	13	119	132
		% within New ELA711 Sub Levels	9.8%	90.2%	100.0%
	Low Level 3	Count	5	48	53
		% within New ELA711 Sub Levels	9.4%	90.6%	100.0%
	Mid Level 3	Count	2	24	26
		% within New ELA711 Sub Levels	7.7%	92.3%	100.0%
	High Level 3	Count	1	30	31
		% within New ELA711 Sub Levels	3.2%	96.8%	100.0%
Total		Count	109	680	789
		% within New ELA711 Sub Levels	13.8%	86.2%	100.0%

Test of ELA-8 to Non Common Core English Regents Projections Non-Status Students

New ELA812 Sub Levels * NOSTATELA11Pre Crosstabulation

			NOSTATELA11Pre		
			No	Yes	Total
New ELA812 Sub Levels	Mid Level 1	Count	1	21	22
		% within New ELA812 Sub Levels	4.5%	95.5%	100.0%
	High Level 1	Count	40	465	505
		% within New ELA812 Sub Levels	7.9%	92.1%	100.0%
	Low Level 2	Count	95	679	774
		% within New ELA812 Sub Levels	12.3%	87.7%	100.0%
	Mid Level 2	Count	103	935	1038
		% within New ELA812 Sub Levels	9.9%	90.1%	100.0%
	High Level 2	Count	167	1297	1464
		% within New ELA812 Sub Levels	11.4%	88.6%	100.0%
	Low Level 3	Count	155	1076	1231
		% within New ELA812 Sub Levels	12.6%	87.4%	100.0%
	Mid Level 3	Count	149	1132	1281
		% within New ELA812 Sub Levels	11.6%	88.4%	100.0%
	High Level 3	Count	70	512	582
		% within New ELA812 Sub Levels	12.0%	88.0%	100.0%
	Low Level 4	Count	149	798	947
		% within New ELA812 Sub Levels	15.7%	84.3%	100.0%
	Mid Level 4	Count	82	384	466
		% within New ELA812 Sub Levels	17.6%	82.4%	100.0%
	High Level 4	Count	15	77	92
		% within New ELA812 Sub Levels	16.3%	83.7%	100.0%
Total		Count	1026	7376	8402
		% within New ELA812 Sub Levels	12.2%	87.8%	100.0%

Test of ELA-8 to Non Common Core English Regents Projections Students with Disabilities

New ELA812 Sub Levels * IEPELA11Pre Crosstabulation

			IEPELA11Pre		
			No	Yes	Total
New ELA812 Sub Levels	Low Level 1	Count	2	18	20
		% within New ELA812 Sub Levels	10.0%	90.0%	100.0%
	Mid Level 1	Count	43	315	358
		% within New ELA812 Sub Levels	12.0%	88.0%	100.0%
	High Level 1	Count	84	742	826
		% within New ELA812 Sub Levels	10.2%	89.8%	100.0%
	Low Level 2	Count	29	289	318
		% within New ELA812 Sub Levels	9.1%	90.9%	100.0%
	Mid Level 2	Count	26	190	216
		% within New ELA812 Sub Levels	12.0%	88.0%	100.0%
	High Level 2	Count	21	138	159
		% within New ELA812 Sub Levels	13.2%	86.8%	100.0%
	Low Level 3	Count	9	59	68
		% within New ELA812 Sub Levels	13.2%	86.8%	100.0%
	Mid Level 3	Count	6	37	43
		% within New ELA812 Sub Levels	14.0%	86.0%	100.0%
Total		Count	220	1788	2008
		% within New ELA812 Sub Levels	11.0%	89.0%	100.0%

Test of ELA-8 to Non Common Core English Regents Projections English Language Learners

New ELA812 Sub Levels * LEPELA11Pre Crosstabulation

			LEPELA11Pre		
			No	Yes	Total
New ELA812 Sub Levels	Low Level 1	Count	0	20	20
		% within New ELA812 Sub Levels	0.0%	100.0%	100.0%
	Mid Level 1	Count	20	115	135
		% within New ELA812 Sub Levels	14.8%	85.2%	100.0%
	High Level 1	Count	19	195	214
		% within New ELA812 Sub Levels	8.9%	91.1%	100.0%
	Low Level 2	Count	4	37	41
		% within New ELA812 Sub Levels	9.8%	90.2%	100.0%
	Mid Level 2	Count	2	16	18
		% within New ELA812 Sub Levels	11.1%	88.9%	100.0%
Total		Count	45	383	428
		% within New ELA812 Sub Levels	10.8%	89.2%	100.0%

Test of ELA-8 to Non Common Core English Regents Projections Low Income Students

New ELA812 Sub Levels * LowIncELA11Pre Crosstabulation

			LowIncELA11Pre		
			No	Yes	Total
New ELA812 Sub Levels	Low Level 1	Count	1	16	17
		% within New ELA812 Sub Levels	5.9%	94.1%	100.0%
	Mid Level 1	Count	39	290	329
		% within New ELA812 Sub Levels	11.9%	88.1%	100.0%
	High Level 1	Count	90	1018	1108
		% within New ELA812 Sub Levels	8.1%	91.9%	100.0%
	Low Level 2	Count	44	675	719
		% within New ELA812 Sub Levels	6.1%	93.9%	100.0%
	Mid Level 2	Count	67	544	611
		% within New ELA812 Sub Levels	11.0%	89.0%	100.0%
	High Level 2	Count	72	606	678
		% within New ELA812 Sub Levels	10.6%	89.4%	100.0%
	Low Level 3	Count	48	379	427
		% within New ELA812 Sub Levels	11.2%	88.8%	100.0%
	Mid Level 3	Count	23	288	311
		% within New ELA812 Sub Levels	7.4%	92.6%	100.0%
	High Level 3	Count	9	97	106
		% within New ELA812 Sub Levels	8.5%	91.5%	100.0%
	Low Level 4	Count	12	191	203
		% within New ELA812 Sub Levels	5.9%	94.1%	100.0%
	Mid Level 4	Count	6	59	65
		% within New ELA812 Sub Levels	9.2%	90.8%	100.0%
Total		Count	411	4163	4574
		% within New ELA812 Sub Levels	9.0%	91.0%	100.0%

Test of ELA-8 to Common Core English Regents Projections
Non-Status Students

New ELA812 Sub Levels * NOSTATELA11Pre Crosstabulation

			NOSTATELA11Pre		
			No	Yes	Total
New ELA812 Sub Levels	High Level 1	Count	16	87	103
		% within New ELA812 Sub Levels	15.5%	84.5%	100.0%
	Low Level 2	Count	23	131	154
		% within New ELA812 Sub Levels	14.9%	85.1%	100.0%
	Mid Level 2	Count	21	188	209
		% within New ELA812 Sub Levels	10.0%	90.0%	100.0%
	High Level 2	Count	29	263	292
		% within New ELA812 Sub Levels	9.9%	90.1%	100.0%
	Low Level 3	Count	25	267	292
		% within New ELA812 Sub Levels	8.6%	91.4%	100.0%
	Mid Level 3	Count	33	302	335
		% within New ELA812 Sub Levels	9.9%	90.1%	100.0%
	High Level 3	Count	13	138	151
		% within New ELA812 Sub Levels	8.6%	91.4%	100.0%
	Low Level 4	Count	34	307	341
		% within New ELA812 Sub Levels	10.0%	90.0%	100.0%
	Mid Level 4	Count	5	59	64
		% within New ELA812 Sub Levels	7.8%	92.2%	100.0%
Total		Count	199	1742	1941
		% within New ELA812 Sub Levels	10.3%	89.7%	100.0%

Test of ELA-8 to Common Core English Regents Projections
Students with Disabilities

New ELA812 Sub Levels * IEPELA11Pre Crosstabulation

			IEPELA11Pre		
			No	Yes	Total
New ELA812 Sub Levels	Mid Level 1	Count	7	47	54
		% within New ELA812 Sub Levels	13.0%	87.0%	100.0%
	High Level 1	Count	29	162	191
		% within New ELA812 Sub Levels	15.2%	84.8%	100.0%
	Low Level 2	Count	5	60	65
		% within New ELA812 Sub Levels	7.7%	92.3%	100.0%
	Mid Level 2	Count	4	57	61
		% within New ELA812 Sub Levels	6.6%	93.4%	100.0%
	High Level 2	Count	5	30	35
		% within New ELA812 Sub Levels	14.3%	85.7%	100.0%
	Low Level 3	Count	1	19	20
		% within New ELA812 Sub Levels	5.0%	95.0%	100.0%
Total		Count	51	375	426
		% within New ELA812 Sub Levels	12.0%	88.0%	100.0%

Test of ELA-8 to Common Core English Regents Projections
English Language Learners

New ELA812 Sub Levels * LEPELA11Pre Crosstabulation

			LEPELA11Pre		
			No	Yes	Total
New ELA812 Sub Levels	Mid Level 1	Count	3	18	21
		% within New ELA812 Sub Levels	14.3%	85.7%	100.0%
	High Level 1	Count	7	33	40
		% within New ELA812 Sub Levels	17.5%	82.5%	100.0%
Total		Count	10	51	61
		% within New ELA812 Sub Levels	16.4%	83.6%	100.0%

Test of ELA-8 to Common Core English Regents Projections
Low Income Students

New ELA812 Sub Levels * LowIncELA11Pre Crosstabulation

			LowIncELA11Pre		
			No	Yes	Total
New ELA812 Sub Levels	Mid Level 1	Count	10	40	50
		% within New ELA812 Sub Levels	20.0%	80.0%	100.0%
	High Level 1	Count	41	187	228
		% within New ELA812 Sub Levels	18.0%	82.0%	100.0%
	Low Level 2	Count	24	105	129
		% within New ELA812 Sub Levels	18.6%	81.4%	100.0%
	Mid Level 2	Count	22	98	120
		% within New ELA812 Sub Levels	18.3%	81.7%	100.0%
	High Level 2	Count	20	108	128
		% within New ELA812 Sub Levels	15.6%	84.4%	100.0%
	High Level 3	Count	8	56	64
		% within New ELA812 Sub Levels	12.5%	87.5%	100.0%
	Mid Level 3	Count	6	54	60
		% within New ELA812 Sub Levels	10.0%	90.0%	100.0%
	High Level 3	Count	4	25	29
		% within New ELA812 Sub Levels	13.8%	86.2%	100.0%
	Low Level 4	Count	6	49	55
		% within New ELA812 Sub Levels	10.9%	89.1%	100.0%
Total		Count	141	722	863
		% within New ELA812 Sub Levels	16.3%	83.7%	100.0%

Test of ELA-7 to Global History Regents Projections
Non-Status Students

New ELA712 Sub Levels * NOSTATELA7toGlobal10Pre Crosstabulation

			NOSTATELA7toGlobal10Pre		
			No	Yes	Total
New ELA712 Sub Levels	High Level 1	Count	98	513	611
		% within New ELA712 Sub Levels	16.0%	84.0%	100.0%
	Low Level 2	Count	130	631	761
		% within New ELA712 Sub Levels	17.1%	82.9%	100.0%
	Mid Level 2	Count	108	548	656
		% within New ELA712 Sub Levels	16.5%	83.5%	100.0%
	High Level 2	Count	241	1087	1328
		% within New ELA712 Sub Levels	18.1%	81.9%	100.0%
	Low Level 3	Count	288	1539	1827
		% within New ELA712 Sub Levels	15.8%	84.2%	100.0%
	Mid Level 3	Count	387	1562	1949
		% within New ELA712 Sub Levels	19.9%	80.1%	100.0%
	High Level 3	Count	232	973	1205
		% within New ELA712 Sub Levels	19.3%	80.7%	100.0%
	Low Level 4	Count	112	715	827
		% within New ELA712 Sub Levels	13.5%	86.5%	100.0%
	Mid Level 4	Count	32	205	237
		% within New ELA712 Sub Levels	13.5%	86.5%	100.0%
	High Level 4	Count	22	125	147
		% within New ELA712 Sub Levels	15.0%	85.0%	100.0%
Total		Count	1650	7898	9548
		% within New ELA712 Sub Levels	17.3%	82.7%	100.0%

Test of ELA-7 to Global History Regents Projections
Students with Disabilities

New ELA712 Sub Levels * IEPELA7toGlobal10Pre Crosstabulation

			IEPELA7toGlobal10Pre		
			No	Yes	Total
New ELA712 Sub Levels	Mid Level 1	Count	42	198	240
		% within New ELA712 Sub Levels	17.5%	82.5%	100.0%
	High Level 1	Count	229	977	1206
		% within New ELA712 Sub Levels	19.0%	81.0%	100.0%
	Low Level 2	Count	51	240	291
		% within New ELA712 Sub Levels	17.5%	82.5%	100.0%
	Mid Level 2	Count	20	99	119
		% within New ELA712 Sub Levels	16.8%	83.2%	100.0%
	High Level 2	Count	34	147	181
		% within New ELA712 Sub Levels	18.8%	81.2%	100.0%
	Low Level 3	Count	15	101	116
		% within New ELA712 Sub Levels	12.9%	87.1%	100.0%
	Mid Level 3	Count	9	54	63
		% within New ELA712 Sub Levels	14.3%	85.7%	100.0%
	High Level 3	Count	4	25	29
		% within New ELA712 Sub Levels	13.8%	86.2%	100.0%
Total		Count	404	1841	2245
		% within New ELA712 Sub Levels	18.0%	82.0%	100.0%

Test of ELA-7 to Global History Regents Projections
English Language Learners

New ELA712 Sub Levels * ELLELA7toGlobal10Pre Crosstabulation

			ELLELA7toGlobal10Pre		
			No	Yes	Total
New ELA712 Sub Levels	Mid Level 1	Count	13	86	99
		% within New ELA712 Sub Levels	13.1%	86.9%	100.0%
	High Level 1	Count	63	297	360
		% within New ELA712 Sub Levels	17.5%	82.5%	100.0%
	Low Level 2	Count	8	47	55
		% within New ELA712 Sub Levels	14.5%	85.5%	100.0%
	Mid Level 2	Count	4	21	25
		% within New ELA712 Sub Levels	16.0%	84.0%	100.0%
Total		Count	88	451	539
		% within New ELA712 Sub Levels	16.3%	83.7%	100.0%

Test of ELA-8 to Global History Regents Projections
Low Income Students

New ELA712 Sub Levels * LowIncELA7toGlobal10Pre Crosstabulation

			LowIncELA7toGlobal10Pre		
			No	Yes	Total
New ELA712 Sub Levels	Mid Level 1	Count	30	161	191
		% within New ELA712 Sub Levels	15.7%	84.3%	100.0%
	High Level 1	Count	287	1232	1519
		% within New ELA712 Sub Levels	18.9%	81.1%	100.0%
	Low Level 2	Count	118	550	668
		% within New ELA712 Sub Levels	17.7%	82.3%	100.0%
	Mid Level 2	Count	78	341	419
		% within New ELA712 Sub Levels	18.6%	81.4%	100.0%
	High Level 2	Count	128	575	703
		% within New ELA712 Sub Levels	18.2%	81.8%	100.0%
	Low Level 3	Count	121	569	690
		% within New ELA712 Sub Levels	17.5%	82.5%	100.0%
	Mid Level 3	Count	103	443	546
		% within New ELA712 Sub Levels	18.9%	81.1%	100.0%
	High Level 3	Count	33	202	235
		% within New ELA712 Sub Levels	14.0%	86.0%	100.0%
	Low Level 4	Count	17	123	140
		% within New ELA712 Sub Levels	12.1%	87.9%	100.0%
	Mid Level 4	Count	1	21	22
		% within New ELA712 Sub Levels	4.5%	95.5%	100.0%
Total		Count	916	4217	5133
		% within New ELA712 Sub Levels	17.8%	82.2%	100.0%

Test of ELA-8 to Global History Regents Projections
Non-Status Students

New ELA812 Sub Levels * NOSTATELA8toGlobal10Pre Crosstabulation

			NOSTATELA8toGlobal10Pre		
			No	Yes	Total
New ELA812 Sub Levels	High Level 1	Count	114	460	574
		% within New ELA812 Sub Levels	19.9%	80.1%	100.0%
	Low Level 2	Count	123	680	803
		% within New ELA812 Sub Levels	15.3%	84.7%	100.0%
	Mid Level 2	Count	175	939	1114
		% within New ELA812 Sub Levels	15.7%	84.3%	100.0%
	High Level 2	Count	283	1240	1523
		% within New ELA812 Sub Levels	18.6%	81.4%	100.0%
	Low Level 3	Count	255	1130	1385
		% within New ELA812 Sub Levels	18.4%	81.6%	100.0%
	Mid Level 3	Count	238	1191	1429
		% within New ELA812 Sub Levels	16.7%	83.3%	100.0%
	High Level 3	Count	162	728	890
		% within New ELA812 Sub Levels	18.2%	81.8%	100.0%
	Low Level 4	Count	208	1143	1351
		% within New ELA812 Sub Levels	15.4%	84.6%	100.0%
	Mid Level 4	Count	53	373	426
		% within New ELA812 Sub Levels	12.4%	87.6%	100.0%
	High Level 4	Count	0	20	20
		% within New ELA812 Sub Levels	0.0%	100.0%	100.0%
Total		Count	1611	7903	9515
		% within New ELA812 Sub Levels	16.9%	83.1%	100.0%

Test of ELA-8 to Global History Regents Projections
Students with Disabilities

New ELA812 Sub Levels * IEPELA8toGlobal10Pre Crosstabulation

			IEPELA8toGlobal10Pre		
			No	Yes	Total
New ELA812 Sub Levels	Low Level 1	Count	4	19	23
		% within New ELA812 Sub Levels	17.4%	82.6%	100.0%
	Mid Level 1	Count	55	231	286
		% within New ELA812 Sub Levels	19.2%	80.8%	100.0%
	High Level 1	Count	173	833	1006
		% within New ELA812 Sub Levels	17.2%	82.8%	100.0%
	Low Level 2	Count	58	291	349
		% within New ELA812 Sub Levels	16.6%	83.4%	100.0%
	Mid Level 2	Count	39	210	249
		% within New ELA812 Sub Levels	15.7%	84.3%	100.0%
	High Level 2	Count	28	136	164
		% within New ELA812 Sub Levels	17.1%	82.9%	100.0%
	Low Level 3	Count	5	83	88
		% within New ELA812 Sub Levels	5.7%	94.3%	100.0%
	Mid Level 3	Count	12	56	68
		% within New ELA812 Sub Levels	17.6%	82.4%	100.0%
	High Level 3	Count	1	26	27
		% within New ELA812 Sub Levels	3.7%	96.3%	100.0%
	Low Level 4	Count	4	27	31
		% within New ELA812 Sub Levels	12.9%	87.1%	100.0%
Total		Count	379	1912	2291
		% within New ELA812 Sub Levels	16.5%	83.5%	100.0%

Test of ELA-8 to Global History Regents Projections
English Language Learners

New ELA812 Sub Levels * ELLELA8toGlobal10Pre Crosstabulation

			ELLELA8toGlobal10Pre		
			No	Yes	Total
New ELA812 Sub Levels	Mid Level 1	Count	13	90	103
		% within New ELA812 Sub Levels	12.6%	87.4%	100.0%
	High Level 1	Count	51	279	330
		% within New ELA812 Sub Levels	15.5%	84.5%	100.0%
	Low Level 2	Count	15	95	110
		% within New ELA812 Sub Levels	13.6%	86.4%	100.0%
	Mid Level 2	Count	7	50	57
		% within New ELA812 Sub Levels	12.3%	87.7%	100.0%
	High Level 2	Count	3	21	24
		% within New ELA812 Sub Levels	12.5%	87.5%	100.0%
Total		Count	89	535	624
		% within New ELA812 Sub Levels	14.3%	85.7%	100.0%

Test of ELA-8 to Global History Regents Projections
Low Income Students

New ELA812 Sub Levels * LowIncELA8toGlobal10Pre Crosstabulation

			LowIncELA8toGlobal10Pre		
			No	Yes	Total
New ELA812 Sub Levels	Mid Level 1	Count	48	206	254
		% within New ELA812 Sub Levels	18.9%	81.1%	100.0%
	High Level 1	Count	226	1136	1362
		% within New ELA812 Sub Levels	16.6%	83.4%	100.0%
	Low Level 2	Count	168	715	883
		% within New ELA812 Sub Levels	19.0%	81.0%	100.0%
	Mid Level 2	Count	141	618	759
		% within New ELA812 Sub Levels	18.6%	81.4%	100.0%
	High Level 2	Count	127	605	732
		% within New ELA812 Sub Levels	17.3%	82.7%	100.0%
	Low Level 3	Count	94	439	533
		% within New ELA812 Sub Levels	17.6%	82.4%	100.0%
	Mid Level 3	Count	81	329	410
		% within New ELA812 Sub Levels	19.8%	80.2%	100.0%
	High Level 3	Count	33	161	194
		% within New ELA812 Sub Levels	17.0%	83.0%	100.0%
	Low Level 4	Count	43	176	219
		% within New ELA812 Sub Levels	19.6%	80.4%	100.0%
	Mid Level 4	Count	3	47	50
		% within New ELA812 Sub Levels	6.0%	94.0%	100.0%
Total		Count	964	4432	5396
		% within New ELA812 Sub Levels	17.9%	82.1%	100.0%

Test of Global History Regents to Common Core English Projections
Non-Status Students

Global History Gr1014 Sub-Levels * GlobtoNOSTATELA11Pre Crosstabulation

			GlobtoNOSTATELA11Pre		
			No	Yes	Total
Global History Gr1014 Sub-Levels	High Level 1	Count	4	18	22
		% within Global History Gr1014 Sub-Levels	18.2%	81.8%	100.0%
	Low Level 2	Count	1	14	15
		% within Global History Gr1014 Sub-Levels	6.7%	93.3%	100.0%
	Mid Level 2	Count	1	20	21
		% within Global History Gr1014 Sub-Levels	4.8%	95.2%	100.0%
	High Level 2	Count	3	18	21
		% within Global History Gr1014 Sub-Levels	14.3%	85.7%	100.0%
	Low Level 3	Count	27	108	135
		% within Global History Gr1014 Sub-Levels	20.0%	80.0%	100.0%
	Mid Level 3	Count	33	198	231
		% within Global History Gr1014 Sub-Levels	14.3%	85.7%	100.0%
	High Level 3	Count	47	190	237
		% within Global History Gr1014 Sub-Levels	19.8%	80.2%	100.0%
	Low Level 4	Count	37	279	316
		% within Global History Gr1014 Sub-Levels	11.7%	88.3%	100.0%
	Mid Level 4	Count	29	316	345
		% within Global History Gr1014 Sub-Levels	8.4%	91.6%	100.0%
	High Level 4	Count	69	620	689
		% within Global History Gr1014 Sub-Levels	10.0%	90.0%	100.0%
Total		Count	251	1781	2032
		% within Global History Gr1014 Sub-Levels	12.4%	87.6%	100.0%

Test of Global History Regents to Common Core English Projections
Students with Disabilities

Global History Gr1014 Sub-Levels * GlobtoIEPELA11Pre Crosstabulation

			GlobtoIEPELA11Pre		
			No	Yes	Total
Global History Gr1014 Sub-Levels	Mid Level 1	Count	3	29	32
		% within Global History Gr1014 Sub-Levels	9.4%	90.6%	100.0%
	High Level 1	Count	9	71	80
		% within Global History Gr1014 Sub-Levels	11.3%	88.8%	100.0%
	Low Level 2	Count	2	21	23
		% within Global History Gr1014 Sub-Levels	8.7%	91.3%	100.0%
	Mid Level 2	Count	2	36	38
		% within Global History Gr1014 Sub-Levels	5.3%	94.7%	100.0%
	High Level 2	Count	6	25	31
		% within Global History Gr1014 Sub-Levels	19.4%	80.6%	100.0%
	Low Level 3	Count	15	63	78
		% within Global History Gr1014 Sub-Levels	19.2%	80.8%	100.0%
	Mid Level 3	Count	6	54	60
		% within Global History Gr1014 Sub-Levels	10.0%	90.0%	100.0%
	High Level 3	Count	8	40	48
		% within Global History Gr1014 Sub-Levels	16.7%	83.3%	100.0%
	Low Level 4	Count	8	38	46
		% within Global History Gr1014 Sub-Levels	17.4%	82.6%	100.0%
	Mid Level 4	Count	1	19	20
		% within Global History Gr1014 Sub-Levels	5.0%	95.0%	100.0%
Total		Count	60	396	456
		% within Global History Gr1014 Sub-Levels	13.2%	86.8%	100.0%

Test of Global History Regents to Common Core English Projections
English Language Learners

Global History Gr1014 Sub-Levels * GlobtoLEP11Pre Crosstabulation

			GlobtoLEP11Pre		
			No	Yes	Total
Global History Gr1014 Sub-Levels	High Level 1	Count	2	20	22
		% within Global History Gr1014 Sub-Levels	9.1%	90.9%	100.0%
	Low Level 3	Count	4	21	25
		% within Global History Gr1014 Sub-Levels	16.0%	84.0%	100.0%
Total		Count	6	41	47
		% within Global History Gr1014 Sub-Levels	12.8%	87.2%	100.0%

Test of Global History Regents to Common Core English Projections
Low Income Students

Global History Gr1014 Sub-Levels * GlobtoLowInc11Pre Crosstabulation

			GlobtoLowInc11Pre		
			No	Yes	Total
Global History Gr1014 Sub-Levels	Mid Level 1	Count	5	29	34
		% within Global History Gr1014 Sub-Levels	14.7%	85.3%	100.0%
	High Level 1	Count	18	111	129
		% within Global History Gr1014 Sub-Levels	14.0%	86.0%	100.0%
	Low Level 2	Count	4	26	30
		% within Global History Gr1014 Sub-Levels	13.3%	86.7%	100.0%
	Mid Level 2	Count	6	53	59
		% within Global History Gr1014 Sub-Levels	10.2%	89.8%	100.0%
	High Level 2	Count	6	25	31
		% within Global History Gr1014 Sub-Levels	19.4%	80.6%	100.0%
	Low Level 3	Count	26	130	156
		% within Global History Gr1014 Sub-Levels	16.7%	83.3%	100.0%
	Mid Level 3	Count	28	129	157
		% within Global History Gr1014 Sub-Levels	17.8%	82.2%	100.0%
	High Level 3	Count	16	90	106
		% within Global History Gr1014 Sub-Levels	15.1%	84.9%	100.0%
	Low Level 4	Count	11	67	78
		% within Global History Gr1014 Sub-Levels	14.1%	85.9%	100.0%
	Mid Level 4	Count	8	74	82
		% within Global History Gr1014 Sub-Levels	9.8%	90.2%	100.0%
	High Level 4	Count	7	78	85
		% within Global History Gr1014 Sub-Levels	8.2%	91.8%	100.0%
Total		Count	135	812	947
		% within Global History Gr1014 Sub-Levels	14.3%	85.7%	100.0%

Test of Global History Regents to United States History Projections Non-Status Students

Global History Gr1014 Sub-Levels * NOSTATGlobtoUSHistPre Crosstabulation

			NOSTATGlobtoUSHistPre		
			No	Yes	Total
Global History Gr1014 Sub-Levels	High Level 1	Count	20	137	157
		% within Global History Gr1014 Sub-Levels	12.7%	87.3%	100.0%
	Low Level 2	Count	4	71	75
		% within Global History Gr1014 Sub-Levels	5.3%	94.7%	100.0%
	Mid Level 2	Count	20	105	125
		% within Global History Gr1014 Sub-Levels	16.0%	84.0%	100.0%
	High Level 2	Count	13	95	108
		% within Global History Gr1014 Sub-Levels	12.0%	88.0%	100.0%
	Low Level 3	Count	103	590	693
		% within Global History Gr1014 Sub-Levels	14.9%	85.1%	100.0%
	Mid Level 3	Count	185	910	1095
		% within Global History Gr1014 Sub-Levels	16.9%	83.1%	100.0%
	High Level 3	Count	252	1010	1262
		% within Global History Gr1014 Sub-Levels	20.0%	80.0%	100.0%
	Low Level 4	Count	184	1470	1654
		% within Global History Gr1014 Sub-Levels	11.1%	88.9%	100.0%
	Mid Level 4	Count	153	1614	1767
		% within Global History Gr1014 Sub-Levels	8.7%	91.3%	100.0%
	High Level 4	Count	199	2961	3160
		% within Global History Gr1014 Sub-Levels	6.3%	93.7%	100.0%
Total		Count	1133	8963	10096
		% within Global History Gr1014 Sub-Levels	11.2%	88.8%	100.0%

Test of Global History Regents to United States History Projections Students with Disabilities

Global History Gr1014 Sub-Levels * IEPGlobtoUSHistPre Crosstabulation

			IEPGlobtoUSHistPre		
			No	Yes	Total
Global History Gr1014 Sub-Levels	Mid Level 1	Count	19	90	109
		% within Global History Gr1014 Sub-Levels	17.4%	82.6%	100.0%
	High Level 1	Count	73	294	367
		% within Global History Gr1014 Sub-Levels	19.9%	80.1%	100.0%
	Low Level 2	Count	19	77	96
		% within Global History Gr1014 Sub-Levels	19.8%	80.2%	100.0%
	Mid Level 2	Count	26	137	163
		% within Global History Gr1014 Sub-Levels	16.0%	84.0%	100.0%
	High Level 2	Count	13	90	103
		% within Global History Gr1014 Sub-Levels	12.6%	87.4%	100.0%
	Low Level 3	Count	71	323	394
		% within Global History Gr1014 Sub-Levels	18.0%	82.0%	100.0%
	Mid Level 3	Count	65	269	334
		% within Global History Gr1014 Sub-Levels	19.5%	80.5%	100.0%
	High Level 3	Count	48	214	262
		% within Global History Gr1014 Sub-Levels	18.3%	81.7%	100.0%
	Low Level 4	Count	25	157	182
		% within Global History Gr1014 Sub-Levels	13.7%	86.3%	100.0%
	Mid Level 4	Count	9	114	123
		% within Global History Gr1014 Sub-Levels	7.3%	92.7%	100.0%
	High Level 4	Count	5	100	105
		% within Global History Gr1014 Sub-Levels	4.8%	95.2%	100.0%
Total		Count	373	1865	2238
		% within Global History Gr1014 Sub-Levels	16.7%	83.3%	100.0%

Test of Global History Regents to United States History Projections English Language Learners

Global History Gr1014 Sub-Levels * ELLGlobtoUSHistPre Crosstabulation

			ELLGlobtoUSHistPre		
			No	Yes	Total
Global History Gr1014 Sub-Levels	Mid Level 1	Count	3	24	27
		% within Global History Gr1014 Sub-Levels	11.1%	88.9%	100.0%
	High Level 1	Count	18	94	112
		% within Global History Gr1014 Sub-Levels	16.1%	83.9%	100.0%
	Low Level 2	Count	5	23	28
		% within Global History Gr1014 Sub-Levels	17.9%	82.1%	100.0%
	Mid Level 2	Count	10	42	52
		% within Global History Gr1014 Sub-Levels	19.2%	80.8%	100.0%
	High Level 2	Count	3	22	25
		% within Global History Gr1014 Sub-Levels	12.0%	88.0%	100.0%
	Low Level 3	Count	22	101	123
		% within Global History Gr1014 Sub-Levels	17.9%	82.1%	100.0%
	Mid Level 3	Count	17	69	86
		% within Global History Gr1014 Sub-Levels	19.8%	80.2%	100.0%
	High Level 3	Count	11	48	59
		% within Global History Gr1014 Sub-Levels	18.6%	81.4%	100.0%
	Low Level 4	Count	7	32	39
		% within Global History Gr1014 Sub-Levels	17.9%	82.1%	100.0%
	Mid Level 4	Count	1	21	22
		% within Global History Gr1014 Sub-Levels	4.5%	95.5%	100.0%
	High Level 4	Count	0	23	23
		% within Global History Gr1014 Sub-Levels	0.0%	100.0%	100.0%
Total		Count	97	499	596
		% within Global History Gr1014 Sub-Levels	16.3%	83.7%	100.0%

Test of Global History Regents to United States History Projections Low Income Students

Global History Gr1014 Sub-Levels * LowIncGlobtoUSHistPre Crosstabulation

			LowIncGlobtoUSHistPre		
			No	Yes	Total
Global History Gr1014 Sub-Levels	Mid Level 1	Count	23	94	117
		% within Global History Gr1014 Sub-Levels	19.7%	80.3%	100.0%
	High Level 1	Count	79	410	489
		% within Global History Gr1014 Sub-Levels	16.2%	83.8%	100.0%
	Low Level 2	Count	24	104	128
		% within Global History Gr1014 Sub-Levels	18.8%	81.3%	100.0%
	Mid Level 2	Count	45	226	271
		% within Global History Gr1014 Sub-Levels	16.6%	83.4%	100.0%
	High Level 2	Count	28	130	158
		% within Global History Gr1014 Sub-Levels	17.7%	82.3%	100.0%
	Low Level 3	Count	116	726	842
		% within Global History Gr1014 Sub-Levels	13.8%	86.2%	100.0%
	Mid Level 3	Count	135	691	826
		% within Global History Gr1014 Sub-Levels	16.3%	83.7%	100.0%
	High Level 3	Count	144	580	724
		% within Global History Gr1014 Sub-Levels	19.9%	80.1%	100.0%
	Low Level 4	Count	99	550	649
		% within Global History Gr1014 Sub-Levels	15.3%	84.7%	100.0%
	Mid Level 4	Count	58	489	547
		% within Global History Gr1014 Sub-Levels	10.6%	89.4%	100.0%
	High Level 4	Count	40	618	658
		% within Global History Gr1014 Sub-Levels	6.1%	93.9%	100.0%
Total		Count	791	4618	5409
		% within Global History Gr1014 Sub-Levels	14.6%	85.4%	100.0%

Identifying Correlations – Science

After computing leveled Percentile Scale Scores for each of the science tests from grade 8 to grade 12 using the SPSS Modeler, the next step in identifying the degree of correlation between the Science 8 test results and following Living Environment and Earth Science Regents scores in grades9 and 10 was an ordinal correlation analysis of student position within performance levels on student performance on the first and following tests. A similar analysis was conducted on the connection between sub-level performance on grade 9 and 10 Earth Science and Living Environment Regents for students who went on to the grade 11 Chemistry Regents. This tabular analysis indicated that student performance levels on following tests were significantly aligned with prior performance levels.

The cross-tabular analysis of the connections between Science-8, Living Environment, Earth Science, Chemistry and Physics indicates that there are many different paths that students take through these science courses. Nearly a third of students are advanced placed into grade 8 Earth Science or grade 8 Living Environment. Although most students take the Science-8, advanced placed students generally do not. Approximately half of Suffolk Country district sequence students through Earth Science first, then Living Environment with many students going on to Chemistry and a much smaller number continuing to Physics. Additionally, nearly half of Suffolk County districts begin their Science Regents sequence with Living Environment followed by Earth Science, then Chemistry and Physics. Nine different paths through Science courses from grade 8 to grade 12 were identified and each of these paths have an impact on the correlation of scores and generate different projections for future performance. The analysis indicates that the most important factor in projecting future performance on any of the Science Regents tests is the Regents test that immediately preceded the current Regents.

Factor Analysis – Science-8 to Earth Science

Next, a factor analysis was conducted to explore the correlations of student scores on the Science-8assessments and both the following Earth Science and Living Environment Regents. The following correlation analysis indicated that Science-8 scores are highly correlated with Earth Science scores. There were 3,958 students who took the 2012 Science-8 Assessment followed by the 2013 Earth Science Regents in grade 9.

Correlation Matrix

		New SCI812 Level P-Score	Earth Science913 Level P-Score
Correlation	New SCI812 Level P-Score	1.000	.756
	Earth Science913 Level P-Score	.756	1.000
Sig. (1-tailed)	New SCI812 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

Communalities

	Initial	Extraction
New SCI812 Level P-Score	1.000	.878
Earth Science913 Level P-Score	1.000	.878

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.756	87.794	87.794	1.756	87.794	87.794
2	.244	12.206	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis – Science-8 to Living Environment

The following correlation analysis indicated that Science-8 scores are also highly correlated with Living Environment scores. There were 4,782 students who took the 2012 Science-8 Assessment followed by the 2013 Living Environment Regents in grade 9.

[DataSet1] F:\ESBOCES\2015-16\RCA2011to2015ELA&Science.sav

Correlation Matrix

		New SCI812 Level P-Score	Living Environment913 Level P-Score
Correlation	New SCI812 Level P-Score	1.000	.813
	Living Environment913 Level P-Score	.813	1.000
Sig. (1-tailed)	New SCI812 Level P-Score		.000
	Living Environment913 Level P-Score	.000	

Communalities

	Initial	Extraction
New SCI812 Level P-Score	1.000	.906
Living Environment913 Level P-Score	1.000	.906

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.813	90.632	90.632	1.813	90.632	90.632
2	.187	9.368	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis – Earth Science to Living Environment

The following correlation analysis indicated that Living Environment and Earth Science scores are highly correlated. There were 6,038 students who took the Earth Science Regents in grade 9 in 2013 followed by the Living Environment in grade 10. The level of correlation is high for both paths.

Correlation Matrix

		Living Environment1014 Level P-Score	Earth Science913 Level P-Score
Correlation	Living Environment1014 Level P-Score	1.000	.730
	Earth Science913 Level P-Score	.730	1.000
Sig. (1-tailed)	Living Environment1014 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

Communalities

	Initial	Extraction
Living Environment1014 Level P-Score	1.000	.865
Earth Science913 Level P-Score	1.000	.865

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.730	86.509	86.509	1.730	86.509	86.509
2	.270	13.491	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis – Living Environment to Earth Science

Living Environment performance is also highly correlated with Earth Science performance when it is taken first. There were 3,598 students took the 2013 Living Environment Regents test in grade 9 followed by the Earth Science Regents in grade 10.

Correlation Matrix

		Living Environment913 Level P-Score	Earth Science1014 Level P-Score
Correlation	Living Environment913 Level P-Score	1.000	.715
	Earth Science1014 Level P-Score	.715	1.000
Sig. (1-tailed)	Living Environment913 Level P-Score		.000
	Earth Science1014 Level P-Score	.000	

Communalities

	Initial	Extraction
Living Environment913 Level P-Score	1.000	.857
Earth Science1014 Level P-Score	1.000	.857

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.715	85.727	85.727	1.715	85.727	85.727
2	.285	14.273	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis – Living Environment to Chemistry

Living Environment and Earth Science are both correlated highly with Chemistry. 3,770 Suffolk County students as took Living Environment in grade 10 in 2014 followed by Chemistry in grade 11.

Correlation Matrix

		Living Environment1014 Level P-Score	Chemistry1115 Level P-Score
Correlation	Living Environment1014 Level P-Score	1.000	.687
	Chemistry1115 Level P-Score	.687	1.000
Sig. (1-tailed)	Living Environment1014 Level P-Score		.000
	Chemistry1115 Level P-Score	.000	

Communalities

	Initial	Extraction
Living Environment1014 Level P-Score	1.000	.793
Chemistry1115 Level P-Score	1.000	.793

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.587	79.349	79.349	1.587	79.349	79.349
2	.413	20.651	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis – Earth Science to Chemistry

Smaller, although a significant number of students took the Earth Science just before the Chemistry Regents. 1,896 students took Earth Science in grade 9 followed by Chemistry in grade 10. Fewer students took Earth Science in grade 10 followed by Chemistry in grade 11. Presented below are the grade 9 Earth Science to grade 10 Chemistry correlation matrix.

[DataSet1] F:\ESBOCES\2015-16\RCA2011to2015ELA&Science.sav

Correlation Matrix

		Chemistry1014 Level P-Score	Earth Science913 Level P-Score
Correlation	Chemistry1014 Level P-Score	1.000	.682
	Earth Science913 Level P-Score	.682	1.000
Sig. (1-tailed)	Chemistry1014 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

Communalities

	Initial	Extraction
Chemistry1014 Level P-Score	1.000	.841
Earth Science913 Level P-Score	1.000	.841

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.682	84.124	84.124	1.682	84.124	84.124
2	.318	15.876	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis –Chemistry to Physics

Fewer students went on to take Physics after taking Chemistry. A new file was used to identify students who took Physics in 2015 who had taken Chemistry in the prior two years. There were 6,902 students took Chemistry in grade 10 or 11 followed by Physics in 2015. Correlations between the two tests are strong. Below is the grade correlation matrix for Chemistry followed by Physics.

Correlation Matrix

		Chemistry1115 Level P-Score	Physics15 Level P-Score
Correlation	Chemistry1115 Level P-Score	1.000	.715
	Physics15 Level P-Score	.715	1.000
Sig. (1-tailed)	Chemistry1115 Level P-Score		.000
	Physics15 Level P-Score	.000	

Communalities

	Initial	Extraction
Chemistry1115 Level P-Score	1.000	.857
Physics15 Level P-Score	1.000	.857

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.715	85.736	85.736	1.715	85.736	85.736
2	.285	14.264	100.000			

Extraction Method: Principal Component Analysis.

Partial Correlation Analysis – Science-8, Earth Science, Living Environment, Chemistry and Physics

Although the initial analysis of the relationship between Science tests indicated that they were strongly related, the next step was to test this relationship among students with special statuses. A partial correlation analysis was done to evaluate the strength of the relatedness of Science scores among Students with Disabilities (SWD), Limited English Proficient students/English language Learners (LEP/ELL) and Low Income students. The following SPSS Modeler analysis tables indicate that the relationship between the Science-8 and following Earth Science scores is quite strong for all status groups. There were 1,011 disabled students who took both the Science-8 and the Earth Science Regents in grade 9. There were 205 English Language Learners who took both the Science-8 and the grade 9 Earth Science Regents. There were 2,481 low-income students who took the Science-8 in 2010 and the Earth Science Regents in grade 9. The following partial correlation matrix tables indicate that the correlation between these two tests holds for all status groups.

Science-8 to the Grade 9 Earth Science Regents among Students with Disabilities

Correlation Matrix[a]

		New SCI812 Level P-Score	Earth Science913 Level P-Score
Correlation	New SCI812 Level P-Score	1.000	.718
	Earth Science913 Level P-Score	.718	1.000
Sig. (1-tailed)	New SCI812 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New SCI812 Level P-Score	1.000	.859
Earth Science913 Level P-Score	1.000	.859

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.718	85.877	85.877	1.718	85.877	85.877
2	.282	14.123	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Science-8 to the Grade 9 Earth Science Regents among English Language Learners

Correlation Matrix[a]

		New SCI812 Level P-Score	Earth Science913 Level P-Score
Correlation	New SCI812 Level P-Score	1.000	.631
	Earth Science913 Level P-Score	.631	1.000
Sig. (1-tailed)	New SCI812 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New SCI812 Level P-Score	1.000	.816
Earth Science913 Level P-Score	1.000	.816

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.631	81.562	81.562	1.631	81.562	81.562
2	.369	18.438	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Science-8 to the Grade 9 Earth Science Regents among Low Income Students

Correlation Matrix[a]

		New SCI812 Level P-Score	Earth Science913 Level P-Score
Correlation	New SCI812 Level P-Score	1.000	.743
	Earth Science913 Level P-Score	.743	1.000
Sig. (1-tailed)	New SCI812 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New SCI812 Level P-Score	1.000	.871
Earth Science913 Level P-Score	1.000	.871

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.743	87.144	87.144	1.743	87.144	87.144
2	.257	12.856	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Science-8 to the Grade 9 Living Environment Regents among Students with Disabilities

The following SPSS Modeler analysis tables indicate that the relationship between the Science-8 and following Living Environment scores is quite strong for all status groups. There were 978 disabled students who took both the Science-8 and the Living Environment Regents in grade 9. There were 229 English Language Learners who took both the Science-8 and the grade 9 Living Environment Regents. There were 2,243 low-income students who took the Science-8 in 2010 and the Living Environment Regents in grade 9. The following partial correlation matrix tables indicate that the correlation between these two tests holds for all status groups and are stronger than the correlations between Science-8 and Living Environment Regents for these status groups.

Correlation Matrix[a]

		New SCI812 Level P-Score	Living Environment913 Level P-Score
Correlation	New SCI812 Level P-Score	1.000	.732
	Living Environment913 Level P-Score	.732	1.000
Sig. (1-tailed)	New SCI812 Level P-Score		.000
	Living Environment913 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New SCI812 Level P-Score	1.000	.866
Living Environment913 Level P-Score	1.000	.866

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.732	86.613	86.613	1.732	86.613	86.613
2	.268	13.387	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Science-8 to the Grade 9 Living Environment Regents among English Language Learners

Correlation Matrix[a]

		New SCI812 Level P-Score	Living Environment913 Level P-Score
Correlation	New SCI812 Level P-Score	1.000	.693
	Living Environment913 Level P-Score	.693	1.000
Sig. (1-tailed)	New SCI812 Level P-Score		.000
	Living Environment913 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New SCI812 Level P-Score	1.000	.846
Living Environment913 Level P-Score	1.000	.846

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.693	84.647	84.647	1.693	84.647	84.647
2	.307	15.353	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Science-8 to the Grade 9 Living Environment Regents among Low Income Students

Correlation Matrix[a]

		New SCI812 Level P-Score	Living Environment913 Level P-Score
Correlation	New SCI812 Level P-Score	1.000	.793
	Living Environment913 Level P-Score	.793	1.000
Sig. (1-tailed)	New SCI812 Level P-Score		.000
	Living Environment913 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New SCI812 Level P-Score	1.000	.896
Living Environment913 Level P-Score	1.000	.896

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.793	89.633	89.633	1.793	89.633	89.633
2	.207	10.367	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Grade 9 Earth Science to Grade 10 Living Environment Regents among Students with Disabilities

The following SPSS Modeler analysis tables indicate that the relationship between the grade 9 Earth Science and following Living Environment scores is quite strong for all status groups. There were 935 disabled students who took both the grade 9 Earth Science and the Living Environment Regents in grade 10. There were 201English Language Learners who took both the Earth Science in grade 9 and the grade 10 Living Environment Regents. There were 2,161 low-income students who took the Earth Science Regents in grade 9 and the Living Environment Regents in grade 10. The following partial correlation matrix tables indicate that the correlation between these two tests holds for all status groups.

Correlation Matrix[a]

		Living Environment1014 Level P-Score	Earth Science913 Level P-Score
Correlation	Living Environment1014 Level P-Score	1.000	.732
	Earth Science913 Level P-Score	.732	1.000
Sig. (1-tailed)	Living Environment1014 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Living Environment1014 Level P-Score	1.000	.866
Earth Science913 Level P-Score	1.000	.866

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.732	86.623	86.623	1.732	86.623	86.623
2	.268	13.377	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Grade 9 Earth Science to Grade 10 Living Environment Regents among English Language Learners

Correlation Matrix[a]

		Living Environment1014 Level P-Score	Earth Science913 Level P-Score
Correlation	Living Environment1014 Level P-Score	1.000	.621
	Earth Science913 Level P-Score	.621	1.000
Sig. (1-tailed)	Living Environment1014 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Living Environment1014 Level P-Score	1.000	.811
Earth Science913 Level P-Score	1.000	.811

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.621	81.053	81.053	1.621	81.053	81.053
2	.379	18.947	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Grade 9 Earth Science to Grade 10 Living Environment Regents among Low Income Students

Correlation Matrix[a]

		Living Environment1014 Level P-Score	Earth Science913 Level P-Score
Correlation	Living Environment1014 Level P-Score	1.000	.705
	Earth Science913 Level P-Score	.705	1.000
Sig. (1-tailed)	Living Environment1014 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Living Environment1014 Level P-Score	1.000	.852
Earth Science913 Level P-Score	1.000	.852

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.705	85.232	85.232	1.705	85.232	85.232
2	.295	14.768	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Grade 9 Living Environment to Grade 10 Earth Science Regents among Students with Disabilities

The following SPSS Modeler analysis tables indicate that the relationship between the grade 9 Living Environment and following Earth Science scores is quite strong for all status groups. There were 713 disabled students who took both the grade 9 Living Environment Regents and the Earth Science Regents in grade 10. There were 162 English Language Learners who took both the Living Environment Regents in grade 9 and the grade 10 Earth Science Regents. There were 1,557 low-income students who took the Living Environment Regents in grade 9 and the Earth Science Regents in grade 10. The following partial correlation matrix tables indicate that the correlation between these two tests holds for all status groups.

Correlation Matrix[a]

		Living Environment913 Level P-Score	Earth Science1014 Level P-Score
Correlation	Living Environment913 Level P-Score	1.000	.696
	Earth Science1014 Level P-Score	.696	1.000
Sig. (1-tailed)	Living Environment913 Level P-Score		.000
	Earth Science1014 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Living Environment913 Level P-Score	1.000	.848
Earth Science1014 Level P-Score	1.000	.848

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.696	84.779	84.779	1.696	84.779	84.779
2	.304	15.221	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Grade 9 Living Environment to Grade 10 Earth Science Regents among English Language Learners

Correlation Matrix[a]

		Living Environment913 Level P-Score	Earth Science1014 Level P-Score
Correlation	Living Environment913 Level P-Score	1.000	.679
	Earth Science1014 Level P-Score	.679	1.000
Sig. (1-tailed)	Living Environment913 Level P-Score		.000
	Earth Science1014 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Living Environment913 Level P-Score	1.000	.840
Earth Science1014 Level P-Score	1.000	.840

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.679	83.965	83.965	1.679	83.965	83.965
2	.321	16.035	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Grade 9 Living Environment to Grade 10 Earth Science Regents among Low Income Students

Correlation Matrix[a]

		Living Environment913 Level P-Score	Earth Science1014 Level P-Score
Correlation	Living Environment913 Level P-Score	1.000	.695
	Earth Science1014 Level P-Score	.695	1.000
Sig. (1-tailed)	Living Environment913 Level P-Score		.000
	Earth Science1014 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Living Environment913 Level P-Score	1.000	.847
Earth Science1014 Level P-Score	1.000	.847

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.695	84.741	84.741	1.695	84.741	84.741
2	.305	15.259	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Grade 10 Living Environment to Grade 11 Chemistry Regents among Students with Disabilities

The following SPSS Modeler analysis tables indicate that the relationship between the grade 10 Living Environment and following Chemistry scores is strong for all status groups, except for English Language Learners because of insufficient numbers of ELL students taking both tests. Overall, the correlations for subgroups are not as strong as the correlations between Living Environment and Earth Science. There were 268 disabled students who took both the grade 10 Living Environment Regents and the Chemistry Regents in grade 11. There were 80English Language Learners students who took both the Living Environment Regents in grade 10 and the grade 11Chemistry Regents. There were 1,166 low-income students who took the Living Environment Regents in grade 10 and the Chemistry Regents in grade 11. Because of the minimal numbers of English Language Learners taking both tests projections were only possible for two sub-level populations. The following partial correlation matrix tables indicate that the correlation between these two tests holds for all status groups.

Correlation Matrix[a]

		Living Environment1014 Level P-Score	Chemistry1115 Level P-Score
Correlation	Living Environment1014 Level P-Score	1.000	.603
	Chemistry1115 Level P-Score	.603	1.000
Sig. (1-tailed)	Living Environment1014 Level P-Score		.000
	Chemistry1115 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Living Environment1014 Level P-Score	1.000	.802
Chemistry1115 Level P-Score	1.000	.802

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.603	80.167	80.167	1.603	80.167	80.167
2	.397	19.833	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Grade 10 Living Environment to Grade 11 Chemistry Regents among English Language Learners

Correlation Matrix[a]

		Living Environment1014 Level P-Score	Chemistry1115 Level P-Score
Correlation	Living Environment1014 Level P-Score	1.000	.705
	Chemistry1115 Level P-Score	.705	1.000
Sig. (1-tailed)	Living Environment1014 Level P-Score		.000
	Chemistry1115 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Living Environment1014 Level P-Score	1.000	.853
Chemistry1115 Level P-Score	1.000	.853

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.705	85.265	85.265	1.705	85.265	85.265
2	.295	14.735	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Grade 10 Living Environment to Grade 11 Chemistry Regents among Low Income Students

Correlation Matrix[a]

		Living Environment1014 Level P-Score	Chemistry1115 Level P-Score
Correlation	Living Environment1014 Level P-Score	1.000	.572
	Chemistry1115 Level P-Score	.572	1.000
Sig. (1-tailed)	Living Environment1014 Level P-Score		.000
	Chemistry1115 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Living Environment1014 Level P-Score	1.000	.786
Chemistry1115 Level P-Score	1.000	.786

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.572	78.609	78.609	1.572	78.609	78.609
2	.428	21.391	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Grade 10 Earth Science to Grade 11 Chemistry Regents among Students with Disabilities

There were 137 disabled students who took both the grade 10 Living Environment Regents and the Chemistry Regents in grade 11. There were only 49English Language Learners who took both the Earth Science Regents in grade 10 and the grade 11 Chemistry Regents. Because of the small number of ELL students taking both tests projections for ELL students going from Earth Science to Chemistry are not possible. There were 697 low-income students who took the Earth Science Regents in grade 10 and the Chemistry Regents in grade 11. The following partial correlation matrix tables indicate that the correlation between these two tests holds for all status groups.

Correlation Matrix[a]

		Chemistry1014 Level P-Score	Earth Science913 Level P-Score
Correlation	Chemistry1014 Level P-Score	1.000	.617
	Earth Science913 Level P-Score	.617	1.000
Sig. (1-tailed)	Chemistry1014 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Chemistry1014 Level P-Score	1.000	.808
Earth Science913 Level P-Score	1.000	.808

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.617	80.832	80.832	1.617	80.832	80.832
2	.383	19.168	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Grade 10 Earth Science to Grade 11 Chemistry Regents among Low Income Students

Correlation Matrix[a]

		Chemistry1014 Level P-Score	Earth Science913 Level P-Score
Correlation	Chemistry1014 Level P-Score	1.000	.553
	Earth Science913 Level P-Score	.553	1.000
Sig. (1-tailed)	Chemistry1014 Level P-Score		.000
	Earth Science913 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Chemistry1014 Level P-Score	1.000	.776
Earth Science913 Level P-Score	1.000	.776

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.553	77.648	77.648	1.553	77.648	77.648
2	.447	22.352	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Grade 10 and 11 Chemistry to Grade 11 and 12 Physics Regents among Students with Disabilities

There were 116 disabled students who took both the grade 10 or 11 Chemistry Regents followed by the Physics Regents in 2014. There were only 16English Language Learners students who took both the Chemistry Regents followed by the Physics Regents. As a result of these low numbers of English Language Learners taking these two tests projections cannot be done for this status group for Physics. There were 1,181 low-income students who took the Chemistry Regents followed by the Physics Regents. The following partial correlation matrix tables indicate that the correlation between these two tests holds for Students with Disabilities and Low Income status groups.

Grade 10 and 11 Chemistry to Grade 11 and 12 Physics Regents among Students with Disabilities

Correlation Matrix[a]

		Chemistry1115 Level P-Score	Physics15 Level P-Score
Correlation	Chemistry1115 Level P-Score	1.000	.739
	Physics15 Level P-Score	.739	1.000
Sig. (1-tailed)	Chemistry1115 Level P-Score		.000
	Physics15 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Chemistry1115 Level P-Score	1.000	.869
Physics15 Level P-Score	1.000	.869

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.739	86.938	86.938	1.739	86.938	86.938
2	.261	13.062	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Grade 10 and 11 Chemistry to Grade 11 and 12 Physics Regents among Low Income Students

Correlation Matrix[a]

		Chemistry1115 Level P-Score	Physics15 Level P-Score
Correlation	Chemistry1115 Level P-Score	1.000	.677
	Physics15 Level P-Score	.677	1.000
Sig. (1-tailed)	Chemistry1115 Level P-Score		.000
	Physics15 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Chemistry1115 Level P-Score	1.000	.838
Physics15 Level P-Score	1.000	.838

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.677	83.846	83.846	1.677	83.846	83.846
2	.323	16.154	100.000			

Extraction Method: Principal Component Analysis.

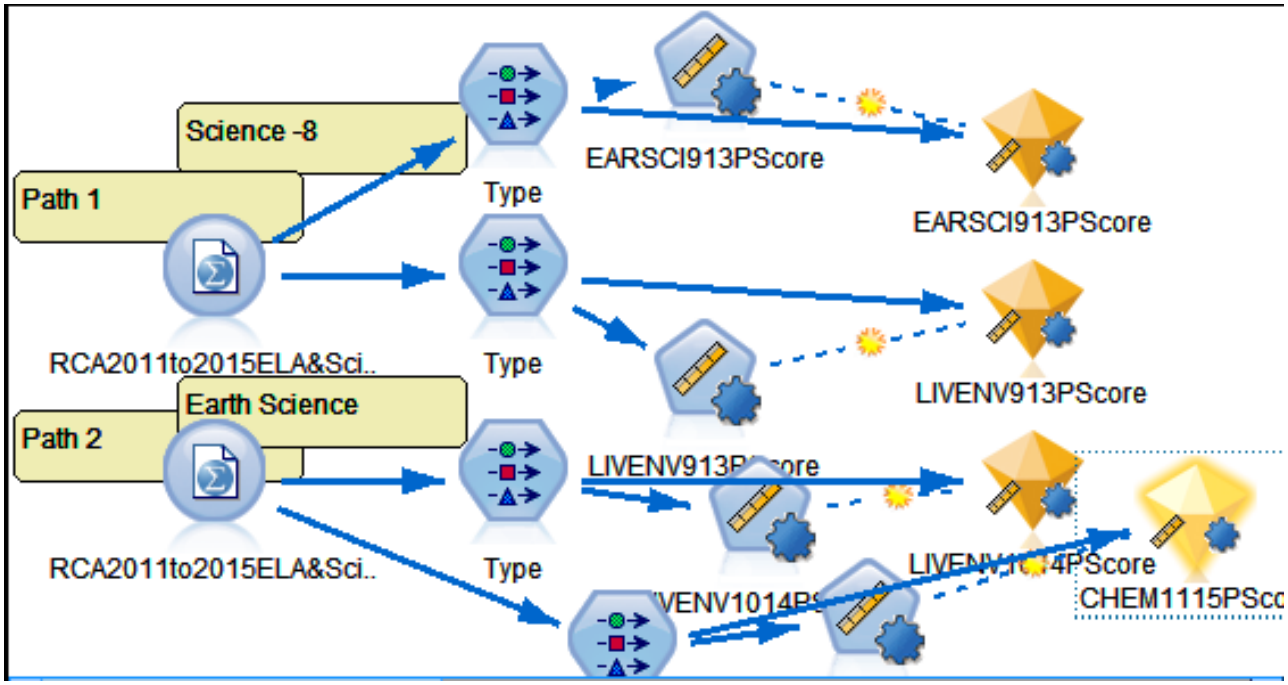
a. Only cases for which Low-Income = 1 are used in the analysis phase.

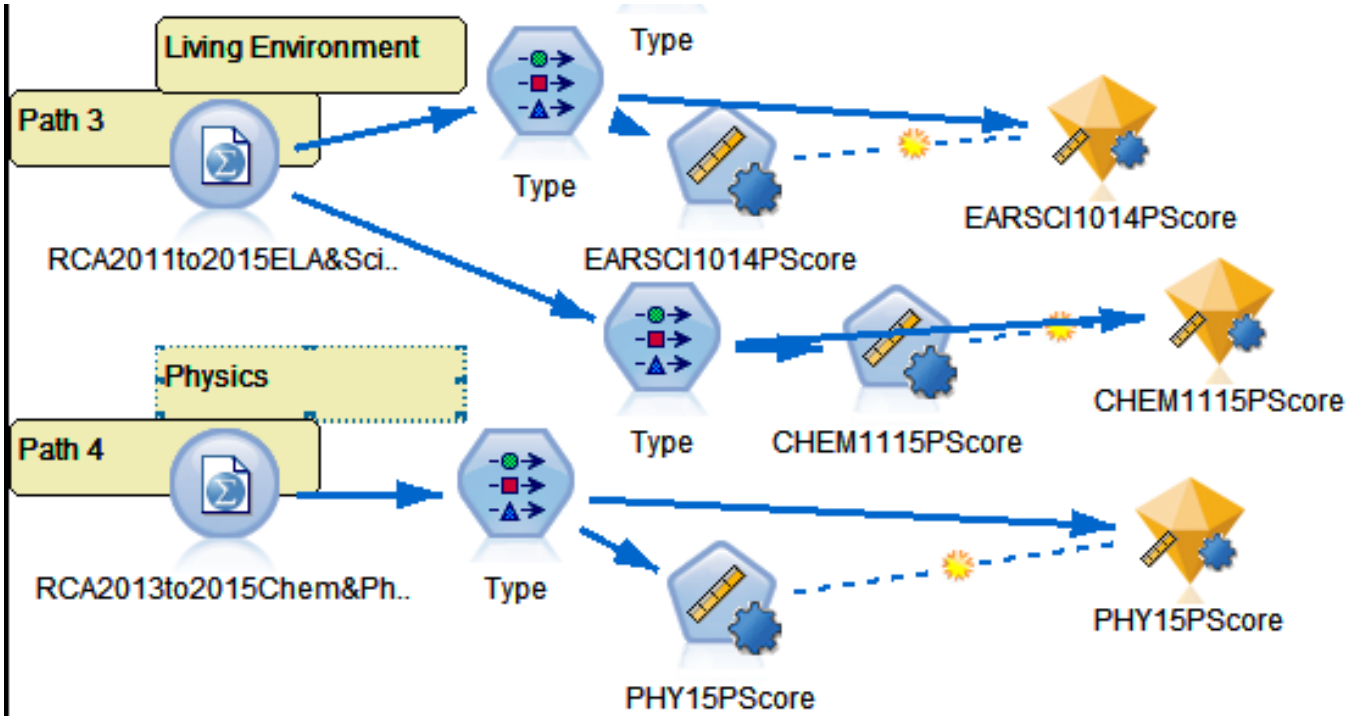
Predictive Analytic Tests/Processes-Science

Rule Induction Tests

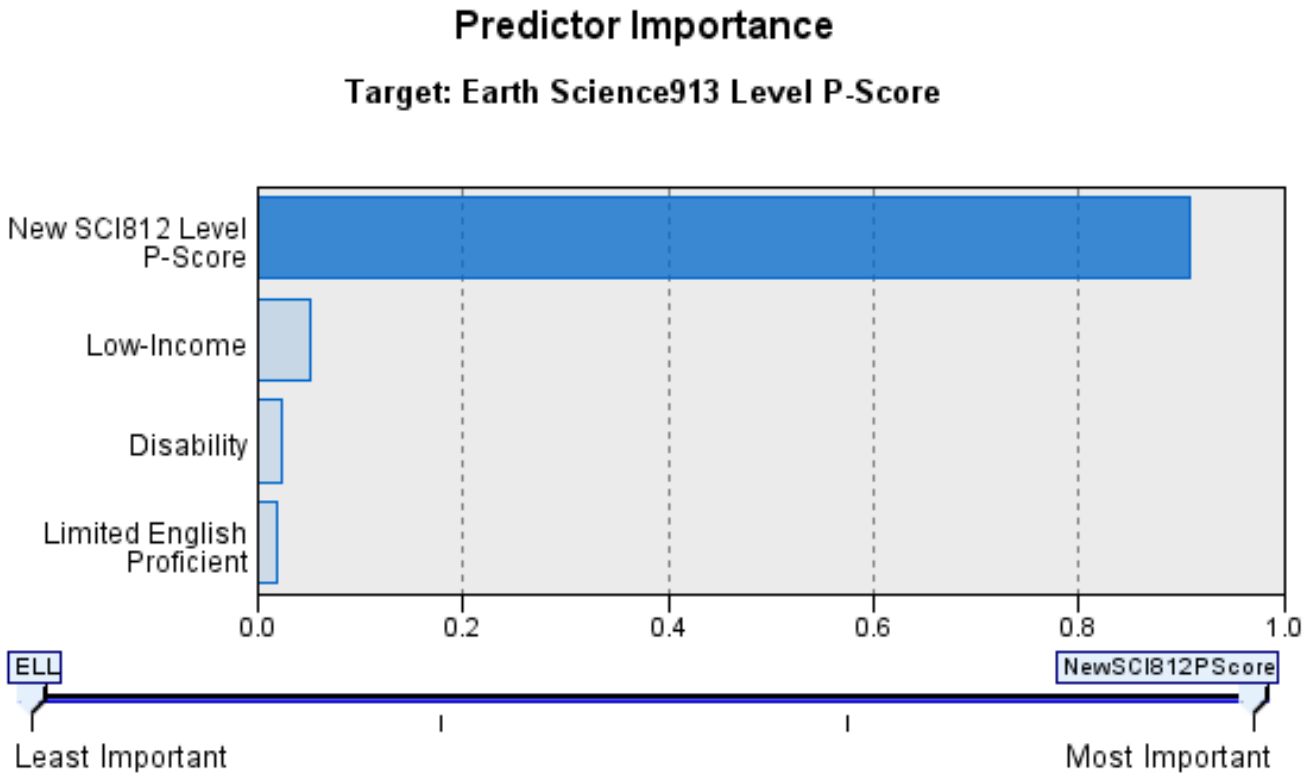
Just as the Rule Induction tests were used to generate projections for the English, Global History and United State History Regents, the SPSS Modeler was also used to create prediction models for each of the Science paths from grade 8 to graduation. Due to the dependent or target variables in the study are the leveled percentile outcomes on specific Regents tests (Living Environment, Earth Science Chemistry and Physics), the Rule Induction Test used to develop predictions based upon prior Science-tests was the Neural Net. The first image below is the data stream test for the prediction of a series of Science Regents scores in the four most common paths through Science starting with Science-8, Living Environment-9, or Earth Science-8 and progressing through several science Regents tests to Physics. The following Modeler Neural Net Chart indicates the relative prediction significance of the prior science P-Scores for Students with Disabilities, English Language Learners and Low Income status in the prediction of each of the following science Regents tests. The successful projection of each of the science Regents scores is disproportionately based upon the prior science test score; however Students with Disabilities status, English Language Learners status play a significant role.

Modeler Science Data Stream and Paths through Secondary Science

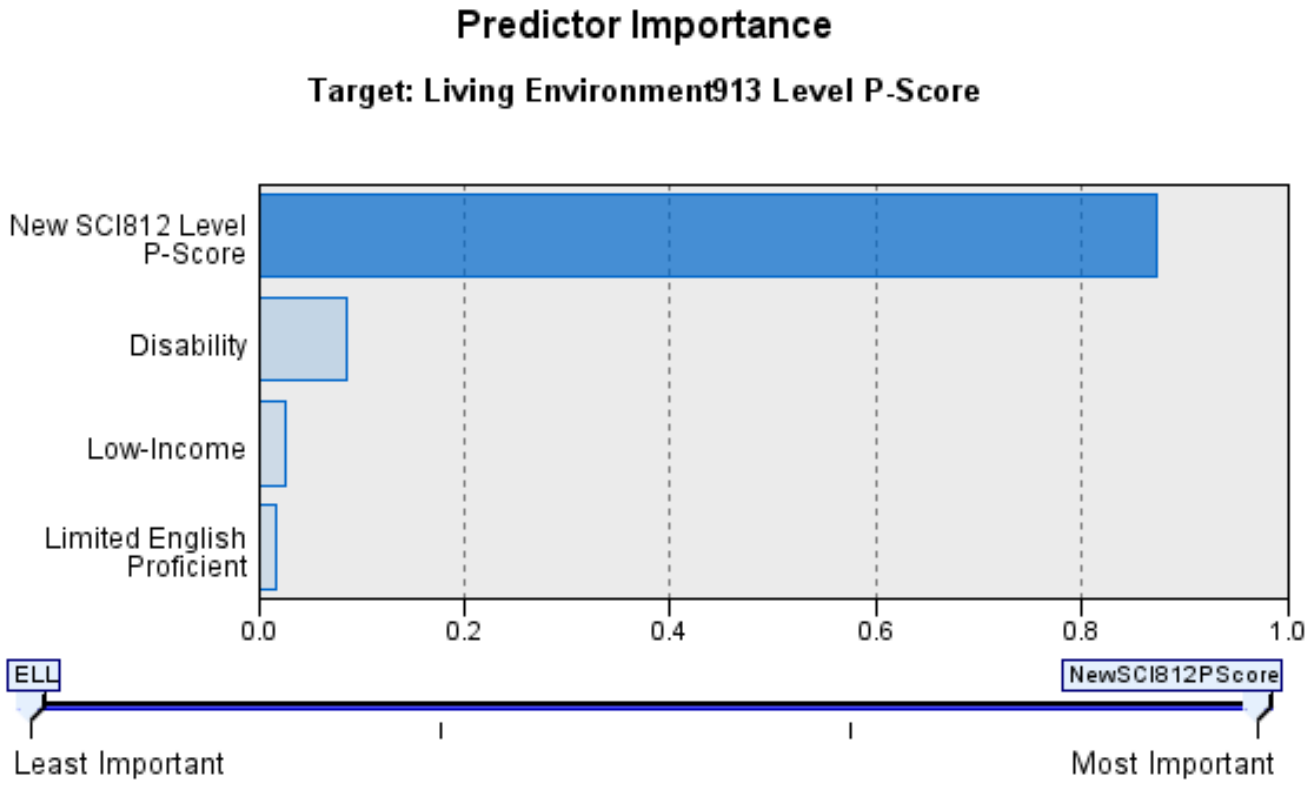




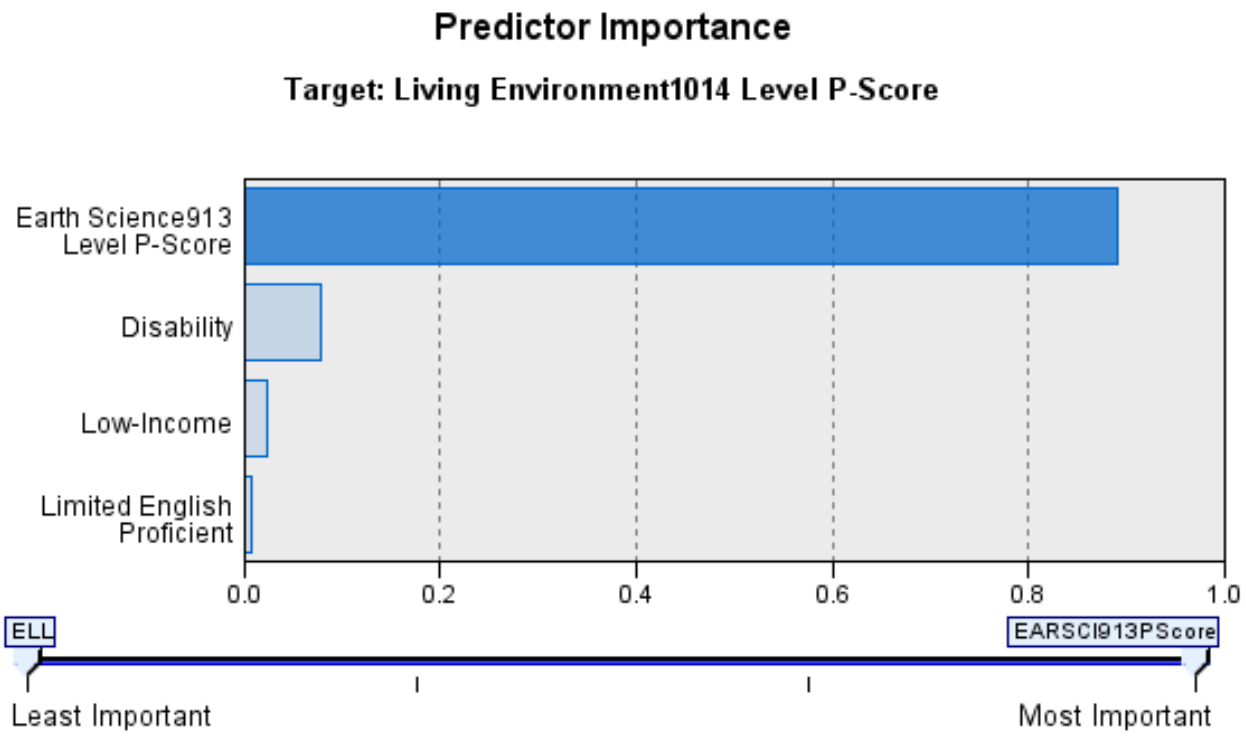
Science-8 to Grade 9 Earth Science Regents



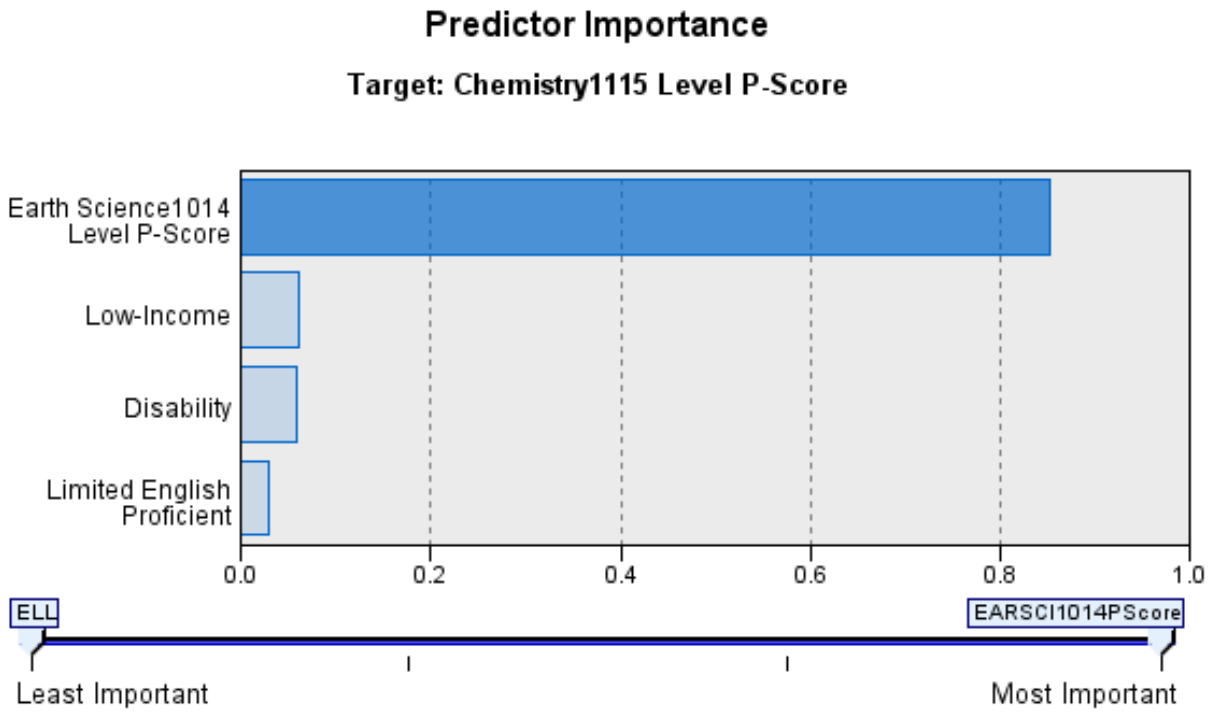
Science-8 to Grade 9 Living Environment Regents



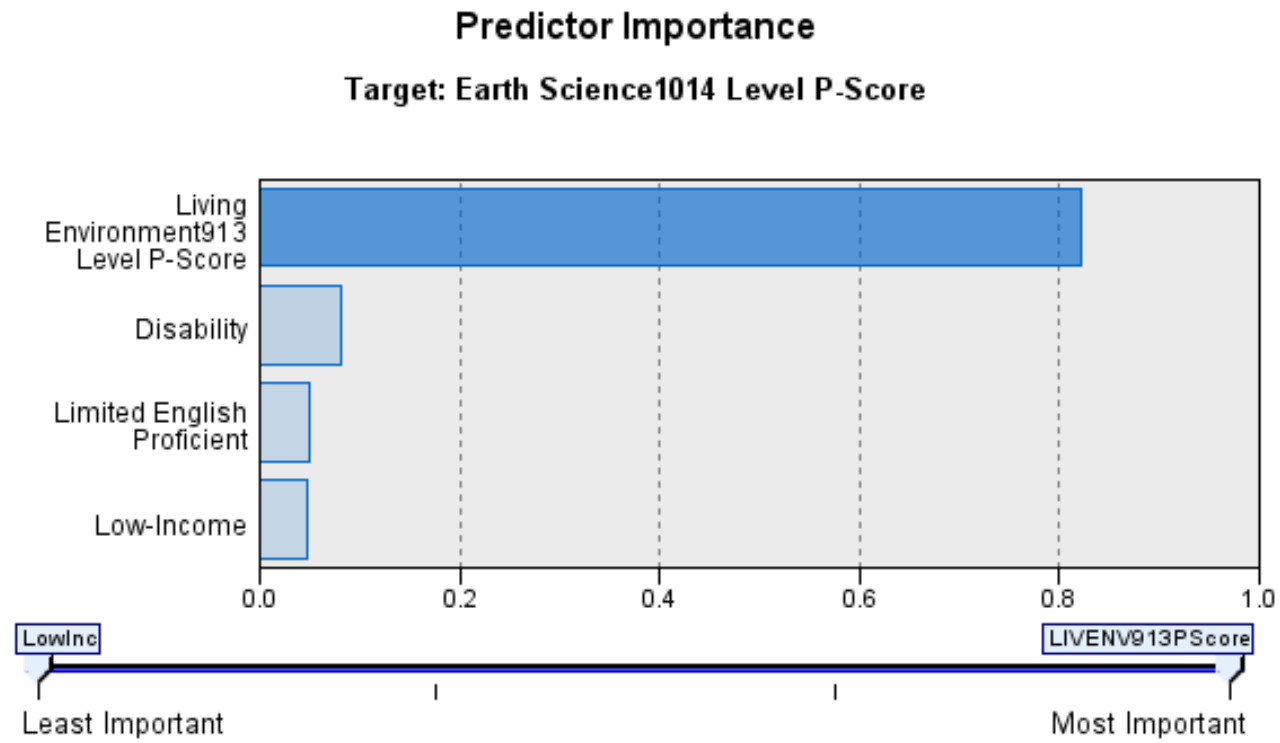
Earth Science to Grade 10 Living Environment Regents



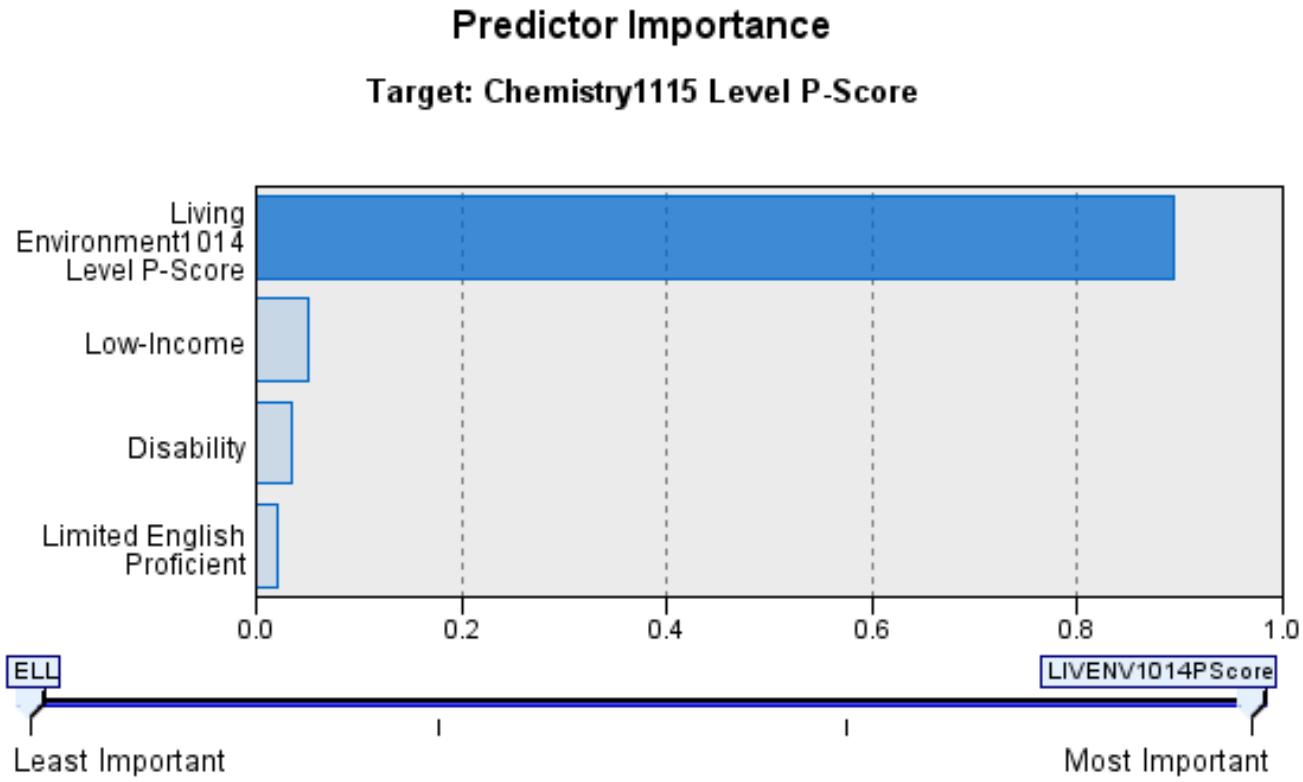
Earth Science to Grade 11 Chemistry Regents



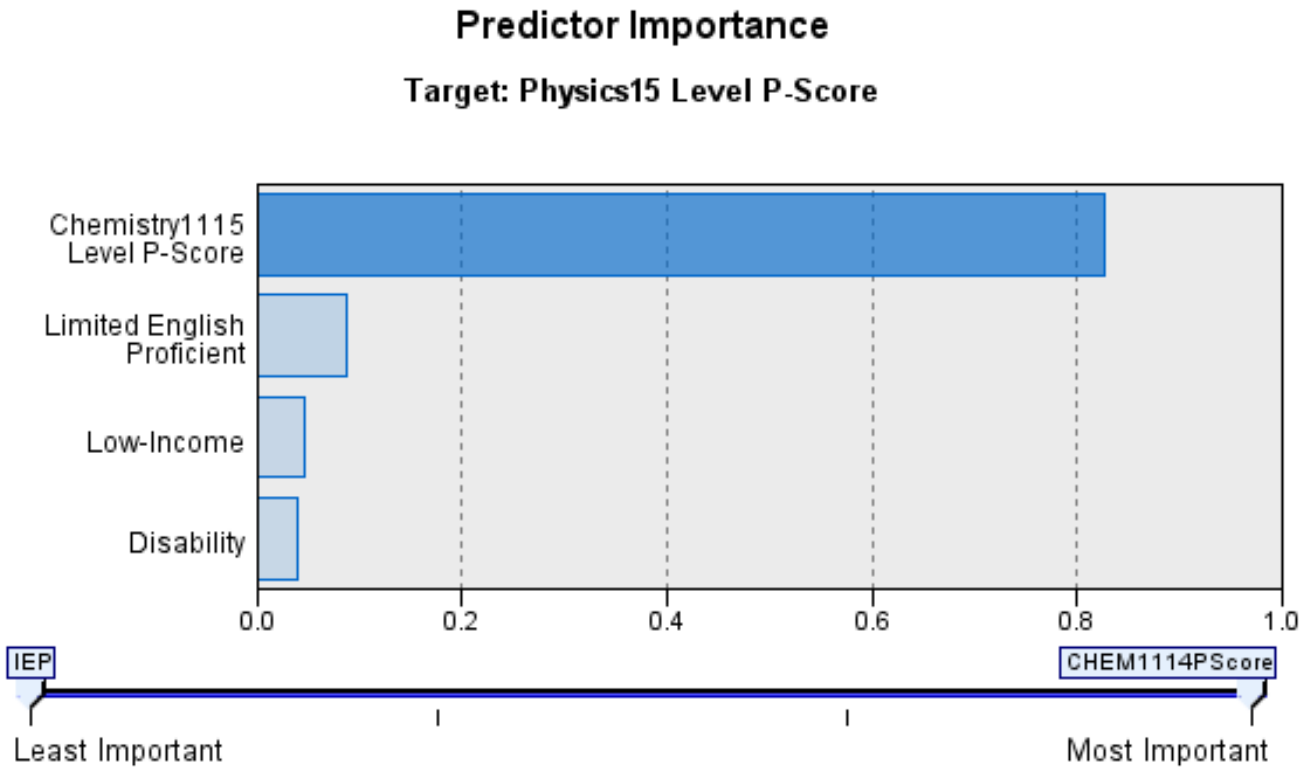
Living Environment to Grade 10 Earth Science Regents



Living Environment to Grade 11 Chemistry Regents



Chemistry to Grade 11 and 12 Physics Regents



Establish Rule Sets for Earth Science, Living Environment, Chemistry and Physics Projections

The SPSS Modeler's C5.0 model is one of the models used in rule setting for evaluation of predictions. It simplifies the complexity of the data by identifying target cases that do not meet the pre-established rules. Sub-levels were introduced into the predictive model so that future scores would be predicted based upon the scores of students in short score ranges separately for non-status students, Students with Disabilities, Limited English Proficiency students/English Language Learners and Low Income students. Two related sets of predictions were generated to set high and low predictions with different rates of confidence.

The same two rules were used for the "high-end" predictions of science Regents scores as were used for Global History, U.S. History and English Regents scores. Rule 1 = Rule 1, applies to each sub-level group and each status group including students with disabilities, English Language Learners and Low Income students. Projections will not be supported unless at least 100 students or more connect the two tests for any status group. The prediction is essentially determined at the top end of the predictive range by the mean average performance of students in prior performance sub-levels on the ELA-8 or Global History Assessments.

The rules used for the conservative "low-end" projections of science Regents results from prior science scores follow. Rule 2 = 80% or more of all target cases should be equal to above the minimum projection for all sublevel groups based upon prior scores. Rule 2 applies to each sub-level group and each status group including Students with Disabilities, English Language Learners and Low Income students. Projections will not be supported unless at least 100 students or more connect the two tests for any status group. The "low-end" projections are calculated by expanding the confidence interval to ensure that the target of 80% successful prediction for each short score range from the prior test. If there were fewer than 10 students in any sub-level group from the prior test, the generated projection was suppressed in the projection tables to ensure that projections were based upon representative clusters of students.

Generating Projections

Using the rule sets described, the projections below were exported into Excel. The first projections are for Earth Science from either prior Science-8 or Living Environment scores. The Earth Science Regents projections scores have been converted to equivalent scale scores for use as projections for similar students. Once the high and low projections were generated a mid-point projection was added in order to give the end-user a range from low to high to establish student performance targets.

Testing Projections

After the projections were written to the regional longitudinal data file for all students who took the Science-8, Living Environment, Earth Science or Chemistry Regents and a following science Regents, the most conservative "low-end" projections were validated with a series of tables in the SPSS Modeler that identified successful predictions and unsuccessful predictions. In each of the tables below the counts and percentages in the "yes" column identifies the rate of that actual student outcomes on the target test were at or above the projection for the relevant sub-level group. The projections are validated when the successful prediction rate is 80% or higher for every sub-group with a projection.

Test of Science-8 to Earth Science Regents Projections
Non-Status Students

New Science812 Sub Levels * NOSTATESci9Pre Crosstabulation

			NOSTATESci9Pre		
			No	Yes	Total
New Science812 Sub Levels	Mid Level 2	Count	4	19	23
		% within New Science812 Sub Levels	17.4%	82.6%	100.0%
	High Level 2	Count	17	73	90
		% within New Science812 Sub Levels	18.9%	81.1%	100.0%
	Low Level 3	Count	45	221	266
		% within New Science812 Sub Levels	16.9%	83.1%	100.0%
	Mid Level 3	Count	85	405	490
		% within New Science812 Sub Levels	17.3%	82.7%	100.0%
	High Level 3	Count	215	921	1136
		% within New Science812 Sub Levels	18.9%	81.1%	100.0%
	Low Level 4	Count	157	829	986
		% within New Science812 Sub Levels	15.9%	84.1%	100.0%
	Mid Level 4	Count	129	527	656
		% within New Science812 Sub Levels	19.7%	80.3%	100.0%
	High Level 4	Count	4	38	42
		% within New Science812 Sub Levels	9.5%	90.5%	100.0%
Total		Count	656	3033	3689
		% within New Science812 Sub Levels	17.8%	82.2%	100.0%

Test of Science-8 to Earth Science Regents Projections
Students with Disabilities

New Science812 Sub Levels * IEPESci9Pre Crosstabulation

			IEPESci9Pre		
			No	Yes	Total
New Science812 Sub Levels	High Level 1	Count	3	17	20
		% within New Science812 Sub Levels	15.8%	84.2%	100.0%
	Low Level 2	Count	2	35	37
		% within New Science812 Sub Levels	5.4%	94.6%	100.0%
	Mid Level 2	Count	11	69	80
		% within New Science812 Sub Levels	13.8%	86.3%	100.0%
	High Level 2	Count	17	102	119
		% within New Science812 Sub Levels	14.3%	85.7%	100.0%
	Low Level 3	Count	18	177	195
		% within New Science812 Sub Levels	9.2%	90.8%	100.0%
	Mid Level 3	Count	24	177	201
		% within New Science812 Sub Levels	11.9%	88.1%	100.0%
	High Level 3	Count	21	193	214
		% within New Science812 Sub Levels	9.8%	90.2%	100.0%
	Low Level 4	Count	7	77	84
		% within New Science812 Sub Levels	8.3%	91.7%	100.0%
	Mid Level 4	Count	3	53	56
		% within New Science812 Sub Levels	5.4%	94.6%	100.0%
Total		Count	106	899	1005
		% within New Science812 Sub Levels	10.5%	89.5%	100.0%

Test of Science-8 to Earth Science Regents Projections
English Language Learners

New Science812 Sub Levels * ELLESci9Pre Crosstabulation

			ELLESci9Pre		
			No	Yes	Total
New Science812 Sub Levels	Low Level 2	Count	4	20	24
		% within New Science812 Sub Levels	16.7%	83.3%	100.0%
	Mid Level 2	Count	5	29	34
		% within New Science812 Sub Levels	14.7%	85.3%	100.0%
	High Level 2	Count	5	31	36
		% within New Science812 Sub Levels	13.9%	86.1%	100.0%
	Low Level 3	Count	5	38	43
		% within New Science812 Sub Levels	11.6%	88.4%	100.0%
	Mid Level 3	Count	3	24	27
		% within New Science812 Sub Levels	11.1%	88.9%	100.0%
	High Level 3	Count	4	17	21
		% within New Science812 Sub Levels	19.0%	81.0%	100.0%
Total		Count	26	159	185
		% within New Science812 Sub Levels	14.1%	85.9%	100.0%

Test of Science-8 to Earth Science Regents Projections
Low Income Students

New Science812 Sub Levels * LowIncESci9Pre Crosstabulation

			LowIncESci9Pre		
			No	Yes	Total
New Science812 Sub Levels	High Level 1	Count	3	22	25
		% within New Science812 Sub Levels	12.0%	88.0%	100.0%
	Low Level 2	Count	9	45	54
		% within New Science812 Sub Levels	16.7%	83.3%	100.0%
	Mid Level 2	Count	21	111	132
		% within New Science812 Sub Levels	15.9%	84.1%	100.0%
	High Level 2	Count	41	166	207
		% within New Science812 Sub Levels	19.8%	80.2%	100.0%
	Low Level 3	Count	72	305	377
		% within New Science812 Sub Levels	19.1%	80.9%	100.0%
	Mid Level 3	Count	86	367	453
		% within New Science812 Sub Levels	19.0%	81.0%	100.0%
	High Level 3	Count	123	556	679
		% within New Science812 Sub Levels	18.1%	81.9%	100.0%
	Low Level 4	Count	63	282	345
		% within New Science812 Sub Levels	18.3%	81.7%	100.0%
	Mid Level 4	Count	25	166	191
		% within New Science812 Sub Levels	13.1%	86.9%	100.0%
Total		Count	443	2020	2463
		% within New Science812 Sub Levels	18.0%	82.0%	100.0%

Test of Living Environment to Earth Science Regents Projections
Non-Status Students

Living Environment Gr913 Levels * NOSTATESci10Pre Crosstabulation

			NOSTATESci10Pre		
			No	Yes	Total
Living Environment Gr913 Levels	Mid Level 2	Count	4	16	20
		% within Living Environment Gr913 Levels	20.0%	80.0%	100.0%
	High Level 2	Count	5	22	27
		% within Living Environment Gr913 Levels	18.5%	81.5%	100.0%
	Low Level 3	Count	39	158	197
		% within Living Environment Gr913 Levels	19.8%	80.2%	100.0%
	Mid Level 3	Count	68	306	374
		% within Living Environment Gr913 Levels	18.2%	81.8%	100.0%
	High Level 3	Count	88	369	457
		% within Living Environment Gr913 Levels	19.3%	80.7%	100.0%
	Low Level 4	Count	65	272	337
		% within Living Environment Gr913 Levels	19.3%	80.7%	100.0%
	Mid Level 4	Count	30	139	169
		% within Living Environment Gr913 Levels	17.8%	82.2%	100.0%
	High Level 4	Count	4	22	26
		% within Living Environment Gr913 Levels	15.4%	84.6%	100.0%
Total		Count	303	1304	1607
		% within Living Environment Gr913 Levels	18.9%	81.1%	100.0%

Test of Living Environment to Earth Science Regents Projections
Students with Disabilities

Living Environment Gr913 Levels * IEPESci10Pre Crosstabulation

			IEPESci10Pre		
			No	Yes	Total
Living Environment Gr913 Levels	High Level 1	Count	3	82	85
		% within Living Environment Gr913 Levels	3.5%	96.5%	100.0%
	Low Level 2	Count	4	23	27
		% within Living Environment Gr913 Levels	14.8%	85.2%	100.0%
	Mid Level 2	Count	8	55	63
		% within Living Environment Gr913 Levels	12.7%	87.3%	100.0%
	High Level 2	Count	7	48	55
		% within Living Environment Gr913 Levels	12.7%	87.3%	100.0%
	Low Level 3	Count	18	124	142
		% within Living Environment Gr913 Levels	12.7%	87.3%	100.0%
	Mid Level 3	Count	14	127	141
		% within Living Environment Gr913 Levels	9.9%	90.1%	100.0%
	High Level 3	Count	17	96	113
		% within Living Environment Gr913 Levels	15.0%	85.0%	100.0%
	Low Level 4	Count	7	38	45
		% within Living Environment Gr913 Levels	15.6%	84.4%	100.0%
	Mid Level 4	Count	4	29	33
		% within Living Environment Gr913 Levels	12.1%	87.9%	100.0%
Total		Count	82	622	704
		% within Living Environment Gr913 Levels	11.6%	88.4%	100.0%

Test of Living Environment to Earth Science Regents Projections
English Language Learners

Living Environment Gr913 Levels * ELLESci10Pre Crosstabulation

			ELLESci10Pre		
			No	Yes	Total
Living Environment Gr913 Levels	High Level 1	Count	6	26	32
		% within Living Environment Gr913 Levels	18.8%	81.3%	100.0%
	High Level 2	Count	1	16	17
		% within Living Environment Gr913 Levels	5.9%	94.1%	100.0%
	Low Level 3	Count	6	29	35
		% within Living Environment Gr913 Levels	17.1%	82.9%	100.0%
	Mid Level 3	Count	4	27	31
		% within Living Environment Gr913 Levels	12.9%	87.1%	100.0%
Total		Count	17	98	115
		% within Living Environment Gr913 Levels	14.8%	85.2%	100.0%

Test of Living Environment to Earth Science Regents Projections
Low Income Students

Living Environment Gr913 Levels * LowIncESci10Pre Crosstabulation

			LowIncESci10Pre		
			No	Yes	Total
Living Environment Gr913 Levels	High Level 1	Count	9	84	93
		% within Living Environment Gr913 Levels	9.7%	90.3%	100.0%
	Low Level 2	Count	5	27	32
		% within Living Environment Gr913 Levels	15.6%	84.4%	100.0%
	Mid Level 2	Count	10	68	78
		% within Living Environment Gr913 Levels	12.8%	87.2%	100.0%
	High Level 2	Count	14	74	88
		% within Living Environment Gr913 Levels	15.9%	84.1%	100.0%
	Low Level 3	Count	50	208	258
		% within Living Environment Gr913 Levels	19.4%	80.6%	100.0%
	Mid Level 3	Count	76	305	381
		% within Living Environment Gr913 Levels	19.9%	80.1%	100.0%
	High Level 3	Count	66	264	330
		% within Living Environment Gr913 Levels	20.0%	80.0%	100.0%
	Low Level 4	Count	30	156	186
		% within Living Environment Gr913 Levels	16.1%	83.9%	100.0%
	Mid Level 4	Count	15	83	98
		% within Living Environment Gr913 Levels	15.3%	84.7%	100.0%
Total		Count	275	1269	1544
		% within Living Environment Gr913 Levels	17.8%	82.2%	100.0%

Test of Science-8 to Living Environment Regents Projections
Non-Status Students

New Science812 Sub Levels * NOSTATLE9Pre Crosstabulation

			NOSTATLE9Pre		
			No	Yes	Total
New Science812 Sub Levels	Mid Level 2	Count	3	27	30
		% within New Science812 Sub Levels	10.0%	90.0%	100.0%
	High Level 2	Count	10	63	73
		% within New Science812 Sub Levels	13.7%	86.3%	100.0%
	Low Level 3	Count	23	161	184
		% within New Science812 Sub Levels	12.5%	87.5%	100.0%
	Mid Level 3	Count	48	278	326
		% within New Science812 Sub Levels	14.7%	85.3%	100.0%
	High Level 3	Count	104	508	612
		% within New Science812 Sub Levels	17.0%	83.0%	100.0%
	Low Level 4	Count	86	385	471
		% within New Science812 Sub Levels	18.3%	81.7%	100.0%
	Mid Level 4	Count	55	260	315
		% within New Science812 Sub Levels	17.5%	82.5%	100.0%
	High Level 4	Count	4	22	26
		% within New Science812 Sub Levels	15.4%	84.6%	100.0%
Total		Count	333	1704	2037
		% within New Science812 Sub Levels	16.3%	83.7%	100.0%

Test of Science-8 to Living Environment Regents Projections
Students with Disabilities

New Science812 Sub Levels * IEPLE9Pre Crosstabulation

			IEPLE9Pre		
			No	Yes	Total
New Science812 Sub Levels	High Level 1	Count	6	78	84
		% within New Science812 Sub Levels	7.1%	92.9%	100.0%
	Low Level 2	Count	6	72	78
		% within New Science812 Sub Levels	7.7%	92.3%	100.0%
	Mid Level 2	Count	9	109	118
		% within New Science812 Sub Levels	7.6%	92.4%	100.0%
	High Level 2	Count	25	147	172
		% within New Science812 Sub Levels	14.5%	85.5%	100.0%
	Low Level 3	Count	17	167	184
		% within New Science812 Sub Levels	9.2%	90.8%	100.0%
	Mid Level 3	Count	17	103	120
		% within New Science812 Sub Levels	14.2%	85.8%	100.0%
	High Level 3	Count	14	119	133
		% within New Science812 Sub Levels	10.5%	89.5%	100.0%
	Low Level 4	Count	4	47	51
		% within New Science812 Sub Levels	7.8%	92.2%	100.0%
	Mid Level 4	Count	3	28	31
		% within New Science812 Sub Levels	9.7%	90.3%	100.0%
Total		Count	101	870	971
		% within New Science812 Sub Levels	10.4%	89.6%	100.0%

Test of Science-8 to Living Environment Regents Projections
English language Learners

New Science812 Sub Levels * ELLLE9Pre Crosstabulation

			ELLLE9Pre		
			No	Yes	Total
New Science812 Sub Levels	High Level 1	Count	2	25	27
		% within New Science812 Sub Levels	7.4%	92.6%	100.0%
	Low Level 2	Count	6	25	31
		% within New Science812 Sub Levels	19.4%	80.6%	100.0%
	Mid Level 2	Count	4	40	44
		% within New Science812 Sub Levels	9.1%	90.9%	100.0%
	High Level 2	Count	6	36	42
		% within New Science812 Sub Levels	14.3%	85.7%	100.0%
	Low Level 3	Count	1	35	36
		% within New Science812 Sub Levels	2.8%	97.2%	100.0%
	Mid Level 3	Count	2	21	23
		% within New Science812 Sub Levels	8.7%	91.3%	100.0%
	High Level 3	Count	1	13	14
		% within New Science812 Sub Levels	7.1%	92.9%	100.0%
Total		Count	22	195	217
		% within New Science812 Sub Levels	10.1%	89.9%	100.0%

Test of Science-8 to Living Environment Regents Projections
Low Income Students

New Science812 Sub Levels * LowIncLE9Pre Crosstabulation

			LowIncLE9Pre		
			No	Yes	Total
New Science812 Sub Levels	High Level 1	Count	11	81	92
		% within New Science812 Sub Levels	12.0%	88.0%	100.0%
	Low Level 2	Count	20	88	108
		% within New Science812 Sub Levels	18.5%	81.5%	100.0%
	Mid Level 2	Count	36	170	206
		% within New Science812 Sub Levels	17.5%	82.5%	100.0%
	High Level 2	Count	45	224	269
		% within New Science812 Sub Levels	16.7%	83.3%	100.0%
	Low Level 3	Count	58	249	307
		% within New Science812 Sub Levels	18.9%	81.1%	100.0%
	Mid Level 3	Count	65	264	329
		% within New Science812 Sub Levels	19.8%	80.2%	100.0%
	High Level 3	Count	98	397	495
		% within New Science812 Sub Levels	19.8%	80.2%	100.0%
	Low Level 4	Count	48	223	271
		% within New Science812 Sub Levels	17.7%	82.3%	100.0%
	Mid Level 4	Count	18	116	134
		% within New Science812 Sub Levels	13.4%	86.6%	100.0%
	High Level 4	Count	3	16	19
		% within New Science812 Sub Levels	15.8%	84.2%	100.0%
Total		Count	402	1828	2230
		% within New Science812 Sub Levels	18.0%	82.0%	100.0%

Test of Earth Science to Living Environment Regents Projections
Non-Status Students

Earth Science Gr913 Levels * NOSTATLE10Pre Crosstabulation

			NOSTATLE10Pre		
			No	Yes	Total
Earth Science Gr913 Levels	High Level 1	Count	3	54	57
		% within Earth Science Gr913 Levels	5.3%	94.7%	100.0%
	Low Level 2	Count	5	33	38
		% within Earth Science Gr913 Levels	13.2%	86.8%	100.0%
	Mid Level 2	Count	10	64	74
		% within Earth Science Gr913 Levels	13.5%	86.5%	100.0%
	High Level 2	Count	11	70	81
		% within Earth Science Gr913 Levels	13.6%	86.4%	100.0%
	Low Level 3	Count	47	331	378
		% within Earth Science Gr913 Levels	12.4%	87.6%	100.0%
	Mid Level 3	Count	109	515	624
		% within Earth Science Gr913 Levels	17.5%	82.5%	100.0%
	High Level 3	Count	132	552	684
		% within Earth Science Gr913 Levels	19.3%	80.7%	100.0%
	Low Level 4	Count	127	599	726
		% within Earth Science Gr913 Levels	17.5%	82.5%	100.0%
	Mid Level 4	Count	57	406	463
		% within Earth Science Gr913 Levels	12.3%	87.7%	100.0%
	High Level 4	Count	12	93	105
		% within Earth Science Gr913 Levels	11.4%	88.6%	100.0%
Total		Count	513	2717	3230
		% within Earth Science Gr913 Levels	15.9%	84.1%	100.0%

Test of Earth Science to Living Environment Regents Projections
Students with Disabilities

Earth Science Gr913 Levels * IEPLE10Pre Crosstabulation

			IEPLE10Pre		
			No	Yes	Total
Earth Science Gr913 Levels	Mid Level 1	Count	4	23	27
		% within Earth Science Gr913 Levels	14.8%	85.2%	100.0%
	High Level 1	Count	17	114	131
		% within Earth Science Gr913 Levels	13.0%	87.0%	100.0%
	Low Level 2	Count	4	38	42
		% within Earth Science Gr913 Levels	9.5%	90.5%	100.0%
	Mid Level 2	Count	8	63	71
		% within Earth Science Gr913 Levels	11.3%	88.7%	100.0%
	High Level 2	Count	6	35	41
		% within Earth Science Gr913 Levels	14.6%	85.4%	100.0%
	Low Level 3	Count	23	141	164
		% within Earth Science Gr913 Levels	14.0%	86.0%	100.0%
	Mid Level 3	Count	24	155	179
		% within Earth Science Gr913 Levels	13.4%	86.6%	100.0%
	High Level 3	Count	24	108	132
		% within Earth Science Gr913 Levels	18.2%	81.8%	100.0%
	Low Level 4	Count	12	77	89
		% within Earth Science Gr913 Levels	13.5%	86.5%	100.0%
	Mid Level 4	Count	3	44	47
		% within Earth Science Gr913 Levels	6.4%	93.6%	100.0%
Total		Count	125	798	923
		% within Earth Science Gr913 Levels	13.5%	86.5%	100.0%

Test of Earth Science to Living Environment Regents Projections
English Language Learners

Earth Science Gr913 Levels * ELLLE10Pre Crosstabulation

			ELLLE10Pre		
			No	Yes	Total
Earth Science Gr913 Levels	High Level 1	Count	6	34	40
		% within Earth Science Gr913 Levels	15.0%	85.0%	100.0%
	Mid Level 2	Count	5	20	25
		% within Earth Science Gr913 Levels	20.0%	80.0%	100.0%
	High Level 2	Count	2	15	17
		% within Earth Science Gr913 Levels	11.8%	88.2%	100.0%
	Low Level 3	Count	6	35	41
		% within Earth Science Gr913 Levels	14.6%	85.4%	100.0%
	Mid Level 3	Count	2	24	26
		% within Earth Science Gr913 Levels	7.7%	92.3%	100.0%
Total		Count	21	128	149
		% within Earth Science Gr913 Levels	14.1%	85.9%	100.0%

Test of Earth Science to Living Environment Regents Projections
Low Income Students

Earth Science Gr913 Levels * LowIncLE10Pre Crosstabulation

			LowIncLE10Pre		
			No	Yes	Total
Earth Science Gr913 Levels	Mid Level 1	Count	4	28	32
		% within Earth Science Gr913 Levels	12.5%	87.5%	100.0%
	High Level 1	Count	29	187	216
		% within Earth Science Gr913 Levels	13.4%	86.6%	100.0%
	Low Level 2	Count	7	68	75
		% within Earth Science Gr913 Levels	9.3%	90.7%	100.0%
	Mid Level 2	Count	20	119	139
		% within Earth Science Gr913 Levels	14.4%	85.6%	100.0%
	High Level 2	Count	12	109	121
		% within Earth Science Gr913 Levels	9.9%	90.1%	100.0%
	Low Level 3	Count	52	317	369
		% within Earth Science Gr913 Levels	14.1%	85.9%	100.0%
	Mid Level 3	Count	47	386	433
		% within Earth Science Gr913 Levels	10.9%	89.1%	100.0%
	High Level 3	Count	44	337	381
		% within Earth Science Gr913 Levels	11.5%	88.5%	100.0%
	Low Level 4	Count	32	196	228
		% within Earth Science Gr913 Levels	14.0%	86.0%	100.0%
	Mid Level 4	Count	15	124	139
		% within Earth Science Gr913 Levels	10.8%	89.2%	100.0%
	High Level 4	Count	1	22	23
		% within Earth Science Gr913 Levels	4.3%	95.7%	100.0%
Total		Count	263	1893	2156
		% within Earth Science Gr913 Levels	12.2%	87.8%	100.0%

Test of Earth Science to Chemistry Regents Projections
Non-Status Students

Earth Science Gr1014 Levels * NOSTATEStoChem11Pre Crosstabulation

			NOSTATEStoChem11Pre		
			No	Yes	Total
Earth Science Gr1014 Levels	Mid Level 2	Count	3	13	16
		% within Earth Science Gr1014 Levels	18.8%	81.3%	100.0%
	High Level 2	Count	2	24	26
		% within Earth Science Gr1014 Levels	7.7%	92.3%	100.0%
	Low Level 3	Count	15	88	103
		% within Earth Science Gr1014 Levels	14.6%	85.4%	100.0%
	Mid Level 3	Count	40	190	230
		% within Earth Science Gr1014 Levels	17.4%	82.6%	100.0%
	High Level 3	Count	39	180	219
		% within Earth Science Gr1014 Levels	17.8%	82.2%	100.0%
	Low Level 4	Count	43	198	241
		% within Earth Science Gr1014 Levels	17.8%	82.2%	100.0%
	Mid Level 4	Count	31	166	197
		% within Earth Science Gr1014 Levels	15.7%	84.3%	100.0%
	High Level 4	Count	11	49	60
		% within Earth Science Gr1014 Levels	18.3%	81.7%	100.0%
Total		Count	184	908	1092
		% within Earth Science Gr1014 Levels	16.8%	83.2%	100.0%

Test of Earth Science to Chemistry Regents Projections
Students with Disabilities

Earth Science Gr1014 Levels * IEPEStoChem11Pre Crosstabulation

			IEPEStoChem11Pre		
			No	Yes	Total
Earth Science Gr1014 Levels	Low Level 3	Count	2	20	22
		% within Earth Science Gr1014 Levels	9.1%	90.9%	100.0%
	Mid Level 3	Count	2	18	20
		% within Earth Science Gr1014 Levels	10.0%	90.0%	100.0%
	High Level 3	Count	4	30	34
		% within Earth Science Gr1014 Levels	11.8%	88.2%	100.0%
	Low Level 4	Count	3	18	21
		% within Earth Science Gr1014 Levels	14.3%	85.7%	100.0%
	Mid Level 4	Count	3	18	21
		% within Earth Science Gr1014 Levels	14.3%	85.7%	100.0%
Total		Count	14	103	117
		% within Earth Science Gr1014 Levels	12.0%	88.0%	100.0%

Test of Earth Science to Chemistry Regents Projections
Low Income Students

Earth Science Gr1014 Levels * LowIncEStoChem11Pre Crosstabulation

			LowIncEStoChem11Pre		
			No	Yes	Total
Earth Science Gr1014 Levels	High Level 1	Count	0	24	24
		% within Earth Science Gr1014 Levels	0.0%	100.0%	100.0%
	Mid Level 2	Count	1	24	25
		% within Earth Science Gr1014 Levels	4.0%	96.0%	100.0%
	High Level 2	Count	3	16	19
		% within Earth Science Gr1014 Levels	15.8%	84.2%	100.0%
	Low Level 3	Count	16	72	88
		% within Earth Science Gr1014 Levels	18.2%	81.8%	100.0%
	Mid Level 3	Count	18	116	134
		% within Earth Science Gr1014 Levels	13.4%	86.6%	100.0%
	High Level 3	Count	20	100	120
		% within Earth Science Gr1014 Levels	16.7%	83.3%	100.0%
	Low Level 4	Count	20	93	113
		% within Earth Science Gr1014 Levels	17.7%	82.3%	100.0%
	Mid Level 4	Count	17	75	92
		% within Earth Science Gr1014 Levels	18.5%	81.5%	100.0%
	High Level 4	Count	4	19	23
		% within Earth Science Gr1014 Levels	17.4%	82.6%	100.0%
Total		Count	99	539	638
		% within Earth Science Gr1014 Levels	15.5%	84.5%	100.0%

Test of Living Environment to Chemistry Regents Projections
Non-Status Students

Living Environment Gr1014 Levels * NOSTATLEtoChem11Pre Crosstabulation

			NOSTATLEtoChem11Pre		
			No	Yes	Total
Living Environment Gr1014 Levels	Low Level 3	Count	3	15	18
		% within Living Environment Gr1014 Levels	16.7%	83.3%	100.0%
	Mid Level 3	Count	29	158	187
		% within Living Environment Gr1014 Levels	15.5%	84.5%	100.0%
	High Level 3	Count	85	512	597
		% within Living Environment Gr1014 Levels	14.2%	85.8%	100.0%
	Low Level 4	Count	162	648	810
		% within Living Environment Gr1014 Levels	20.0%	80.0%	100.0%
	Mid Level 4	Count	115	527	642
		% within Living Environment Gr1014 Levels	17.9%	82.1%	100.0%
	High Level 4	Count	16	126	142
		% within Living Environment Gr1014 Levels	11.3%	88.7%	100.0%
Total		Count	410	1986	2396
		% within Living Environment Gr1014 Levels	17.1%	82.9%	100.0%

Test of Living Environment to Chemistry Regents Projections
Students with Disabilities

Living Environment Gr1014 Levels * IEPLEtoChem11Pre Crosstabulation

			IEPLEtoChem11Pre		
			No	Yes	Total
Living Environment Gr1014 Levels	Mid Level 3	Count	5	44	49
		% within Living Environment Gr1014 Levels	10.2%	89.8%	100.0%
	High Level 3	Count	7	70	77
		% within Living Environment Gr1014 Levels	9.1%	90.9%	100.0%
	Low Level 4	Count	6	61	67
		% within Living Environment Gr1014 Levels	9.0%	91.0%	100.0%
	Mid Level 4	Count	8	45	53
		% within Living Environment Gr1014 Levels	15.1%	84.9%	100.0%
Total		Count	26	220	246
		% within Living Environment Gr1014 Levels	10.6%	89.4%	100.0%

Test of Living Environment to Chemistry Regents Projections
English Language Learner

Living Environment Gr1014 Levels * ELLLEtoChem11Pre Crosstabulation

			ELLLEtoChem11Pre		
			No	Yes	Total
Living Environment Gr1014 Levels	Mid Level 3	Count	3	16	19
		% within Living Environment Gr1014 Levels	15.8%	84.2%	100.0%
	High Level 3	Count	2	19	21
		% within Living Environment Gr1014 Levels	9.5%	90.5%	100.0%
Total		Count	5	35	40
		% within Living Environment Gr1014 Levels	12.5%	87.5%	100.0%

Test of Living Environment to Chemistry Regents Projections
Low Income Students

Living Environment Gr1014 Levels * LowIncLEtoChem11Pre Crosstabulation

			LowIncLEtoChem11Pre		
			No	Yes	Total
Living Environment Gr1014 Levels	Low Level 3	Count	6	27	33
		% within Living Environment Gr1014 Levels	18.2%	81.8%	100.0%
	Mid Level 3	Count	24	154	178
		% within Living Environment Gr1014 Levels	13.5%	86.5%	100.0%
	High Level 3	Count	58	282	340
		% within Living Environment Gr1014 Levels	17.1%	82.9%	100.0%
	Low Level 4	Count	58	274	332
		% within Living Environment Gr1014 Levels	17.5%	82.5%	100.0%
	Mid Level 4	Count	42	195	237
		% within Living Environment Gr1014 Levels	17.7%	82.3%	100.0%
	High Level 4	Count	3	18	21
		% within Living Environment Gr1014 Levels	14.3%	85.7%	100.0%
Total		Count	191	950	1141
		% within Living Environment Gr1014 Levels	16.7%	83.3%	100.0%

Test of Chemistry to Physics Regents Projections
Non-Status Students

Chemistry Gr1115 Levels * NOSTATChemtoPhysPre Crosstabulation

			NOSTATChemtoPhysPre		
			No	Yes	Total
Chemistry Gr1115 Levels	Mid Level 2	Count	11	58	69
		% within Chemistry Gr1115 Levels	15.9%	84.1%	100.0%
	High Level 2	Count	19	113	132
		% within Chemistry Gr1115 Levels	14.4%	85.6%	100.0%
	Low Level 3	Count	137	553	690
		% within Chemistry Gr1115 Levels	19.9%	80.1%	100.0%
	Mid Level 3	Count	203	819	1022
		% within Chemistry Gr1115 Levels	19.9%	80.1%	100.0%
	High Level 3	Count	198	822	1020
		% within Chemistry Gr1115 Levels	19.4%	80.6%	100.0%
	Low Level 4	Count	148	613	761
		% within Chemistry Gr1115 Levels	19.4%	80.6%	100.0%
	Mid Level 4	Count	110	536	646
		% within Chemistry Gr1115 Levels	17.0%	83.0%	100.0%
	High Level 4	Count	39	297	336
		% within Chemistry Gr1115 Levels	11.6%	88.4%	100.0%
Total		Count	865	3811	4676
		% within Chemistry Gr1115 Levels	18.5%	81.5%	100.0%

Test of Chemistry to Physics Regents Projections
Students with Disabilities

Chemistry Gr1115 Levels * IEPChemtoPhysPre Crosstabulation

			IEPChemtoPhysPre		
			No	Yes	Total
Chemistry Gr1115 Levels	Low Level 3	Count	3	22	25
		% within Chemistry Gr1115 Levels	12.0%	88.0%	100.0%
	Mid Level 3	Count	3	22	25
		% within Chemistry Gr1115 Levels	12.0%	88.0%	100.0%
Total		Count	6	44	50
		% within Chemistry Gr1115 Levels	12.0%	88.0%	100.0%

Test of Chemistry to Physics Regents Projections
Low Income Students

Chemistry Gr1115 Levels * LowIncChemtoPhysPre Crosstabulation

			LowIncChemtoPhysPre		
			No	Yes	Total
Chemistry Gr1115 Levels	Mid Level 2	Count	4	30	34
		% within Chemistry Gr1115 Levels	11.8%	88.2%	100.0%
	High Level 2	Count	8	44	52
		% within Chemistry Gr1115 Levels	15.4%	84.6%	100.0%
	Low Level 3	Count	30	172	202
		% within Chemistry Gr1115 Levels	14.9%	85.1%	100.0%
	Mid Level 3	Count	37	200	237
		% within Chemistry Gr1115 Levels	15.6%	84.4%	100.0%
	High Level 3	Count	33	172	205
		% within Chemistry Gr1115 Levels	16.1%	83.9%	100.0%
	Low Level 4	Count	24	106	130
		% within Chemistry Gr1115 Levels	18.5%	81.5%	100.0%
	Mid Level 4	Count	14	64	78
		% within Chemistry Gr1115 Levels	17.9%	82.1%	100.0%
	High Level 4	Count	3	34	37
		% within Chemistry Gr1115 Levels	8.1%	91.9%	100.0%
Total		Count	153	822	975
		% within Chemistry Gr1115 Levels	15.7%	84.3%	100.0%

Identifying Correlations – Math

The analysis of Math-7 and Math-8 score correlations with the three mathematics Regents test scores found a one dimensional path through the secondary mathematics tests and courses. This year (2015) that changed as the new Common Core Algebra replaced Integrated Algebra and Common Core Geometry was introduced and taken by some students. Many students are now advance placed in Algebra in grade 8. A factor analysis was conducted to explore the correlations of student scores on the Math-6 and Math-7 Assessments with the following advanced placed grade Algebra students in grade 8. An additional factor analysis was done exploring the relationship between performance of students who went from Math-8 to Common Core Algebra in grade 9. The factor analysis correlation matrixes document the high degree of correlation between these tests. An additional analysis documented the correlation in scores between students who took the Common Core Algebra and the new Common Core Geometry. The factor analysis continues with the correlation matrix on the connection between pre Common Core Geometry scores and Algebra-2 Trigonometry scores.

Math-6, Math-7 and Math-8 were highly correlated (Math6 to Math7 r = .81 and Math7 to Math8 r = .73). The correlations had to be done with Common Core levels for Math-8 students who are going on to Algebra which applies to most of grade 9 this year. The correlation between Math-6 and Math-7 to Algebra was strong (r =.67 for Math-6 and r = 69 for Math-7 to Algebra8), the correlation between Math-8 to Integrated Algebra was nearly as strong (r =.64). The correlation between Common Core Algebra and Geometry was no quite as strong (r=.61). Although the correlation and the numbers of students connecting Geometry to Algebra-2 is lower, the correlation is still strong (r=.61). The correlation matrixes for each of the connected test scores follow below, starting with Math-6 and Algebra in grade 8.

Factor Analysis –Math-6 to the Grade 8 Common Core Algebra Regents

Correlation Matrix

		New CC Math-6 2013 Level P-Score	CC Algebra814 Level New P-Score
Correlation	New CC Math-6 2013 Level P-Score	1.000	.666
	CC Algebra814 Level New P-Score	.666	1.000
Sig. (1-tailed)	New CC Math-6 2013 Level P-Score		.000
	CC Algebra814 Level New P-Score	.000	

Communalities

	Initial	Extraction
New CC Math-6 2013 Level P-Score	1.000	.833
CC Algebra814 Level New P-Score	1.000	.833

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.666	83.308	83.308	1.666	83.308	83.308
2	.334	16.692	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis –Math-7 to the Grade 8 Common Core Algebra Regents

Correlation Matrix

		CC Algebra814 Level New P-Score	New CC Math-7 2014 Level P-Score
Correlation	CC Algebra814 Level New P-Score	1.000	.692
	New CC Math-7 2014 Level P-Score	.692	1.000
Sig. (1-tailed)	CC Algebra814 Level New P-Score		.000
	New CC Math-7 2014 Level P-Score	.000	

Communalities

	Initial	Extraction
CC Algebra814 Level New P-Score	1.000	.846
New CC Math-7 2014 Level P-Score	1.000	.846

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.692	84.603	84.603	1.692	84.603	84.603
2	.308	15.397	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis –Math-7 Common Core Scores to the Common Core Algebra Regents

Correlation Matrix

		CC Algebra915 Level New P-Score	New CC Math-7 2013 Level P-Score
Correlation	CC Algebra915 Level New P-Score	1.000	.685
	New CC Math-7 2013 Level P-Score	.685	1.000
Sig. (1-tailed)	CC Algebra915 Level New P-Score		.000
	New CC Math-7 2013 Level P-Score	.000	

Communalities

	Initial	Extraction
CC Algebra915 Level New P-Score	1.000	.793
New CC Math-7 2013 Level P-Score	1.000	.793

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.585	79.274	79.274	1.585	79.274	79.274
2	.415	20.726	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis –Math-8 Common Core Scores to the Common Core Algebra Regents

Correlation Matrix

		CC Algebra915 Level New P-Score	New CC Math-8 2015 Level P-Score
Correlation	CC Algebra915 Level New P-Score	1.000	.638
	New CC Math-8 2015 Level P-Score	.638	1.000
Sig. (1-tailed)	CC Algebra915 Level New P-Score		.000
	New CC Math-8 2015 Level P-Score	.000	

Communalities

	Initial	Extraction
CC Algebra915 Level New P-Score	1.000	.819
New CC Math-8 2015 Level P-Score	1.000	.819

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.638	81.901	81.901	1.638	81.901	81.901
2	.362	18.099	100.000			

Extraction Method: Principal Component Analysis.

Factor Analysis –Common Core Algebra Scores to the Common Core Geometry Regents

Correlation Matrix[a]

		CC Geometry 915 Level New P-Score	CC Algebra814 Level New P-Score
Correlation	CC Geometry 915 Level New P-Score	1.000	.721
	CC Algebra814 Level New P-Score	.721	1.000
Sig. (1-tailed)	CC Geometry 915 Level New P-Score		.000
	CC Algebra814 Level New P-Score	.000	

a. Only cases for which Disability = 0 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Geometry 915 Level New P-Score	1.000	.861
CC Algebra814 Level New P-Score	1.000	.861

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 0 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.721	86.056	86.056	1.721	86.056	86.056
2	.279	13.944	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 0 are used in the analysis phase.

Factor Analysis –Geometry Scores to the Algebra 2 - Trigonometry Regents

Correlation Matrix

		Trigonometry 1113 Level New P-Score	Geometry1014 Level New P-Score
Correlation	Trigonometry1113 Level New P-Score	1.000	.609
	Geometry1014 Level New P-Score	.609	1.000
Sig. (1-tailed)	Trigonometry1113 Level New P-Score		.000
	Geometry1014 Level New P-Score	.000	

Communalities

	Initial	Extraction
Trigonometry1113 Level New P-Score	1.000	.804
Geometry1014 Level New P-Score	1.000	.804

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.609	80.440	80.440	1.609	80.440	80.440
2	.391	19.560	100.000			

Extraction Method: Principal Component Analysis.

Partial Correlation Analysis – Mathematics

Although the factor analysis of the relationship between all of the math courses indicated that they were strongly related, to ensure that this relationship held true for students with special statuses. A partial correlation analysis was conducted to evaluate the strength of the relatedness of mathematics scores among Students with Disabilities, Limited English Proficient students/English Language Learners and Low Income students. The following SPSS Modeler analysis tables indicate that the relationship between the Math-6 and Math-7 and the following Common Core Algebra in grade 8 scores is quite strong for all status groups. There were 260 disabled students who took both the Math-7and 346 disabled students who took the Math-6 followed by the Common Core Algebra Regents in grade 8 (2015). There were 57 English Language learners who took the Math-7 and 44 English Language Learners who took the Math-6 followed by the grade 8Algebra Regents. There were 1,296 low-income students who took the Math-7 in 2014 and 1,560 low income students who took the Math-6 (2013) followed by the Common Core Algebra Regents in grade 8 in 2015.

There were 334disabled students who took both the Math-8 and the Algebra Regents in grade 9. There were 298English Language learners who took both the Math-8 and the grade 9 Algebra Regents. There were 2,346low-income students who took the Math-8 in 2014 and the Common Core Algebra Regents in grade 9 in 2015. These correlations also connect Math-7 to Algebra performance two years later for disabled students for 841 disabled students, 268 English Language Learners and 2,257 low income students.

Math-6 and Grade 8 Common Core Algebra Regents Correlations among Students with Disabilities

Correlation Matrix[a]

		New CC Math-6 2013 Level P-Score	CC Algebra814 Level New P-Score
Correlation	New CC Math-6 2013 Level P-Score	1.000	.768
	CC Algebra814 Level New P-Score	.768	1.000
Sig. (1-tailed)	New CC Math-6 2013 Level P-Score		.000
	CC Algebra814 Level New P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New CC Math-6 2013 Level P-Score	1.000	.884
CC Algebra814 Level New P-Score	1.000	.884

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.768	88.397	88.397	1.768	88.397	88.397
2	.232	11.603	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Math-6 and Grade 8 Common Core Algebra Regents Correlations among English Language Learners

Correlation Matrix[a]

		New CC Math-6 2013 Level P-Score	CC Algebra814 Level New P-Score
Correlation	New CC Math-6 2013 Level P-Score	1.000	.664
	CC Algebra814 Level New P-Score	.664	1.000
Sig. (1-tailed)	New CC Math-6 2013 Level P-Score		.000
	CC Algebra814 Level New P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New CC Math-6 2013 Level P-Score	1.000	.832
CC Algebra814 Level New P-Score	1.000	.832

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 0 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.664	83.195	83.195	1.664	83.195	83.195
2	.336	16.805	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Math-6 and Grade 8 Common Core Algebra Regents Correlations among Low Income Students

Correlation Matrix[a]

		New CC Math-6 2013 Level P-Score	CC Algebra814 Level New P-Score
Correlation	New CC Math-6 2013 Level P-Score	1.000	.631
	CC Algebra814 Level New P-Score	.631	1.000
Sig. (1-tailed)	New CC Math-6 2013 Level P-Score		.000
	CC Algebra814 Level New P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
New CC Math-6 2013 Level P-Score	1.000	.816
CC Algebra814 Level New P-Score	1.000	.816

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 0 are used in the analysis phase.

Total Variance Explained[a]

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.631	81.560	81.560	1.631	81.560	81.560
2	.369	18.440	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Math-7 and Grade 8 Common Core Algebra Regents Correlations among Students with Disabilities

Correlation Matrix[a]

		CC Algebra814 Level New P-Score	New CC Math-7 2014 Level P-Score
Correlation	CC Algebra815 Level New P-Score	1.000	.632
	New CC Math-7 2014 Level P-Score	.632	1.000
Sig. (1-tailed)	CC Algebra815 Level New P-Score		.000
	New CC Math-7 2014 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Algebra815 Level New P-Score	1.000	.898
New CC Math-7 2014 Level P-Score	1.000	.898

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.796	89.791	89.791	1.796	89.791	89.791
2	.204	10.209	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Math-7 and Grade 8 Common Core Algebra Regents Correlations among English Language Learners

Correlation Matrix[a]

		CC Algebra815 Level New P-Score	New CC Math-7 2014 Level P-Score
Correlation	CC Algebra815 Level New P-Score	1.000	.571
	New CC Math-7 2014 Level P-Score	.871	1.000
Sig. (1-tailed)	CC Algebra815 Level New P-Score		.000
	New CC Math-7 2014 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Algebra814 Level New P-Score	1.000	.935
New CC Math-7 2014 Level P-Score	1.000	.935

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.871	93.540	93.540	1.871	93.540	93.540
2	.129	6.460	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Math-7 and Grade 8 Common Core Algebra Regents Correlations among Low Income Students

Correlation Matrix[a]

		CC Algebra815 Level New P-Score	New CC Math-7 2014 Level P-Score
Correlation	CC Algebra815 Level New P-Score	1.000	.661
	New CC Math-7 2014 Level P-Score	.661	1.000
Sig. (1-tailed)	CC Algebra815 Level New P-Score		.000
	New CC Math-7 2014 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Algebra814 Level New P-Score	1.000	.830
New CC Math-7 2014 Level P-Score	1.000	.830

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.661	83.034	83.034	1.661	83.034	83.034
2	.339	16.966	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Common Core Math-7 and Grade 9 Common Core Algebra Regents Correlations among Students with Disabilities

Correlation Matrix[a]

		CC Algebra915 Level New P-Score	New CC Math-7 2013 Level P-Score
Correlation	CC Algebra915 Level New P-Score	1.000	.506
	New CC Math-7 2013 Level P-Score	.506	1.000
Sig. (1-tailed)	CC Algebra915 Level New P-Score		.000
	New CC Math-7 2013 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Algebra915 Level New P-Score	1.000	.753
New CC Math-7 2013 Level P-Score	1.000	.753

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.506	75.276	75.276	1.506	75.276	75.276
2	.494	24.724	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Common Core Math-7 and Grade 9 Common Core Algebra Regents Correlations among English language Learners

Correlation Matrix[a]

		CC Algebra915 Level New P-Score	New CC Math-7 2013 Level P-Score
Correlation	CC Algebra915 Level New P-Score	1.000	.544
	New CC Math-7 2013 Level P-Score	.544	1.000
Sig. (1-tailed)	CC Algebra915 Level New P-Score		.000
	New CC Math-7 2013 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Algebra915 Level New P-Score	1.000	.772
New CC Math-7 2013 Level P-Score	1.000	.772

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.544	77.210	77.210	1.544	77.210	77.210
2	.456	22.790	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Common Core Math-7 and Grade 9 Common Core Algebra Regents Correlations among Low Income Students

Correlation Matrix[a]

		CC Algebra915 Level New P-Score	New CC Math-7 2013 Level P-Score
Correlation	CC Algebra915 Level New P-Score	1.000	.559
	New CC Math-7 2013 Level P-Score	.559	1.000
Sig. (1-tailed)	CC Algebra915 Level New P-Score		.000
	New CC Math-7 2013 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Algebra915 Level New P-Score	1.000	.779
New CC Math-7 2013 Level P-Score	1.000	.779

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.559	77.936	77.936	1.559	77.936	77.936
2	.441	22.064	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Common Core Math-8 and Common Core Algebra Regents Correlations among Students with Disabilities

Correlation Matrix[a]

		CC Algebra915 Level New P-Score	New CC Math-8 2014 Level P-Score
Correlation	CC Algebra915 Level New P-Score	1.000	.599
	New CC Math-8 2014 Level P-Score	.599	1.000
Sig. (1-tailed)	CC Algebra915 Level New P-Score		.000
	New CC Math-8 2014 Level P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Algebra915 Level New P-Score	1.000	.799
New CC Math-8 2014 Level P-Score	1.000	.799

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.599	79.931	79.931	1.599	79.931	79.931
2	.401	20.069	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Common Core Math-8 and Integrated Algebra Regents Correlations among English language Learners

Correlation Matrix[a]

		CC Algebra915 Level New P-Score	New CC Math-8 2015 Level P-Score
Correlation	CC Algebra915 Level New P-Score	1.000	.602
	New CC Math-8 2014 Level P-Score	.602	1.000
Sig. (1-tailed)	CC Algebra915 Level New P-Score		.000
	New CC Math-8 2014 Level P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Algebra915 Level New P-Score	1.000	.801
New CC Math-8 2014 Level P-Score	1.000	.801

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.602	80.080	80.080	1.602	80.080	80.080
2	.398	19.920	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Common Core Math-8 and Integrated Algebra Regents Correlations among Low Income Students

Correlation Matrix[a]

		CC Algebra915 Level New P-Score	New CC Math-8 2015 Level P-Score
Correlation	CC Algebra915 Level New P-Score	1.000	.624
	New CC Math-8 2014 Level P-Score	.624	1.000
Sig. (1-tailed)	CC Algebra915 Level New P-Score		.000
	New CC Math-8 2014 Level P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Algebra915 Level New P-Score	1.000	.812
New CC Math-8 2014 Level P-Score	1.000	.812

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.624	81.177	81.177	1.624	81.177	81.177
2	.376	18.823	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Common Core Algebra Regents and Common Core Geometry Correlations among Students with Disabilities

Correlation Matrix[a]

		CC Geometry 915 Level New P-Score	CC Algebra814 Level New P-Score
Correlation	CC Geometry 915 Level New P-Score	1.000	.721
	CC Algebra814 Level New P-Score	.721	1.000
Sig. (1-tailed)	CC Geometry 915 Level New P-Score		.000
	CC Algebra814 Level New P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Geometry 915 Level New P-Score	1.000	.861
CC Algebra814 Level New P-Score	1.000	.861

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.721	86.056	86.056	1.721	86.056	86.056
2	.279	13.944	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 0 are used in the analysis phase.

Common Core Algebra Regents and Common Core Geometry Correlations among English Language Learners

Correlation Matrix[a]

		CC Geometry 915 Level New P-Score	CC Algebra814 Level New P-Score
Correlation	CC Geometry 915 Level New P-Score	1.000	.726
	CC Algebra814 Level New P-Score	.726	1.000
Sig. (1-tailed)	CC Geometry 915 Level New P-Score		.000
	CC Algebra814 Level New P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Geometry 915 Level New P-Score	1.000	.863
CC Algebra814 Level New P-Score	1.000	.863

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 0 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.726	86.307	86.307	1.726	86.307	86.307
2	.274	13.693	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Common Core Algebra Regents and Common Core Geometry Correlations among Low Income Students

Correlation Matrix[a]

		CC Geometry 915 Level New P-Score	CC Algebra814 Level New P-Score
Correlation	CC Geometry 915 Level New P-Score	1.000	.715
	CC Algebra814 Level New P-Score	.715	1.000
Sig. (1-tailed)	CC Geometry 915 Level New P-Score		.000
	CC Algebra814 Level New P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
CC Geometry 915 Level New P-Score	1.000	.858
CC Algebra814 Level New P-Score	1.000	.858

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.715	85.751	85.751	1.715	85.751	85.751
2	.285	14.249	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Non Common Core Geometry and Non Common Core Algebra 2 – Trigonometry Correlations among Students with Disabilities

Correlation Matrix[a]

		Geometry1014 Level New P-Score	Trigonometry1113 Level New P-Score
Correlation	Geometry1014 Level New P-Score	1.000	.599
	Trigonometry1113 Level New P-Score	.599	1.000
Sig. (1-tailed)	Geometry1014 Level New P-Score		.000
	Trigonometry1113 Level New P-Score	.000	

a. Only cases for which Disability = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Geometry1014 Level New P-Score	1.000	.800
Trigonometry1113 Level New P-Score	1.000	.800

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.599	79.956	79.956	1.599	79.956	79.956
2	.401	20.044	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Disability = 1 are used in the analysis phase.

Non Common Core Geometry and Non Common Core Algebra 2 – Trigonometry Correlations among English Language Learners

Correlation Matrix[a]

		Geometry1014 Level New P-Score	Trigonometry1113 Level New P-Score
Correlation	Geometry1014 Level New P-Score	1.000	.606
	Trigonometry1113 Level New P-Score	.606	1.000
Sig. (1-tailed)	Geometry1014 Level New P-Score		.000
	Trigonometry1113 Level New P-Score	.000	

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Geometry1014 Level New P-Score	1.000	.803
Trigonometry1113 Level New P-Score	1.000	.803

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 0 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.606	80.309	80.309	1.606	80.309	80.309
2	.394	19.691	100.000			

Extraction Method: Principal Component Analysis.

a. Only cases for which Limited English Proficient = 1 are used in the analysis phase.

Non Common Core Geometry and Non Common Core Algebra 2 – Trigonometry Correlations among Low Income Students

Correlation Matrix[a]

		Geometry1014 Level New P-Score	Trigonometry1113 Level New P-Score
Correlation	Geometry1014 Level New P-Score	1.000	.596
	Trigonometry1113 Level New P-Score	.596	1.000
Sig. (1-tailed)	Geometry1014 Level New P-Score		.000
	Trigonometry1113 Level New P-Score	.000	

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Communalities[a]

	Initial	Extraction
Geometry1014 Level New P-Score	1.000	.798
Trigonometry1113 Level New P-Score	1.000	.798

Extraction Method: Principal Component Analysis.

a. Only cases for which Low-Income = 1 are used in the analysis phase.

Total Variance Explained[a]

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.596	79.785	79.785	1.596	79.785	79.785
2	.404	20.215	100.000			

Extraction Method: Principal Component Analysis.

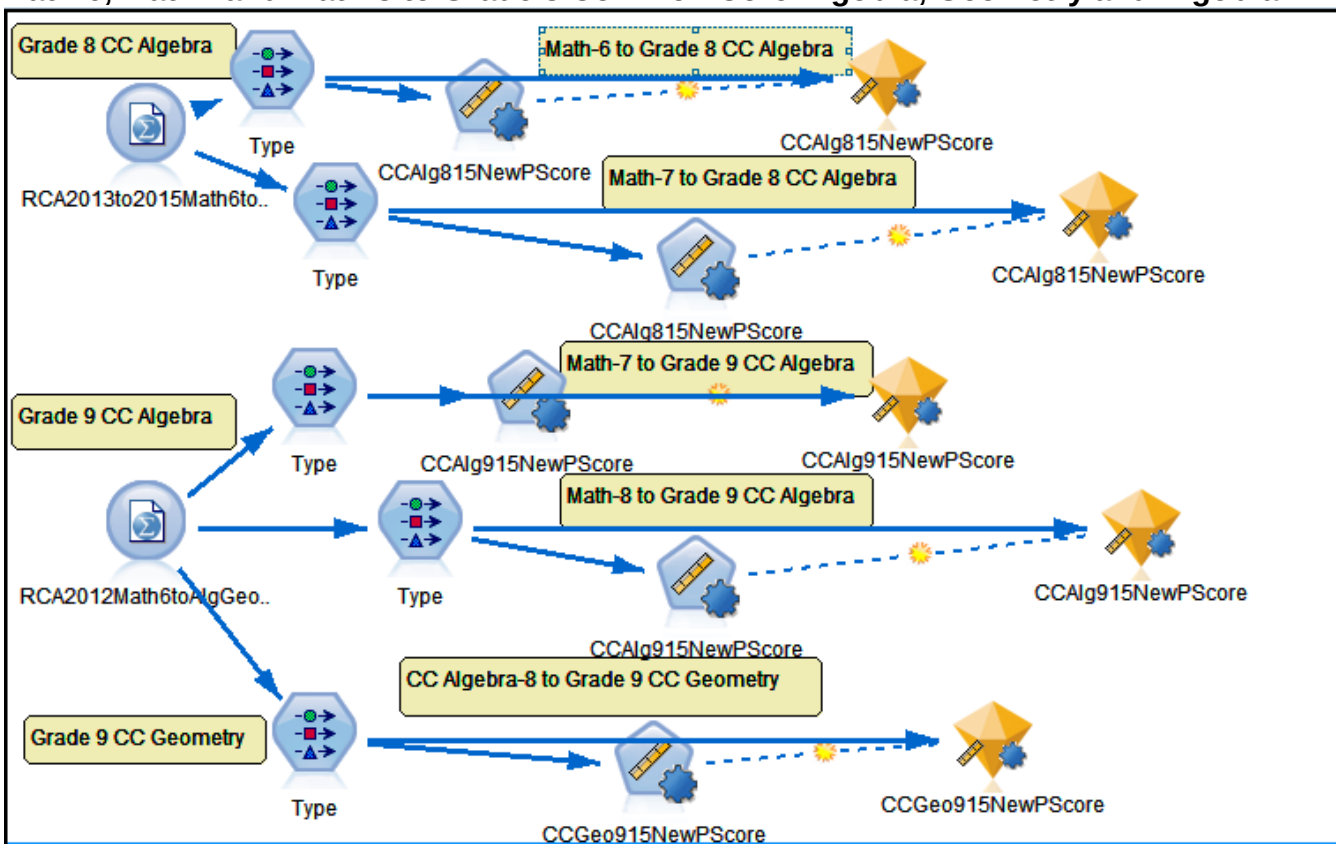
a. Only cases for which Low-Income = 1 are used in the analysis phase.

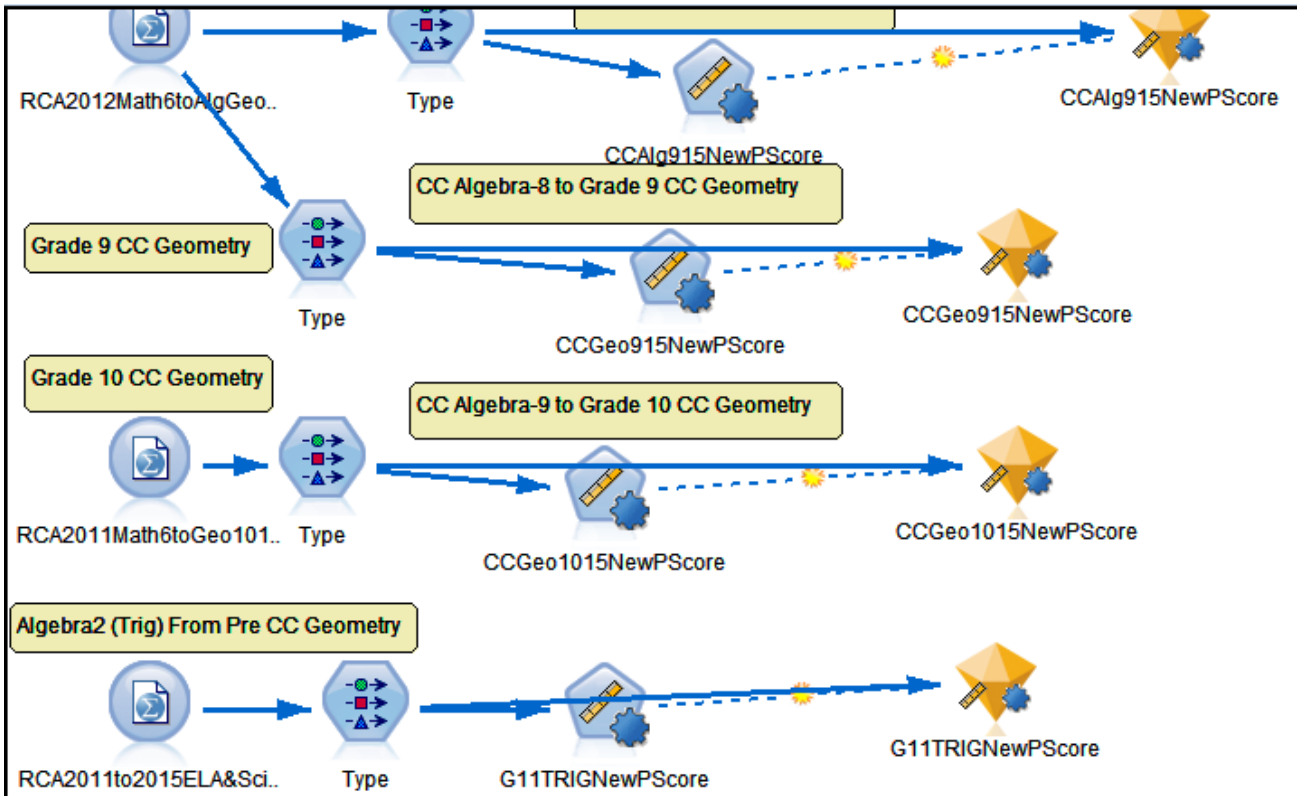
Predictive Analytic Tests/Processes-Mathematics

Rule Induction Tests

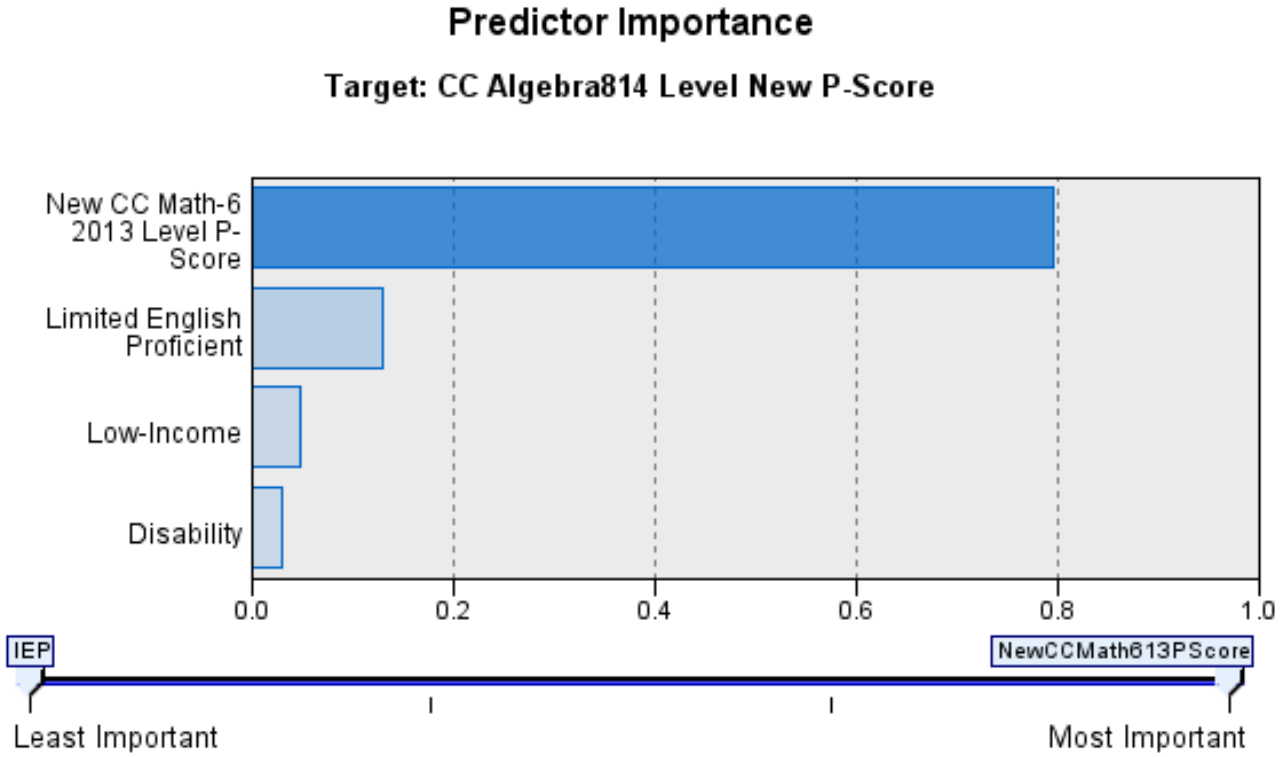
Because the dependent or target variables in the study are the interval variables - leveled percentile outcomes on specific Regents tests (Integrated Algebra, Geometry and Algebra 2 - Trigonometry), the Rule Induction Test used to develop predictions based upon Math-7 and Math-8 data was the Neural Net. The first image below is the data stream test for the prediction of Geometry from prior Integrated Algebra P-scores on the left and the prediction of Trigonometry on the right of the image. Each of the data stream "nuggets" indicates successful prediction using the prior designated test data as well as Students with Disabilities, English Language Learners statuses. The following Modeler Neural Net Chart indicates the relative prediction significance of the prior test P-Scores, Students with Disabilities status, English Language Learners status and Low Income status in the prediction. The bottom portion of the data stream image displays the path that starts with Math-6 or Math-7 scores and follows with grade 8 Common Core Algebra, and later Math-7 or Math-8 leading to Common Core Algebra in grade 9. The successful prediction of the Common Core Algebra Regents scores is disproportionately based upon Math-7 and Math-8 scores, however, Students with Disabilities status and English Language Learners status play a significant role.

Math-6, Math-7and Math-8 to Grade 8 Common Core Algebra, Geometry and Algebra2

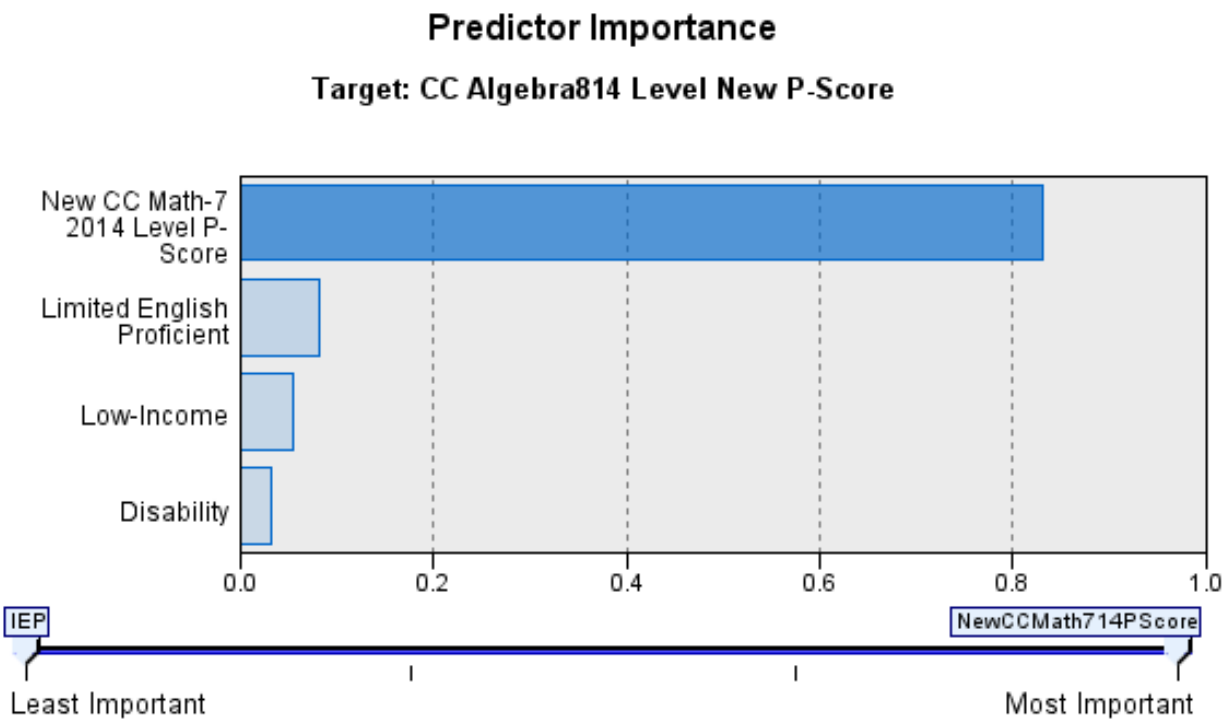




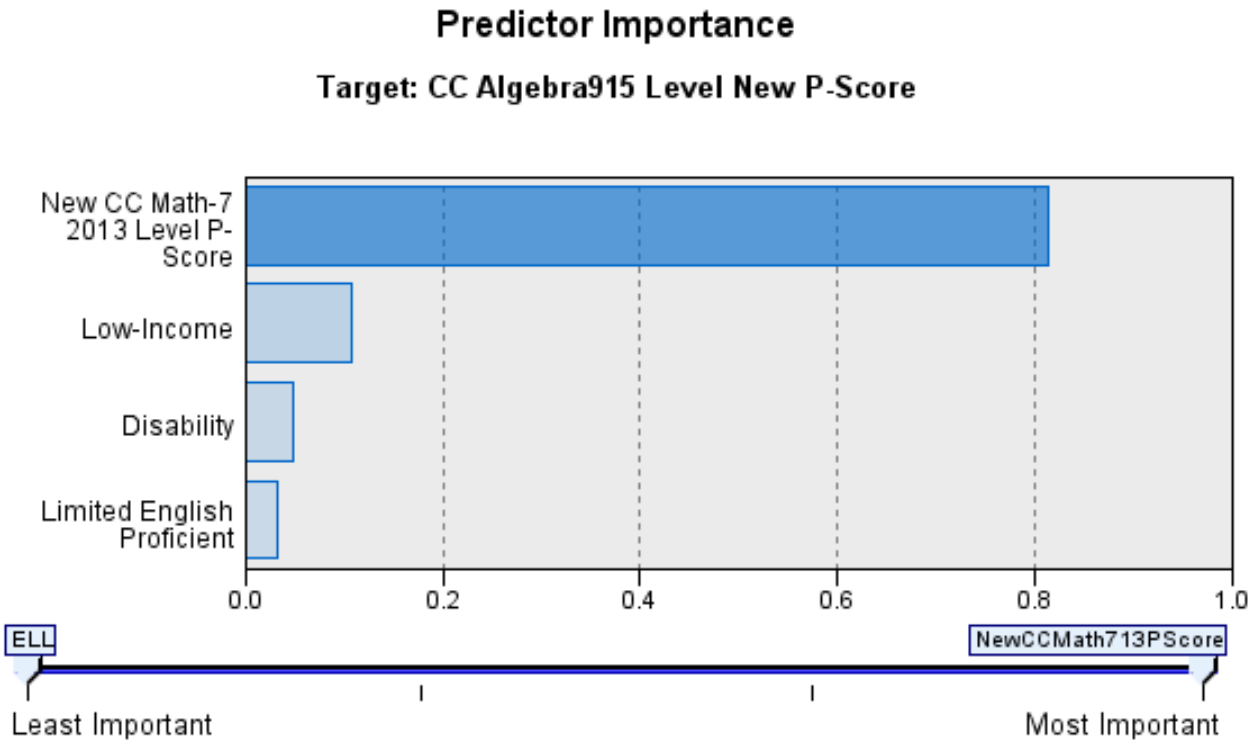
Math-6 to Common Core Algebra-8 Relative Prediction Significance



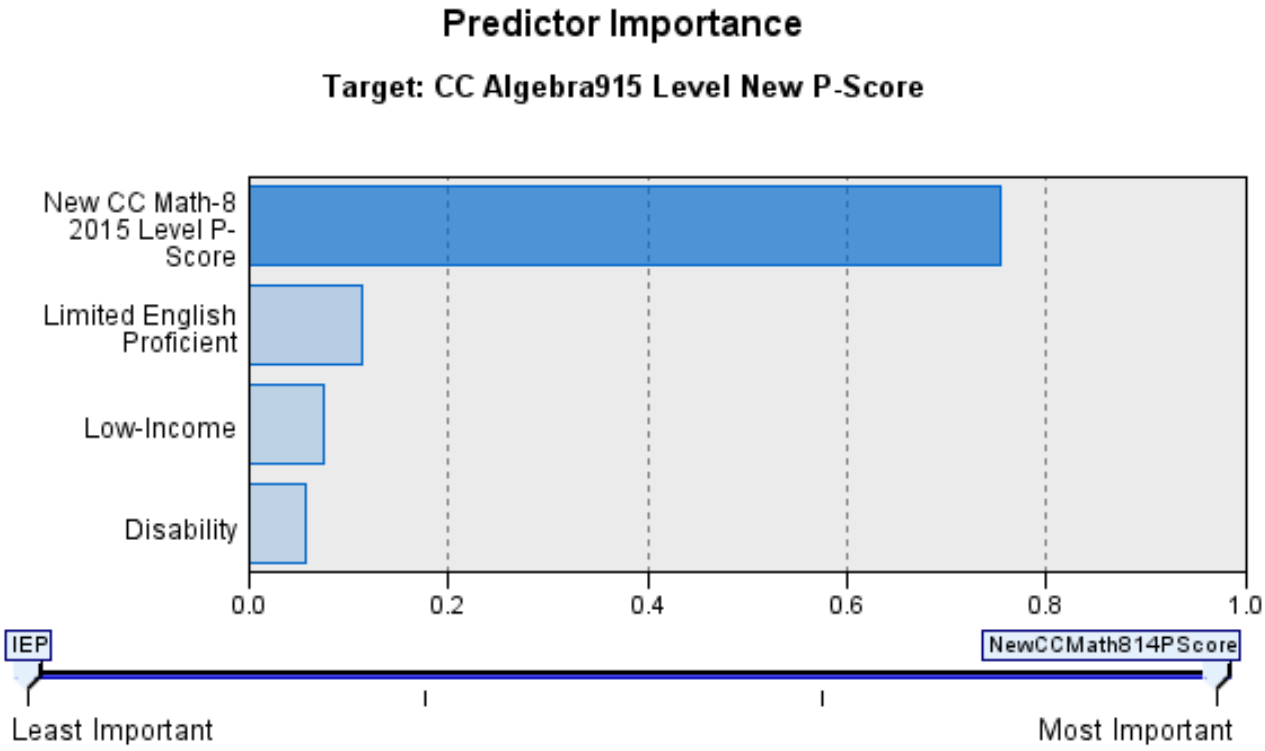
Math-7 to Common Core Algebra-8 Relative Prediction Significance



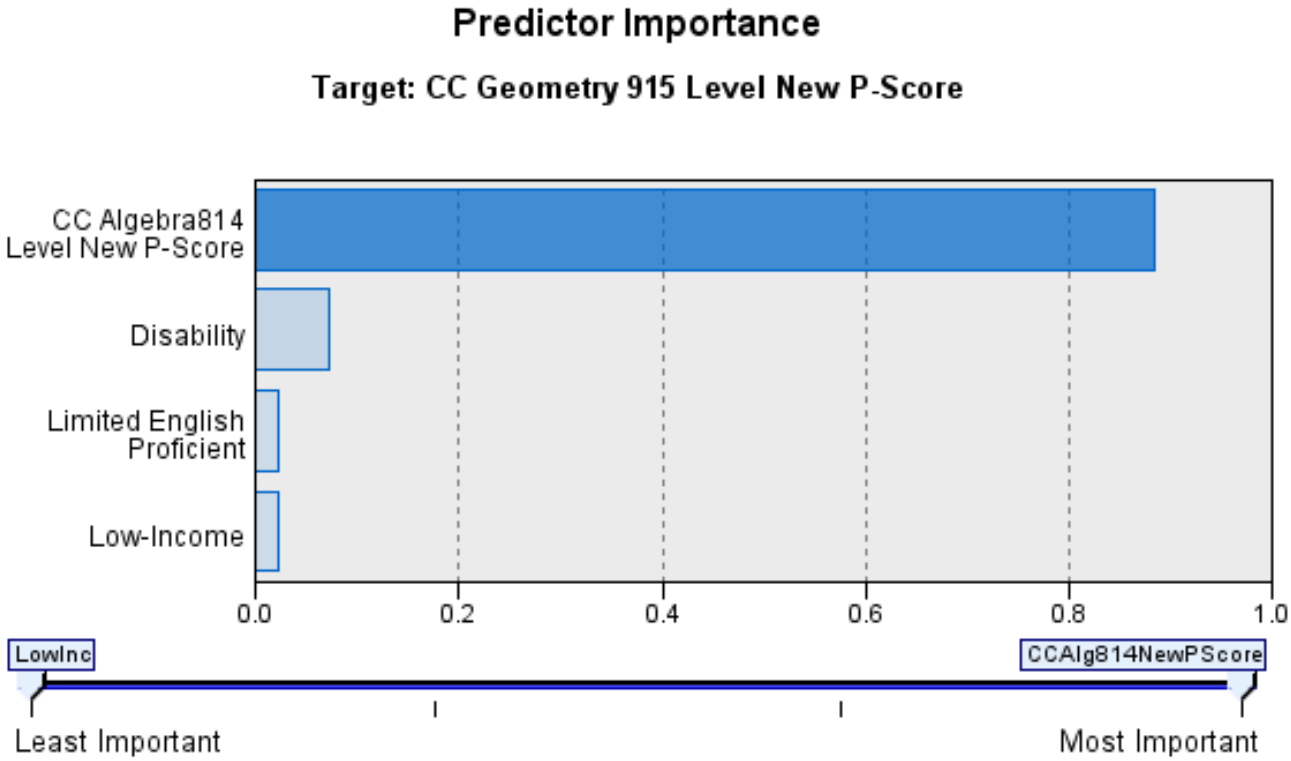
Math-7 to Grade 9 Common Core Algebra Relative Prediction Significance



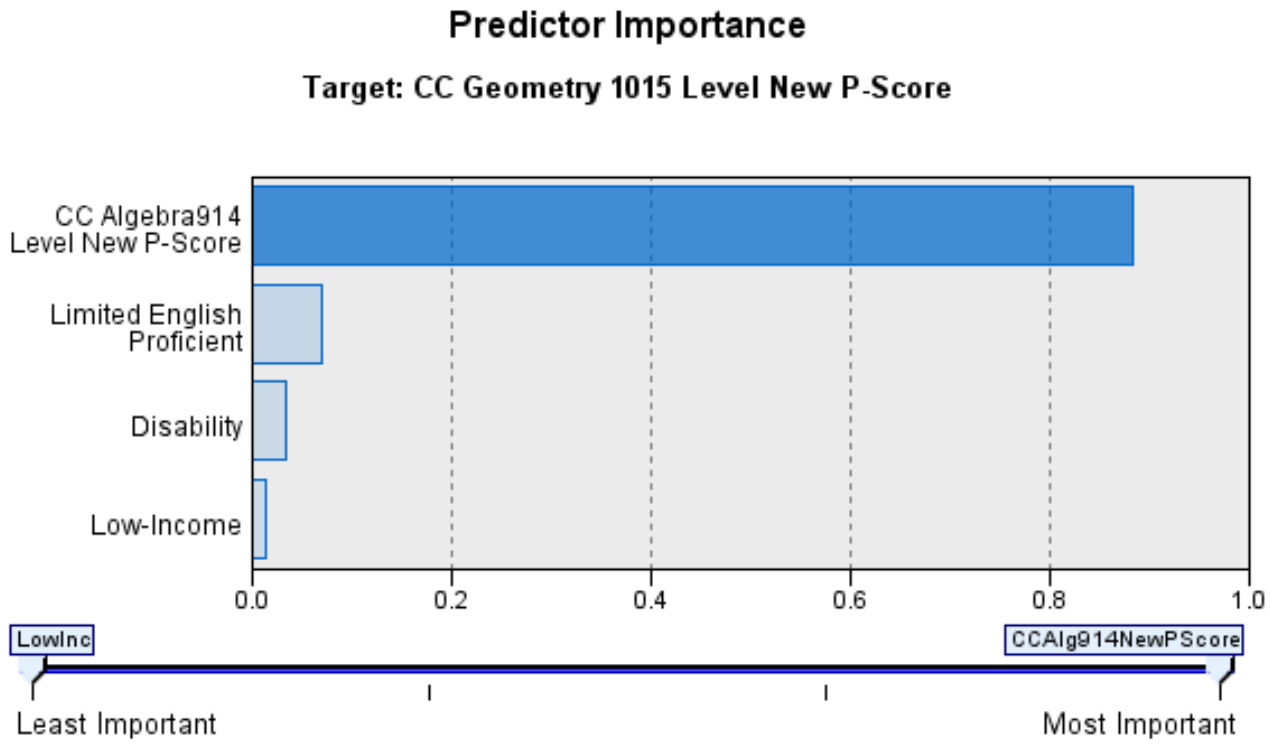
Math-8 to Grade 9 Common Core Algebra Relative Prediction Significance



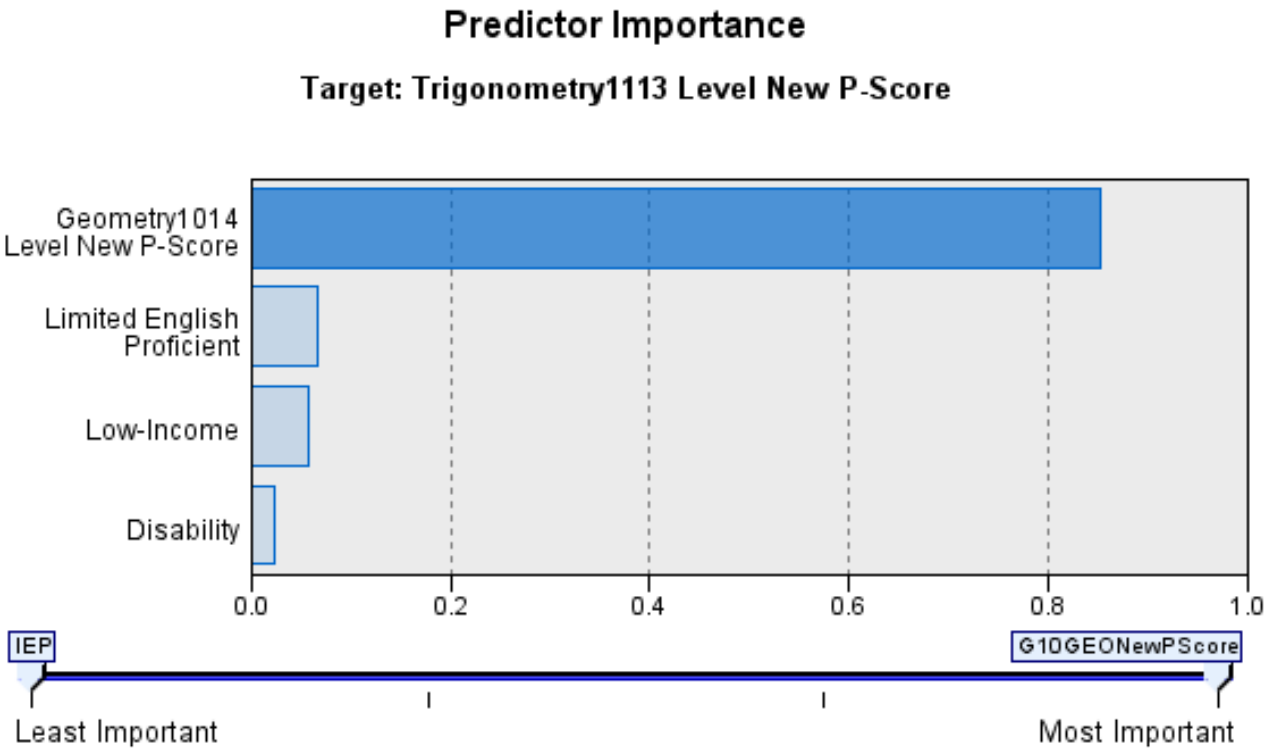
Grade 8 Common Core Algebra to Grade 9 Geometry



Grade 9 Common Core Algebra to Grade 10Geometry



Geometry-10 to Trigonometry-11



Establish Rule Sets for Mathematics Projections

Modeler includes a series of predictive analytic statistical models that allow the setting of rule sets or conditions for the determination of a successful prediction. The C5.0 model was used in rule setting for evaluation of predictions. It simplifies the complexity of the data by identifying target cases that do not meet the pre-established rules. Sub-levels were introduced into the predictive model so that future scores would be predicted based upon the scores of students in short score ranges separately for non-status students, Students with Disabilities, Limited English Proficiency students/English Language Learners and Low Income students. Two related sets of predictions were generated to set high and low predictions with different rates of confidence.

The following two rules were used for the "high-end" predictions of mathematics scores on the Common Core Algebra, Geometry and Trigonometry Regents. Rule 1 = Rule 1, applies to each sub-level group and each status group including students with disabilities, English Language Learners and Low Income students. Rule 2 = Projections will not be supported unless at least 100 students or more connect the two tests for any status group. The prediction is essentially determined at the top end of the predictive range by the mean average performance of students in prior performance sub-levels on the Math-6, Math-7 or Math-8 Assessments.

The following three rules were used for the "low-end" predictions of Common Core Algebra, Common Core Geometry and Trigonometry Regents results from prior scores. Rule 1 = 80% or more of all target cases should be equal to above the minimum projection for all sublevel groups based upon prior scores. Rule 2 = Rule 1 applies to each sub-level group and each status group including Students with Disabilities, English Language Learners and Low Income students. Rule 3 = Projections will not be supported unless at least 100 students or more connect the two tests for any status group. The "low-end" projections are calculated by expanding the confidence interval to ensure that the target of 80% successful prediction for each short score range from the prior test. If there were fewer than 20 students in any sub-level group from the prior test, the generated projection was suppressed in the projection tables to ensure that projections were based upon representative clusters of students.

Generating Projections

Using the rule sets described above the projections below were exported into Excel. The first projections are from Math-6 and Math-7 sub-levels to grade 8 Common Core Algebra. The Common Core Algebra Regents scores have been converted to equivalent scale scores for use as projections for similar students. Once the high and low projections were generated a mid-point projection was added in order to give the end-user a range from low to high to establish student performance targets.

Testing Projections

After the projections were written to the regional longitudinal data file for all students who took the Math-6, Math-7, Math-8, Common Core Algebra, or Geometry Regents and a following mathematics Regents, the most conservative "low-end" projections were validated with a series of tables in the SPSS Modeler that identified successful predictions and unsuccessful predictions. In each of the tables below the counts and percentages in the "yes" column identifies the rate of that actual student outcomes on the target test were at or above the projection for the relevant sub-level group. The projections are validated when the successful prediction rate is 80% or higher for every sub-group with a projection.

Test of Math-6 to the Common Core Algebra Regents Projections Non-Status Students

New Math-6 2013 Sub Levels * NOSTATM6toCC8ALGPre Crosstabulation

			NOSTATM6toCC8ALGPre		
			No	Yes	Total
New Math-6 2013 Sub Levels	Mid Level 1	Count	6	25	31
		% within New Math-6 2013 Sub Levels	19.4%	80.6%	100.0%
	High Level 1	Count	9	104	113
		% within New Math-6 2013 Sub Levels	8.0%	92.0%	100.0%
	Low Level 2	Count	21	214	235
		% within New Math-6 2013 Sub Levels	8.9%	91.1%	100.0%
	Mid Level 2	Count	23	312	335
		% within New Math-6 2013 Sub Levels	6.9%	93.1%	100.0%
	High Level 2	Count	59	623	682
		% within New Math-6 2013 Sub Levels	8.7%	91.3%	100.0%
	Low Level 3	Count	42	507	549
		% within New Math-6 2013 Sub Levels	7.7%	92.3%	100.0%
	Mid Level 3	Count	77	423	500
		% within New Math-6 2013 Sub Levels	15.4%	84.6%	100.0%
	High Level 3	Count	139	569	708
		% within New Math-6 2013 Sub Levels	19.6%	80.4%	100.0%
	Low Level 4	Count	110	610	720
		% within New Math-6 2013 Sub Levels	15.3%	84.7%	100.0%
	Mid Level 4	Count	107	464	571
		% within New Math-6 2013 Sub Levels	18.7%	81.3%	100.0%
	High Level 4	Count	48	198	246
		% within New Math-6 2013 Sub Levels	19.5%	80.5%	100.0%
Total		Count	641	4049	4690
		% within New Math-6 2013 Sub Levels	13.7%	86.3%	100.0%

Test of Math-6 to the Common Core Algebra Regents Projections IEP-Status Students

New Math-6 2013 Sub Levels * IEPM6toCC8ALGPre Crosstabulation

			IEPM6toCC8ALGPre		
			No	Yes	Total
New Math-6 2013 Sub Levels	Mid Level 1	Count	11	56	67
		% within New Math-6 2013 Sub Levels	16.4%	83.6%	100.0%
	High Level 1	Count	10	84	94
		% within New Math-6 2013 Sub Levels	10.6%	89.4%	100.0%
	Low Level 2	Count	4	51	55
		% within New Math-6 2013 Sub Levels	7.3%	92.7%	100.0%
	Mid Level 2	Count	2	35	37
		% within New Math-6 2013 Sub Levels	5.4%	94.6%	100.0%
	High Level 2	Count	2	35	37
		% within New Math-6 2013 Sub Levels	5.4%	94.6%	100.0%
Total		Count	29	261	290
		% within New Math-6 2013 Sub Levels	10.0%	90.0%	100.0%

Test of Math-6 to the Common Core Algebra Regents Projections
Low Income-Status Students

New Math-6 2013 Sub Levels * LowIncM6toCC8ALGPre Crosstabulation

			LowIncM6toCC8ALGPre		
			No	Yes	Total
New Math-6 2013 Sub Levels	Mid Level 1	Count	19	74	93
		% within New Math-6 2013 Sub Levels	20.4%	79.6%	100.0%
	High Level 1	Count	31	151	182
		% within New Math-6 2013 Sub Levels	17.0%	83.0%	100.0%
	Low Level 2	Count	20	144	164
		% within New Math-6 2013 Sub Levels	12.2%	87.8%	100.0%
	Mid Level 2	Count	15	192	207
		% within New Math-6 2013 Sub Levels	7.2%	92.8%	100.0%
	High Level 2	Count	15	229	244
		% within New Math-6 2013 Sub Levels	6.1%	93.9%	100.0%
	Low Level 3	Count	14	132	146
		% within New Math-6 2013 Sub Levels	9.6%	90.4%	100.0%
	Mid Level 3	Count	5	119	124
		% within New Math-6 2013 Sub Levels	4.0%	96.0%	100.0%
	High Level 3	Count	26	124	150
		% within New Math-6 2013 Sub Levels	17.3%	82.7%	100.0%
	Low Level 4	Count	23	96	119
		% within New Math-6 2013 Sub Levels	19.3%	80.7%	100.0%
	Mid Level 4	Count	22	72	94
		% within New Math-6 2013 Sub Levels	23.4%	76.6%	100.0%
	High Level 4	Count	7	26	33
		% within New Math-6 2013 Sub Levels	21.2%	78.8%	100.0%
Total		Count	197	1359	1556
		% within New Math-6 2013 Sub Levels	12.7%	87.3%	100.0%

Test of Math-7 to the Common Core Algebra Regents Projections
Non-Status Students

New Math-7 2014 Sub Levels * NOSTATM7toCC8ALGPre Crosstabulation

			NOSTATM7toCC8ALGPre		
			No	Yes	Total
New Math-7 2014 Sub Levels	Mid Level 1	Count	7	47	54
		% within New Math-7 2014 Sub Levels	13.0%	87.0%	100.0%
	High Level 1	Count	10	91	101
		% within New Math-7 2014 Sub Levels	9.9%	90.1%	100.0%
	Low Level 2	Count	12	145	157
		% within New Math-7 2014 Sub Levels	7.6%	92.4%	100.0%
	Mid Level 2	Count	15	228	243
		% within New Math-7 2014 Sub Levels	6.2%	93.8%	100.0%
	High Level 2	Count	21	368	389
		% within New Math-7 2014 Sub Levels	5.4%	94.6%	100.0%
	Low Level 3	Count	24	471	495
		% within New Math-7 2014 Sub Levels	4.8%	95.2%	100.0%
	Mid Level 3	Count	70	618	688
		% within New Math-7 2014 Sub Levels	10.2%	89.8%	100.0%
	High Level 3	Count	102	719	821
		% within New Math-7 2014 Sub Levels	12.4%	87.6%	100.0%
	Low Level 4	Count	94	521	615
		% within New Math-7 2014 Sub Levels	15.3%	84.7%	100.0%
	Mid Level 4	Count	59	275	334
		% within New Math-7 2014 Sub Levels	17.7%	82.3%	100.0%
	High Level 4	Count	20	113	133
		% within New Math-7 2014 Sub Levels	15.0%	85.0%	100.0%
Total		Count	434	3596	4030
		% within New Math-7 2014 Sub Levels	10.8%	89.2%	100.0%

Test of Math-7 to the Common Core Algebra Regents Projections IEP-Status Students

New Math-7 2014 Sub Levels * IEPM7toCC8ALGPre Crosstabulation

			IEPM7toCC8ALGPre		
			No	Yes	Total
New Math-7 2014 Sub Levels	Mid Level 1	Count	13	55	68
		% within New Math-7 2014 Sub Levels	19.1%	80.9%	100.0%
	High Level 1	Count	6	63	69
		% within New Math-7 2014 Sub Levels	8.7%	91.3%	100.0%
	Low Level 2	Count	1	28	29
		% within New Math-7 2014 Sub Levels	3.4%	96.6%	100.0%
	Mid Level 2	Count	1	22	23
		% within New Math-7 2014 Sub Levels	4.3%	95.7%	100.0%
	High Level 2	Count	0	20	20
		% within New Math-7 2014 Sub Levels	0.0%	100.0%	100.0%
Total		Count	21	188	209
		% within New Math-7 2014 Sub Levels	10.0%	90.0%	100.0%

Test of Math-7 to the Common Core Algebra Regents Projections LEP-Status Students

New Math-7 2014 Sub Levels * ELLM7toCC8ALGPre Crosstabulation

			ELLM7toCC8ALGPre		
			No	Yes	Total
New Math-7 2014 Sub Levels	Mid Level 1	Count	3	20	23
		% within New Math-7 2014 Sub Levels	13.0%	87.0%	100.0%
Total		Count	3	20	23
		% within New Math-7 2014 Sub Levels	13.0%	87.0%	100.0%

Test of Math-7 to the Common Core Algebra Regents Projections Low Income-Status Students

New Math-7 2014 Sub Levels * LowIncM7toCC8ALGPre Crosstabulation

			LowIncM7toCC8ALGPre		
			No	Yes	Total
New Math-7 2014 Sub Levels	Mid Level 1	Count	21	112	133
		% within New Math-7 2014 Sub Levels	15.8%	84.2%	100.0%
	High Level 1	Count	17	123	140
		% within New Math-7 2014 Sub Levels	12.1%	87.9%	100.0%
	Low Level 2	Count	8	99	107
		% within New Math-7 2014 Sub Levels	7.5%	92.5%	100.0%
	Mid Level 2	Count	9	138	147
		% within New Math-7 2014 Sub Levels	6.1%	93.9%	100.0%
	High Level 2	Count	6	144	150
		% within New Math-7 2014 Sub Levels	4.0%	96.0%	100.0%
	Low Level 3	Count	6	152	158
		% within New Math-7 2014 Sub Levels	3.8%	96.2%	100.0%
	Mid Level 3	Count	13	153	166
		% within New Math-7 2014 Sub Levels	7.8%	92.2%	100.0%
	High Level 3	Count	26	116	142
		% within New Math-7 2014 Sub Levels	18.3%	81.7%	100.0%
	Low Level 4	Count	13	67	80
		% within New Math-7 2014 Sub Levels	16.3%	83.8%	100.0%
	Mid Level 4	Count	2	42	44
		% within New Math-7 2014 Sub Levels	4.5%	95.5%	100.0%
	High Level 4	Count	4	22	26
		% within New Math-7 2014 Sub Levels	15.4%	84.6%	100.0%
Total		Count	125	1168	1293
		% within New Math-7 2014 Sub Levels	9.7%	90.3%	100.0%

Test of Math-7 to the Grade 9 Common Core Algebra Regents Projections Non-Status Students

New Math-7 2013 Sub Levels * NOSTATM7toCC9ALGPre Crosstabulation

			NOSTATM7toCC9ALGPre		
			No	Yes	Total
New Math-7 2013 Sub Levels	Mid Level 1	Count	20	168	188
		% within New Math-7 2013 Sub Levels	10.6%	89.4%	100.0%
	High Level 1	Count	62	532	594
		% within New Math-7 2013 Sub Levels	10.4%	89.6%	100.0%
	Low Level 2	Count	85	638	723
		% within New Math-7 2013 Sub Levels	11.8%	88.2%	100.0%
	Mid Level 2	Count	84	804	888
		% within New Math-7 2013 Sub Levels	9.5%	90.5%	100.0%
	High Level 2	Count	91	782	873
		% within New Math-7 2013 Sub Levels	10.4%	89.6%	100.0%
	Low Level 3	Count	50	389	439
		% within New Math-7 2013 Sub Levels	11.4%	88.6%	100.0%
	Mid Level 3	Count	48	294	342
		% within New Math-7 2013 Sub Levels	14.0%	86.0%	100.0%
	High Level 3	Count	14	91	105
		% within New Math-7 2013 Sub Levels	13.3%	86.7%	100.0%
	Low Level 4	Count	2	22	24
		% within New Math-7 2013 Sub Levels	8.3%	91.7%	100.0%
Total		Count	456	3720	4176
		% within New Math-7 2013 Sub Levels	10.9%	89.1%	100.0%

Test of Math-7 to the Grade 9 Common Core Algebra Regents Projections IEP-Status Students

New Math-7 2013 Sub Levels * IEPM7toCC9ALGPre Crosstabulation

			IEPM7toCC9ALGPre		
			No	Yes	Total
New Math-7 2013 Sub Levels	Low Level 1	Count	2	15	17
		% within New Math-7 2013 Sub Levels	11.8%	88.2%	100.0%
	Mid Level 1	Count	38	335	373
		% within New Math-7 2013 Sub Levels	10.2%	89.8%	100.0%
	High Level 1	Count	36	346	382
		% within New Math-7 2013 Sub Levels	9.4%	90.6%	100.0%
	Low Level 2	Count	21	172	193
		% within New Math-7 2013 Sub Levels	10.9%	89.1%	100.0%
	Mid Level 2	Count	8	141	149
		% within New Math-7 2013 Sub Levels	5.4%	94.6%	100.0%
	High Level 2	Count	4	87	91
		% within New Math-7 2013 Sub Levels	4.4%	95.6%	100.0%
	Low Level 3	Count	1	25	26
		% within New Math-7 2013 Sub Levels	3.8%	96.2%	100.0%
	Mid Level 3	Count	2	18	20
		% within New Math-7 2013 Sub Levels	10.0%	90.0%	100.0%
Total		Count	112	1139	1251
		% within New Math-7 2013 Sub Levels	9.0%	91.0%	100.0%

Test of Math-7 to the Grade 9 Common Core Algebra Regents Projections
LEP-Status Students

New Math-7 2013 Sub Levels * ELLM7toCC9ALGPre Crosstabulation

			ELLM7toCC9ALGPre		
			No	Yes	Total
New Math-7 2013 Sub Levels	Mid Level 1	Count	12	129	141
		% within New Math-7 2013 Sub Levels	8.5%	91.5%	100.0%
	High Level 1	Count	8	79	87
		% within New Math-7 2013 Sub Levels	9.2%	90.8%	100.0%
	Low Level 2	Count	1	36	37
		% within New Math-7 2013 Sub Levels	2.7%	97.3%	100.0%
	Mid Level 2	Count	0	21	21
		% within New Math-7 2013 Sub Levels	0.0%	100.0%	100.0%
Total		Count	21	265	286
		% within New Math-7 2013 Sub Levels	7.3%	92.7%	100.0%

Test of Math-7 to the Grade 9 Common Core Algebra Regents Projections
Low Income-Status Students

New Math-7 2013 Sub Levels * LowIncM7toCC9ALGPre Crosstabulation

			LowIncM7toCC9ALGPre		
			No	Yes	Total
New Math-7 2013 Sub Levels	Low Level 1	Count	3	19	22
		% within New Math-7 2013 Sub Levels	13.6%	86.4%	100.0%
	Mid Level 1	Count	99	467	566
		% within New Math-7 2013 Sub Levels	17.5%	82.5%	100.0%
	High Level 1	Count	100	657	757
		% within New Math-7 2013 Sub Levels	13.2%	86.8%	100.0%
	Low Level 2	Count	89	520	609
		% within New Math-7 2013 Sub Levels	14.6%	85.4%	100.0%
	Mid Level 2	Count	56	414	470
		% within New Math-7 2013 Sub Levels	11.9%	88.1%	100.0%
	High Level 2	Count	41	297	338
		% within New Math-7 2013 Sub Levels	12.1%	87.9%	100.0%
	Low Level 3	Count	16	136	152
		% within New Math-7 2013 Sub Levels	10.5%	89.5%	100.0%
	Mid Level 3	Count	12	84	96
		% within New Math-7 2013 Sub Levels	12.5%	87.5%	100.0%
	High Level 3	Count	2	18	20
		% within New Math-7 2013 Sub Levels	10.0%	90.0%	100.0%
Total		Count	418	2612	3030
		% within New Math-7 2013 Sub Levels	13.8%	86.2%	100.0%

Test of Math-8 to the Grade 9 Common Core Algebra Regents Projections Non-Status Students

New Math-8 2015 Sub Levels * NOSTATM8toCC9ALGPre Crosstabulation

			NOSTATM8toCC9ALGPre		
			No	Yes	Total
New Math-8 2015 Sub Levels	Mid Level 1	Count	7	45	52
		% within New Math-8 2015 Sub Levels	13.5%	86.5%	100.0%
	High Level 1	Count	23	226	249
		% within New Math-8 2015 Sub Levels	9.2%	90.8%	100.0%
	Low Level 2	Count	39	348	387
		% within New Math-8 2015 Sub Levels	10.1%	89.9%	100.0%
	Mid Level 2	Count	65	518	583
		% within New Math-8 2015 Sub Levels	11.1%	88.9%	100.0%
	High Level 2	Count	88	639	727
		% within New Math-8 2015 Sub Levels	12.1%	87.9%	100.0%
	Low Level 3	Count	47	367	414
		% within New Math-8 2015 Sub Levels	11.4%	88.6%	100.0%
	Mid Level 3	Count	40	197	237
		% within New Math-8 2015 Sub Levels	16.9%	83.1%	100.0%
	High Level 3	Count	28	123	151
		% within New Math-8 2015 Sub Levels	18.5%	81.5%	100.0%
	Low Level 4	Count	7	50	57
		% within New Math-8 2015 Sub Levels	12.3%	87.7%	100.0%
Total		Count	344	2513	2857
		% within New Math-8 2015 Sub Levels	12.0%	88.0%	100.0%

Test of Math-8 to the Grade 9 Common Core Algebra Regents Projections IEP-Status Students

New Math-8 2015 Sub Levels * IEPM8toCC9ALGPre Crosstabulation

			IEPM8toCC9ALGPre		
			No	Yes	Total
New Math-8 2015 Sub Levels	Low Level 1	Count	3	13	16
		% within New Math-8 2015 Sub Levels	18.8%	81.3%	100.0%
	Mid Level 1	Count	8	123	131
		% within New Math-8 2015 Sub Levels	6.1%	93.9%	100.0%
	High Level 1	Count	22	193	215
		% within New Math-8 2015 Sub Levels	10.2%	89.8%	100.0%
	Low Level 2	Count	11	139	150
		% within New Math-8 2015 Sub Levels	7.3%	92.7%	100.0%
	Mid Level 2	Count	7	130	137
		% within New Math-8 2015 Sub Levels	5.1%	94.9%	100.0%
	High Level 2	Count	3	91	94
		% within New Math-8 2015 Sub Levels	3.2%	96.8%	100.0%
	Low Level 3	Count	1	50	51
		% within New Math-8 2015 Sub Levels	2.0%	98.0%	100.0%
	Mid Level 3	Count	0	24	24
		% within New Math-8 2015 Sub Levels	0.0%	100.0%	100.0%
Total		Count	55	763	818
		% within New Math-8 2015 Sub Levels	6.7%	93.3%	100.0%

Test of Math-8 to the Grade 9 Common Core Algebra Regents Projections
LEP-Status Students

New Math-8 2015 Sub Levels * ELLM8toCC9ALGPre Crosstabulation

			ELLM8toCC9ALGPre		
			No	Yes	Total
New Math-8 2015 Sub Levels	Mid Level 1	Count	12	73	85
		% within New Math-8 2015 Sub Levels	14.1%	85.9%	100.0%
	High Level 1	Count	8	100	108
		% within New Math-8 2015 Sub Levels	7.4%	92.6%	100.0%
	Low Level 2	Count	3	53	56
		% within New Math-8 2015 Sub Levels	5.4%	94.6%	100.0%
	Mid Level 2	Count	3	34	37
		% within New Math-8 2015 Sub Levels	8.1%	91.9%	100.0%
	High Level 2	Count	0	20	20
		% within New Math-8 2015 Sub Levels	0.0%	100.0%	100.0%
Total		Count	26	280	306
		% within New Math-8 2015 Sub Levels	8.5%	91.5%	100.0%

Test of Math-8 to the Grade 9 Common Core Algebra Regents Projections
Low Income-Status Students

New Math-8 2015 Sub Levels * LowIncM8toCC9ALGPre Crosstabulation

			LowIncM8toCC9ALGPre		
			No	Yes	Total
New Math-8 2015 Sub Levels	Low Level 1	Count	6	26	32
		% within New Math-8 2015 Sub Levels	18.8%	81.3%	100.0%
	Mid Level 1	Count	38	244	282
		% within New Math-8 2015 Sub Levels	13.5%	86.5%	100.0%
	High Level 1	Count	64	432	496
		% within New Math-8 2015 Sub Levels	12.9%	87.1%	100.0%
	Low Level 2	Count	76	364	440
		% within New Math-8 2015 Sub Levels	17.3%	82.7%	100.0%
	Mid Level 2	Count	49	390	439
		% within New Math-8 2015 Sub Levels	11.2%	88.8%	100.0%
	High Level 2	Count	36	287	323
		% within New Math-8 2015 Sub Levels	11.1%	88.9%	100.0%
	Low Level 3	Count	15	166	181
		% within New Math-8 2015 Sub Levels	8.3%	91.7%	100.0%
	Mid Level 3	Count	6	80	86
		% within New Math-8 2015 Sub Levels	7.0%	93.0%	100.0%
	High Level 3	Count	6	40	46
		% within New Math-8 2015 Sub Levels	13.0%	87.0%	100.0%
Total		Count	296	2029	2325
		% within New Math-8 2015 Sub Levels	12.7%	87.3%	100.0%

Test of Grade 8 Common Core Algebra to the Common Core Geometry Regents Projections for Non-Status Students

CC Algebra Gr814 Sub-Levels * NOSTATCCGEO9Pre Crosstabulation

			NOSTATCCGEO9Pre		
			No	Yes	Total
CC Algebra Gr814 Score Groupings	55 - 62	Count	10	40	50
		% within CC Algebra Gr814 Sub-Levels	20.0%	80.0%	100.0%
	63 - 70	Count	104	560	664
		% within CC Algebra Gr814 Sub-Levels	15.7%	84.3%	100.0%
	71 - 79	Count	409	2243	2652
		% within CC Algebra Gr814 Sub-Levels	15.4%	84.6%	100.0%
	80 - 82	Count	73	447	520
		% within CC Algebra Gr814 Sub-Levels	14.0%	86.0%	100.0%
	83 - 86	Count	63	317	380
		% within CC Algebra Gr814 Sub-Levels	16.6%	83.4%	100.0%
	87 - 89	Count	32	173	205
		% within CC Algebra Gr814 Sub-Levels	15.6%	84.4%	100.0%
	90 - 93	Count	22	93	115
		% within CC Algebra Gr814 Sub-Levels	19.1%	80.9%	100.0%
	94 - 96	Count	7	47	54
		% within CC Algebra Gr814 Sub-Levels	13.0%	87.0%	100.0%
Total		Count	720	3920	4640
		% within CC Algebra Gr814 Sub-Levels	15.5%	84.5%	100.0%

Test of Grade 8 Common Core Algebra to the Common Core Geometry Regents Projections for IEP-Status Students

CC Algebra Gr814 Sub-Levels * IEPCCGEO9Pre Crosstabulation

			IEPCCGEO9Pre		
			No	Yes	Total
CC Algebra Gr814 Score Groupings	55 - 62	Count	2	21	23
		% within CC Algebra Gr814 Sub-Levels	8.7%	91.3%	100.0%
	63 - 70	Count	17	77	94
		% within CC Algebra Gr814 Sub-Levels	18.1%	81.9%	100.0%
	71 - 79	Count	13	69	82
		% within CC Algebra Gr814 Sub-Levels	15.9%	84.1%	100.0%
Total		Count	32	167	199
		% within CC Algebra Gr814 Sub-Levels	16.1%	83.9%	100.0%

Test of Grade 8 Common Core Algebra to the Common Core Geometry Regents Projections for LEP-Status Students

CC Algebra Gr814 Sub-Levels * ELLCCGEO9Pre Crosstabulation

			ELLCCGEO9Pre		
			No	Yes	Total
CC Algebra Gr814 Score Groupings	63 - 70	Count	3	16	19
		% within CC Algebra Gr814 Sub-Levels	15.8%	84.2%	100.0%
Total		Count	3	16	19
		% within CC Algebra Gr814 Sub-Levels	15.8%	84.2%	100.0%

Test of Grade 8 Common Core Algebra to the Common Core Geometry Regents Projections for Low Income - Status Students

CC Algebra Gr814 Sub-Levels * LowIncCCGEO9Pre Crosstabulation

			LowIncCCGEO9Pre		
			No	Yes	Total
CC Algebra Gr814Score Groupings	55 - 62	Count	10	54	64
		% within CC Algebra Gr814 Sub-Levels	15.6%	84.4%	100.0%
	63 - 70	Count	78	335	413
		% within CC Algebra Gr814 Sub-Levels	18.9%	81.1%	100.0%
	71 - 79	Count	125	509	634
		% within CC Algebra Gr814 Sub-Levels	19.7%	80.3%	100.0%
	80 - 82	Count	11	72	83
		% within CC Algebra Gr814 Sub-Levels	13.3%	86.7%	100.0%
	83 - 86	Count	6	31	37
		% within CC Algebra Gr814 Sub-Levels	16.2%	83.8%	100.0%
	87 - 89	Count	5	28	33
		% within CC Algebra Gr814 Sub-Levels	15.2%	84.8%	100.0%
Total		Count	235	1029	1264
		% within CC Algebra Gr814 Sub-Levels	18.6%	81.4%	100.0%

Test of Grade 9 Common Core Algebra to the Grade 10 Common Core Geometry Regents Projections for Non-Status Students

CC Algebra Gr914 Sub-Levels * NOSTATCCGEO10Pre Crosstabulation

			NOSTATCCGEO10Pre		
			No	Yes	Total
CC Algebra Gr914 Score Groupings	39 - 54	Count	8	41	49
		% within CC Algebra Gr914 Sub-Levels	16.3%	83.7%	100.0%
	55 - 62	Count	35	164	199
		% within CC Algebra Gr914 Sub-Levels	17.6%	82.4%	100.0%
	63 - 70	Count	281	1122	1403
		% within CC Algebra Gr914 Sub-Levels	20.0%	80.0%	100.0%
	71 - 79	Count	366	1635	2001
		% within CC Algebra Gr914 Sub-Levels	18.3%	81.7%	100.0%
	80 - 82	Count	15	77	92
		% within CC Algebra Gr914 Sub-Levels	16.3%	83.7%	100.0%
	83 - 86	Count	5	32	37
		% within CC Algebra Gr914 Sub-Levels	13.5%	86.5%	100.0%
Total		Count	710	3071	3781
		% within CC Algebra Gr914 Sub-Levels	18.8%	81.2%	100.0%

Test of Grade 9 Common Core Algebra to the Grade 10 Common Core Geometry Regents Projections for IEP-Status Students

CC Algebra Gr914 Sub-Levels * IEPCCGEO10Pre Crosstabulation

			IEPCCGEO10Pre		
			No	Yes	Total
CC Algebra Gr914 Score Groupings	39 - 54	Count	4	30	34
		% within CC Algebra Gr914 Sub-Levels	11.8%	88.2%	100.0%
	55 - 62	Count	13	84	97
		% within CC Algebra Gr914 Sub-Levels	13.4%	86.6%	100.0%
	63 - 70	Count	56	270	326
		% within CC Algebra Gr914 Sub-Levels	17.2%	82.8%	100.0%
	71 - 79	Count	40	189	229
		% within CC Algebra Gr914 Sub-Levels	17.5%	82.5%	100.0%
Total		Count	113	573	686
		% within CC Algebra Gr914 Sub-Levels	16.5%	83.5%	100.0%

Test of Grade 9 Common Core Algebra to the Grade 10 Common Core Geometry Regents Projections for LEP-Status Students

CC Algebra Gr914 Sub-Levels * ELLCCGEO10Pre Crosstabulation

			ELLCCGEO10Pre		
			No	Yes	Total
CC Algebra Gr914 Score Groupings	39 - 54	Count	3	20	23
		% within CC Algebra Gr914 Sub-Levels	13.0%	87.0%	100.0%
	55 - 62	Count	6	37	43
		% within CC Algebra Gr914 Sub-Levels	14.0%	86.0%	100.0%
	63 - 70	Count	16	115	131
		% within CC Algebra Gr914 Sub-Levels	12.2%	87.8%	100.0%
	71 - 79	Count	8	35	43
		% within CC Algebra Gr914 Sub-Levels	18.6%	81.4%	100.0%
Total		Count	33	207	240
		% within CC Algebra Gr914 Sub-Levels	13.8%	86.3%	100.0%

Test of Grade 9 Common Core Algebra to the Grade 10 Common Core Geometry Regents Projections for Low Income - Status Students

CC Algebra Gr914 Sub-Levels * LowIncCCGEO10Pre Crosstabulation

			LowIncCCGEO10Pre		
			No	Yes	Total
CC Algebra Gr914 Score Groupings	39 - 54	Count	16	77	93
		% within CC Algebra Gr914 Sub-Levels	17.2%	82.8%	100.0%
	55 - 62	Count	49	234	283
		% within CC Algebra Gr914 Sub-Levels	17.3%	82.7%	100.0%
	63 - 70	Count	173	916	1089
		% within CC Algebra Gr914 Sub-Levels	15.9%	84.1%	100.0%
	71 - 79	Count	118	568	686
		% within CC Algebra Gr914 Sub-Levels	17.2%	82.8%	100.0%
	80 - 82	Count	2	17	19
		% within CC Algebra Gr914 Sub-Levels	10.5%	89.5%	100.0%
Total		Count	358	1812	2170
		% within CC Algebra Gr914 Sub-Levels	16.5%	83.5%	100.0%

Test of Geometry to the Algebra-2 Trigonometry Regents Projections Non-Status Students

Geometry Gr1014 Sub-Levels * NOSTATTrig11Pre Crosstabulation

			NOSTATTrig11Pre		
			No	Yes	Total
Geometry Gr1014 Sub-Levels	High Level 1	Count	7	30	37
		% within Geometry Gr1014 Sub-Levels	18.9%	81.1%	100.0%
	Low Level 2	Count	16	93	109
		% within Geometry Gr1014 Sub-Levels	14.7%	85.3%	100.0%
	Mid Level 2	Count	82	349	431
		% within Geometry Gr1014 Sub-Levels	19.0%	81.0%	100.0%
	High Level 2	Count	249	1122	1371
		% within Geometry Gr1014 Sub-Levels	18.2%	81.8%	100.0%
	Low Level 3	Count	77	357	434
		% within Geometry Gr1014 Sub-Levels	17.7%	82.3%	100.0%
	Mid Level 3	Count	117	520	637
		% within Geometry Gr1014 Sub-Levels	18.4%	81.6%	100.0%
	High Level 3	Count	50	235	285
		% within Geometry Gr1014 Sub-Levels	17.5%	82.5%	100.0%
	Low Level 4	Count	49	220	269
		% within Geometry Gr1014 Sub-Levels	18.2%	81.8%	100.0%
	Mid Level 4	Count	16	98	114
		% within Geometry Gr1014 Sub-Levels	14.0%	86.0%	100.0%
	High Level 4	Count	8	38	46
		% within Geometry Gr1014 Sub-Levels	17.4%	82.6%	100.0%
Total		Count	671	3062	3733
		% within Geometry Gr1014 Sub-Levels	18.0%	82.0%	100.0%

Test of Geometry to the Algebra-2 Trigonometry Regents Projections IEP-Status Students

Geometry Gr1014 Sub-Levels * IEPTrig11Pre Crosstabulation

			IEPTrig11Pre		
			No	Yes	Total
Geometry Gr1014 Sub-Levels	Low Level 2	Count	1	22	23
		% within Geometry Gr1014 Sub-Levels	4.3%	95.7%	100.0%
	Mid Level 2	Count	8	62	70
		% within Geometry Gr1014 Sub-Levels	11.4%	88.6%	100.0%
	High Level 2	Count	19	132	151
		% within Geometry Gr1014 Sub-Levels	12.6%	87.4%	100.0%
	Low Level 3	Count	5	28	33
		% within Geometry Gr1014 Sub-Levels	15.2%	84.8%	100.0%
	Mid Level 3	Count	10	44	54
		% within Geometry Gr1014 Sub-Levels	18.5%	81.5%	100.0%
	High Level 3	Count	3	15	18
		% within Geometry Gr1014 Sub-Levels	16.7%	83.3%	100.0%
Total		Count	46	303	349
		% within Geometry Gr1014 Sub-Levels	13.2%	86.8%	100.0%

Test of Geometry to the Algebra-2 Trigonometry Regents Projections LEP-Status Students

Geometry Gr1014 Sub-Levels * ELLTrig11Pre Crosstabulation

			ELLTrig11Pre		
			No	Yes	Total
Geometry Gr1014 Sub-Levels	High Level 2	Count	4	24	28
		% within Geometry Gr1014 Sub-Levels	14.3%	85.7%	100.0%
Total		Count	4	24	28
		% within Geometry Gr1014 Sub-Levels	14.3%	85.7%	100.0%

Test of Geometry to the Algebra-2 Trigonometry Regents Projections Low Income-Status Students

Geometry Gr1014 Sub-Levels * LowIncTrig11Pre Crosstabulation

			LowIncTrig11Pre		
			No	Yes	Total
Geometry Gr1014 Sub-Levels	High Level 1	Count	3	21	24
		% within Geometry Gr1014 Sub-Levels	12.5%	87.5%	100.0%
	Low Level 2	Count	10	52	62
		% within Geometry Gr1014 Sub-Levels	16.1%	83.9%	100.0%
	Mid Level 2	Count	46	184	230
		% within Geometry Gr1014 Sub-Levels	20.0%	80.0%	100.0%
	High Level 2	Count	111	472	583
		% within Geometry Gr1014 Sub-Levels	19.0%	81.0%	100.0%
	Low Level 3	Count	28	116	144
		% within Geometry Gr1014 Sub-Levels	19.4%	80.6%	100.0%
	Mid Level 3	Count	34	155	189
		% within Geometry Gr1014 Sub-Levels	18.0%	82.0%	100.0%
	High Level 3	Count	13	64	77
		% within Geometry Gr1014 Sub-Levels	16.9%	83.1%	100.0%
	Low Level 4	Count	12	52	64
		% within Geometry Gr1014 Sub-Levels	18.8%	81.3%	100.0%
Total		Count	257	1116	1373
		% within Geometry Gr1014 Sub-Levels	18.7%	81.3%	100.0%

Eastern Suffolk BOCES
Board and Administration

President
Lisa Israel

Vice President
Sandra Townsend

Member and Clerk
Fred Langstaff

Members

Pamela Betheil
Walter Wm. Denzler, Jr.
Stephen Dewey, Ph.D.
Chris Garvey
Katherine J. Heinlein
William Hsiang
Susan Lipman
Joseph LoSchiavo
Anne Mackesey
William K. Miller
Jeffrey Smith
John Wyche

District Superintendent
Dean T. Lucera

Chief Operating Officer
Julie Davis Lutz, Ph.D.

Associate Superintendent
Barbara M. Salatto – Management Services

Associate Superintendent
Peggie Staib, Ed.D. – Educational Services

Assistant Superintendent
R. Terri McSweeney, Ed.D. – Human Resources

Directors/Managers
Keith Anderson – Building Services
Leah Arnold – Career, Technical and Adult Education
Kate Davern – Education and Information Support Services
Maureen Kaelin – Business Services
Colleen Lipponer – Administrative Services
Grant Nelsen – Technology Integration
Gina Reilly – Special Education
Jeanne K. Weber – Regional Information Center
Candace White-Ciraco, Ed.D. – Planning and Program Improvement

www.esboces.org