Predictability Study of ISIP Reading and Georgia Milestones Assessment System: 3rd – 6th Grade Students

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Abstract

This study provides evidence that Istation's Indicators of Progress (ISIP™) English cut scores that can predict Scale Score English language arts (SS_ELA) Achievement Levels 3 and 4 Reading tests for the Georgia Milestones statewide exams. This study uses 3rd through 6th grade ISIP English scores (Overall Reading Ability and Reading Comprehension) and ELA scale scores. All data came from one district in the state of Georgia and were collected in the 2015–2016 school year. Simple linear regression analysis was applied. Predictability "bands" were further computed by using the confidence interval (CI) approach to identify the ISIP English cut scores that predict SS_ELA Reading tests Achievement Levels 3 and 4. Results of a simple linear regression showed that the ISIP Reading measures are predictive of SS_ELA Reading tests. The ISIP Overall Reading Ability cut scores and ISIP Reading Comprehension cut scores to predict SS_ELA Achievement Levels 3 and 4 are reported.

Introduction

Istation's Indicators of Progress, also known as ISIP, is a sophisticated Internet- and Web-delivered computer-adaptive testing (CAT) system that provides continuous progress-monitoring (CPM) assessment in the critical domains of reading in prekindergarten through 8th grade. It is built using two-parameter Item Response Theory and driven by a fully CAT algorithm. ISIP English gathers and reports frequent information about student progress in these critical domains throughout and across academic years (Patarapichayatham, Fahle, & Roden, 2013).

The purpose of ISIP English is to measure reading ability and identify deficits in critical areas in order to provide continuous differentiated instruction. ISIP English accomplishes this by delivering short tests, at least monthly, that target critical areas to inform instruction. It is realistic to administer ISIP English assessments for an entire classroom, an entire school, and even an entire district in a single day with adequate computer resources. Student results are immediately available online for teachers and administrators and illustrate each student's past and present performance and skill growth. Teachers are alerted when students are not making adequate progress so that the instructional program can be modified before a pattern of failure becomes established (Mathes, 2011). For full information about ISIP Early Reading (for prekindergarten through 3rd grade) and ISIP Advanced Reading (for 4th through 8th grade), see Mathes (2011) and Mathes, Torgesen, and Herron (2011).

The Georgia Milestones Assessment System (Georgia Milestones) is a comprehensive summative assessment program that spans from 3rd grade through high school. Georgia Milestones measures how well students have learned the knowledge and skills outlined in the

state-adopted content standards in English language arts (ELA), mathematics, science, and social studies.

There are four achievement levels for each End of Grade (EOG) assessment: Beginning Learner, Developing Learner, Proficient Learner, and Distinguished Learner. Achievement Level 1: Beginning Learners do not yet demonstrate proficiency in the knowledge and skills necessary at this grade level and content area of learning, as specified in Georgia's content standards. The students need substantial academic support to be prepared for the next grade level and to be on track for college and career readiness. Achievement Level 2: Developing Learners demonstrate partial proficiency in the knowledge and skills necessary at this grade level and content area of learning, as specified in Georgia's content standards. The students need additional academic support to ensure success in the next grade level and to be on track for college and career readiness. Achievement Level 3: Proficient Learners demonstrate proficiency in the knowledge and skills necessary at this grade level and content area of learning, as specified in Georgia's content standards. The students are prepared for the next grade level and are on track for college and career readiness. Achievement Level 4: Distinguished Learners demonstrate advanced proficiency in the knowledge and skills necessary at this grade level and content area of learning, as specified in Georgia's content standards. The students are well prepared for the next grade level and are well prepared for college and career readiness (Georgia Milestones, 2016).

This study provides evidence that ISIP Overall Reading Ability scores and ISIP Reading Comprehension scores can predict Georgia Milestones Assessment (Scale Score English language arts (SS_ELA)) Achievement Levels 3 and 4 Reading tests for 3rd through 6th grade students in state of Georgia.

Methods

Measures

Results from ISIP Early Reading for 3rd grade, ISIP Advanced Reading for 4th through 6th grades, and SS_ELA Reading tests for 3rd through 6th grades from the 2015–2016 school year were used. To be more specific, ISIP Overall Reading Ability scores, ISIP Reading Comprehension, and SS_ELA Reading scores from 2015–2016 for these same students were used. The ISIP Overall Reading Ability scores are computed from four different sub-skills: reading comprehension, spelling, vocabulary, and connected text fluency. Table 2 shows the Pearson product-moment correlation coefficients between ISIP Overall Reading ability and SS_ELA scores, and ISIP Reading Comprehension and SS_ELA scores by grade level. Due to an insufficient Middle-of-the-Year (MOY) sample size for 6th grade students, the End-of-the-Year (EOY) assessment point is used for 6th grade students for both ISIP Overall Reading Ability scores and ISIP Reading Comprehension scores.

The correlations between ISIP Reading and SS_ELA Reading scores were relatively high, indicating a strong relationship between ISIP Reading measures and SS_ELA Reading tests. The correlation coefficients for ISIP Overall Reading Ability scores and SS_ELA scores were 0.77, 0.80, 0.70, and 0.78 for grades 3 through 6, respectively. They were 0.76, 0.76, 0.64, and 0.79 for ISIP Reading Comprehension scores and SS_ELA scores for grades 3 through 6, respectively.

Samples

The sample included 1,275 students from 3rd through 6th grade in one district in the state of Georgia. There were 377 3rd grade students, 365 4th grade students, 185 5th grade students, and 348 6th grade students. Table 1 shows descriptive statistics of the samples. The means of

ISIP Overall Reading Ability scores were 246.02; 1,920.68; 1,928.91; and 2,047.01 for grades 3 through 6, respectively. The means of ISIP Reading Comprehension scores were 252.17; 2,039.10; 1,947.44; and 2,141.06 for grades 3 through 6, respectively. And the means of SS_ELA scores were 499.13; 501.58; 480.75; and 484.47 for grades 3 through 6, respectively.

Analysis

The purpose of this study was to determine the ISIP Reading cut scores to predict SS_ELA Reading tests for grades 3 through 6. The simple linear regression analysis was applied for each grade's data by using SPSS software version 22. The ISIP Overall Reading Ability score was the predictor, and the SS_ELA Reading score was the outcome variable. The ISIP Reading Comprehension score was also the predictor, and the SS_ELA Reading score was the outcome variable. I first ran the simple linear regression. The $\hat{y}$ for each grade's data was computed (see Part I result). Then the confidence interval (CI) was further computed.

Prediction bands commonly arise in regression analysis. The goal of a prediction band is to cover with a prescribed probability the values of one or more future observations for the same population from which a given data set was sampled. There are two types of prediction bands: confidence interval (CI) and prediction interval (PI). A CI is used in statistical analysis to represent the uncertainty in an estimate of a curve or function of the data. The 95 percent confidence intervals enclose the area that I can be 95 percent certain contains the true curve. If I have many data points, the confidence intervals will be near the line or curve, and most of the data will lie outside the confidence intervals. The 95 percent prediction intervals enclose the area that I expect to enclose 95 percent of future data points. They are wider than confidence bands, and they are much wider with large data sets.

The confidence interval (CI) for the average expected value of *y* for a given x^* is as

follows: $E(y \mid x^*) = \hat{y} \pm t^*_{n-2} \sqrt{\dfrac{1}{n} + \dfrac{(x^* - \bar{x})^2}{(n-1)s_x^2}}$ where s_y is the standard deviation of the residuals,

calculated as $s_y = \sqrt{\dfrac{\sum (y_i - \hat{y}_i)^2}{n-2}}$. Next, the ISIP Reading scores around SS_ELA Reading cut

point for the lower bound and the upper bound of the CI were selected.

Results

Part I: Simple Linear Regression

Simple linear regression was applied for each grade's data. The results for each grade are

shown in Tables 5–12 and reported as follows. For 3rd grade ISIP Overall Reading Ability, 59.4

percent of the variance in SS_ELA Reading can be predicted from Overall Reading Ability

MOY. The equation for predicting the SS_ELA Reading score is *SS_ELA = 499.13 + 2.50*

(MOY) + e. The intercept was 499.13. The SS_ELA Reading score was 499 as MOY was zero.

The slope for ISIP Overall Reading Ability MOY was 2.50, indicating that the SS_ELA Reading

score was 502 (499 + 2.50) as the ISIP Overall Reading Ability MOY score increases 1 unit. For

3rd grade ISIP Reading Comprehension, 57.1 percent of the variance in SS_ELA Reading can be

predicted from ISIP Reading Comprehension MOY. The equation for predicting the SS_ELA

Reading score is *SS_ELA = 499.13 + 1.70 (MOY) + e.* The intercept was 499.13. The SS_ELA

Reading score was 499 as MOY was zero. The slope for ISIP Reading Comprehension MOY

was 1.70, indicating that the SS_ELA Reading score was 501 (499 + 1.70) as the ISIP Reading

Comprehension MOY score increases 1 unit.

For 4th grade ISIP Overall Reading Ability, 64 percent of the variance in SS_ELA

Reading can be predicted from ISIP Overall Reading Ability MOY. The equation for predicting

the SS_ELA Reading score is *SS_ELA = 501.58 + 0.23 (MOY) + e.* The intercept was 501.58.

The SS_ELA Reading score was 502 as MOY was zero. The slope for ISIP Overall Reading Ability MOY was 0.23, indicating that the SS_ELA Reading score was 502 as the ISIP Overall Reading Ability MOY score increases 1 unit. For 4th grade ISIP Reading Comprehension, 57.9 percent of the variance in SS_ELA Reading can be predicted from ISIP Reading Comprehension MOY. The equation for predicting the SS_ELA Reading score is *SS_ELA = 501.58 + 0.15 (MOY) + e.* The intercept was 501.58. The SS_ELA Reading score was 502 as MOY was zero. The slope for ISIP Reading Comprehension MOY was 0.15, indicating that the SS_ELA Reading score was 502 as the ISIP Reading Comprehension MOY score increases 1 unit.

For 5th grade Overall Reading ISIP Ability, 49.2 percent of the variance in SS_ELA Reading can be predicted from ISIP Overall Reading Ability MOY. The equation for predicting the SS_ELA Reading score is *SS_ELA = 480.75 + 0.18 (MOY) + e.* The intercept was 480.75. The SS_ELA Reading score was 481 as MOY was zero. The slope for ISIP Overall Reading Ability MOY was 0.18, indicating that the SS_ELA Reading score was 481 as the ISIP Overall Reading Ability MOY score increases 1 unit. For 4th grade ISIP Reading Comprehension, 40.8 percent of the variance in SS_ELA Reading can be predicted from ISIP Reading Comprehension MOY. The equation for predicting the SS_ELA Reading score is *SS_ELA = 480.80 + 0.12 (MOY) + e.* The intercept was 480.80. The SS_ELA Reading score was 481 as MOY was zero. The slope for ISIP Reading Comprehension MOY was 0.12, indicating that the SS_ELA Reading score was 481 as the ISIP Reading Comprehension MOY score increases 1 unit.

For 6th grade ISIP Overall Reading Ability, 61.1 percent of the variance in SS_ELA Reading can be predicted from ISIP Overall Reading Ability EOY. The equation for predicting the SS_ELA Reading score is *SS_ELA = 484.21 + 0.25 (EOY) + e.* The intercept was 484.21. The SS_ELA Reading score was 484 as EOY was zero. The slope for ISIP Overall Reading

Ability EOY was 0.25, indicating that the SS_ELA Reading score was 485 as the ISIP Overall Reading Ability EOY score increases 1 unit. For 4th grade ISIP Reading Comprehension, 61.8 percent of the variance in SS_ELA Reading can be predicted from ISIP Reading Comprehension EOY. The equation for predicting the SS_ELA Reading score is *SS_ELA = 484.22 + 0.14 (EOY) + e.* The intercept was 484.22. The SS_ELA Reading score was 484 as EOY was zero. The slope for ISIP Reading Comprehension EOY was 0.14, indicating that the SS_ELA Reading score was 484 as the ISIP Reading Comprehension EOY score increases 1 unit.

Part II: Prediction Bands

The confidence interval (CI) was applied to obtain the prediction band from simple linear regression results. The confidence level was set at 0.95. Table 3 shows ISIP English prediction bands to predict SS_ELA Achievement Level 3 and SS_ELA Achievement Level 4 for 3rd through 6th grades. Table 4 shows ISIP English cut scores to predict SS_ELA Achievement Levels 3 and 4. The cut score for SS_ELA Achievement Level 3 is 525 for 3rd through 6th grades, whereas cut scores for SS_ELA Achievement Level 4 are 581, 574, 587, and 599 for 3rd through 6th grades, respectively. The results are reported as follows.

SS_ELA Achievement Level 3: Proficient Learner
ISIP Overall Reading Ability

For 3rd grade, the prediction band ranges from 254 to 259. The ISIP Overall Reading Ability MOY score at 259 is the cut score. It is 95 percent certain that a group of students who have an ISIP Overall Reading Ability MOY score of 259 will score higher than the SS_ELA Achievement Level 3 cut score 525. In other words, 3rd grade students who score 259 or higher on ISIP Overall Reading Ability MOY will almost certainly achieve SS_ELA Achievement Level 3.

For 4th grade, the prediction band ranges from 2,000 to 2,048. The ISIP Overall Reading Ability MOY score at 2,048 is the cut score. It is 95 percent certain that a group of students who have an ISIP Overall Reading Ability MOY score of 2,048 will score higher than the SS_ELA Achievement Level 3 cut score 525. In other words, 4th grade students who score 2,048 or higher on ISIP Overall Reading Ability MOY will almost certainly achieve SS_ELA Achievement Level 3.

For 5th grade, the prediction band ranges from 2,124 to 2,245. The ISIP Overall Reading Ability MOY score at 2,245 is the cut score. It is 95 percent certain that a group of students who have an ISIP Overall Reading Ability MOY score of 2,245 will score higher than the SS_ELA Achievement Level 3 cut score 525. In other words, 5th grade students who score 2,245 or higher on ISIP Overall Reading Ability MOY will almost certainly achieve SS_ELA Achievement Level 3.

For 6th grade, the prediction band ranges from 2,184 to 2,248. The ISIP Overall Reading Ability EOY score at 2,248 is the cut score. It is 95 percent certain that a group of students who have an ISIP Overall Reading Ability EOY score of 2,248 will score higher than the SS_ELA Achievement Level 3 cut score 525. In other words, 6th grade students who score 2,248 or higher on ISIP Overall Reading Ability EOY will almost certainly achieve SS_ELA Achievement Level 3.

ISIP Reading Comprehension

For 3rd grade, the prediction band ranges from 255 to 258. The ISIP Reading Comprehension MOY score at 258 is the cut score. It is 95 percent certain that a group of students who have an ISIP Reading Comprehension MOY score of 258 will score higher than the SS_ELA Achievement Level 3 cut score 525. In other words, 3rd grade students who score 258

or higher on ISIP Reading Comprehension MOY will almost certainly achieve SS_ELA Achievement Level 3.

For 4th grade, the prediction band ranges from 2,120 to 2,163. The ISIP Reading Comprehension MOY score at 2,163 is the cut score. It is 95 percent certain that a group of students who have an ISIP Reading Comprehension MOY score of 2,163 will score higher than the SS_ELA Achievement Level 3 cut score 525. In other words, 4th grade students who score 2,163 or higher on ISIP Reading Comprehension MOY will almost certainly achieve SS_ELA Achievement Level 3.

For 5th grade, the prediction band ranges from 2,150 to 2,246. The ISIP Reading Comprehension MOY score at 2,246 is the cut score. It is 95 percent certain that a group of students who have an ISIP Reading Comprehension MOY score of 2,246 will score higher than the SS_ELA Achievement Level 3 cut score 525. In other words, 5th grade students who score 2,246 or higher on ISIP Reading Comprehension MOY will almost certainly achieve SS_ELA Achievement Level 3.

For 6th grade, the prediction band ranges from 2,280 to 2,331. The ISIP Reading Comprehension EOY score at 2,331 is the cut score. It is 95 percent certain that a group of students who have an ISIP Reading Comprehension EOY score of 2,331 will score higher than the SS_ELA Achievement Level 3 cut score 525. In other words, 6th grade students who score 2,331 or higher on ISIP Reading Comprehension EOY will almost certainly achieve SS_ELA Achievement Level 3.

SS_ELA Achievement Level 4: Distinguished Learner

ISIP Overall Reading Ability

For 3rd grade, the prediction band ranges from 275 to 284. The ISIP Overall Reading Ability MOY score at 284 is the cut score. It is 95 percent certain that a group of students who have an ISIP Overall Reading Ability MOY score of 284 will score higher than the SS_ELA Achievement Level 4 cut score 581. In other words, 3rd grade students who score 284 or higher on ISIP Overall Reading Ability MOY will almost certainly achieve SS_ELA Achievement Level 4.

For 4th grade, the prediction band ranges from 2,196 to 2,277. The ISIP Overall Reading Ability MOY score at 2,277 is the cut score. It is 95 percent certain that a group of students who have an ISIP Overall Reading Ability MOY score of 2,277 will score higher than the SS_ELA Achievement Level 4 cut score 574. In other words, 4th grade students who score 2,277 or higher on ISIP Overall Reading Ability MOY will almost certainly achieve SS_ELA Achievement Level 4.

For 5th grade, the prediction band ranges from 2,414 to 2,586. The ISIP Overall Reading Ability MOY score at 2,586 is the cut score. It is 95 percent certain that a group of students who have an ISIP Overall Reading Ability MOY score of 2,586 will score higher than the SS_ELA Achievement Level 4 cut score 587. In other words, 5th grade students who score 2,586 or higher on ISIP Overall Reading Ability MOY will almost certainly achieve SS_ELA Achievement Level 4.

For 6th grade, the prediction band ranges from 2,448 to 2,581. The ISIP Overall Reading Ability EOY score at 2,581 is the cut score. It is 95 percent certain that a group of students who have an ISIP Overall Reading Ability EOY score of 2,581 will score higher than the SS_ELA Achievement Level 4 cut score 599. In other words, 6th grade students who score 2,581 or

higher on ISIP Overall Reading Ability EOY will almost certainly achieve SS_ELA

Achievement Level 4.

ISIP Reading Comprehension

For 3rd grade, the prediction band ranges from 275 to 282. The ISIP Reading

Comprehension MOY score at 282 is the cut score. It is 95 percent certain that a group of

students who have an ISIP Reading Comprehension MOY score of 282 will score higher than the

SS_ELA Achievement Level 4 cut score 581. In other words, 3rd grade students who score 282

or higher on ISIP Reading Comprehension MOY will almost certainly achieve SS_ELA

Achievement Level 4.

For 4th grade, the prediction band ranges from 2,323 to 2,390. The ISIP Reading

Comprehension MOY score at 2,390 is the cut score. It is 95 percent certain that a group of

students who have an ISIP Reading Comprehension MOY score of 2,390 will score higher than

the SS_ELA Achievement Level 4 cut score 574. In other words, 4th grade students who score

2,390 or higher on ISIP Reading Comprehension MOY will almost certainly achieve SS_ELA

Achievement Level 4.

For 5th grade, the prediction band ranges from 2,457 to 2,642. The ISIP Reading

Comprehension MOY score at 2,642 is the cut score. It is 95 percent certain that a group of

students who have an ISIP Reading Comprehension MOY score of 2,642 will score higher than

the SS_ELA Achievement Level 4 cut score 587. In other words, 5th grade students who score

2,642 or higher on ISIP Reading Comprehension MOY will almost certainly achieve SS_ELA

Achievement Level 4.

For 6th grade, the prediction band ranges from 2,562 to 2,644. The ISIP Reading

Comprehension EOY score at 2,644 is the cut score. It is 95 percent certain that a group of

students who have an ISIP Reading Comprehension EOY score of 2,644 will score higher than the SS_ELA Achievement Level 4 cut score 599. In other words, 6th grade students who score 2,644 or higher on ISIP Reading Comprehension EOY will almost certainly achieve SS_ELA Achievement Level 4.

Conclusions

Overall, I conclude that ISIP English test scores are predictive of SS_ELA test scores for 3rd through 6th grade data. ISIP English curriculum and ISIP English measures definitely can be used to prepare students for the SS_ELA Reading tests. If a student does very well on ISIP English measures, it is likely that he or she will do very well on SS_ELA tests. The ISIP English cut scores to predict SS_ELA tests are useful for school administrators, superintendents, teachers, and parents to predict students' performance on SS_ELA tests. Also, teachers can use ISIP English cut scores to encourage students to improve their reading ability in order to meet SS_ELA performance standards. Teachers and parents can compare a student's ISIP Overall Reading Ability score and ISIP Reading Comprehension score directly with the ISIP English cut score in this study.

To benefit from these results, teachers would ideally begin tracking their students' scores from the beginning of the school year. By comparing a student's ISIP English score with the ISIP English cut score, teachers can immediately tell how much a student must improve his or her English reading ability in order to meet the ISIP English cut score, which means a likely chance of passing the SS_ELA test. For example, the ISIP Overall Reading Ability cut score for 3rd grade to pass SS_ELA Achievement Level 3 is 259. If a 3rd grade student scores 250 at the beginning of the year (September assessment month), the teacher will know that this particular student has room to grow: the student will need 9 more points to meet an ISIP Overall Reading

Ability cut score at the middle of the year (January assessment month). The teacher can work closely with this student to improve his or her reading skills.

Even though this study suggests that teachers use ISIP Overall Reading Ability cut scores and ISIP Reading Comprehension cut scores to prepare students for SS_ELA Reading tests, it must be understood that complete certainty of passing the SS_ELA Reading test cannot be guaranteed. It must be noted that there are many other factors that may affect students' SS_ELA scores beside their English reading ability. For example, if a student has a physical issue (i.e., sickness or stress) before or during the SS_ELA test, he or she may or may not pass, despite having met the ISIP English cut score. Also, each student has several months between the ISIP English middle-of-the-year-assessment month (January) test taking and SS_ELA test taking (usually in spring). If a student stops using the ISIP English curriculum and assessment after January, he or she may or may not pass SS_ELA Reading tests.

References

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Table 1

Descriptive Statistics of Samples

Grade	n	ISIP Overall Reading Ability		ISIP Reading Comprehension		SS_ELA	
		Mean	SD	Mean	SD	Mean	SD
3rd	377	246.02	16.10	252.17	23.30	499.13	52.30
4th	365	1,920.68	162.73	2,039.10	241.40	501.58	45.99
5th	185	1,928.91	154.39	1,947.44	221.77	480.75	39.90
6th	348	2,047.01	171.70	2,141.06	305.49	484.47	54.46

Table 2

Pearson product-moment correlation coefficients between ISIP Overall Reading Ability and SS_ELA Scores and ISIP Reading Comprehension and SS_ELA Scores

Grade		ISIP Overall Reading Ability	ISIP Reading Comprehension
3rd	SS_ELA	.77	.76
4th	SS_ELA	.80	.76
5th	SS_ELA	.70	.64
6th	SS_ELA	.78	.79

Table 3

ISIP English Prediction Bands to Predict SS_ELA

Grade	ISIP Overall Reading Ability		ISIP Reading Comprehension	
	Achievement Level 3	Achievement Level 4	Achievement Level 3	Achievement Level 4
3rd	254–259	275–284	255–258	275–282
4th	2,000–2,048	2,196–2,277	2,120–2,163	2,323–2,390
5th	2,124–2,245	2,414–2,586	2,150–2,246	2,457–2,642
6th	2,184–2,248	2,448–2,581	2,280–2,331	2,562–2,644

Table 4

ISIP English Cut Scores to Predict SS_ELA

| Grade | ISIP Overall Reading Ability | | ISIP Reading Comprehension | |
	Achievement Level 3	Achievement Level 4	Achievement Level 3	Achievement Level 4
3rd	259	284	258	282
4th	2,048	2,277	2,163	2,390
5th	2,245	2,586	2,246	2,642
6th	2,248	2,581	2,331	2,644

Table 5

Simple Linear Regression Analysis for 3rd Grade: ISIP Overall Reading Ability

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.770[b]	.594	.593	33.383	.594	547.718	1	375	.000

a. Grade = 3

b. Predictors: (Constant), Overall MOY

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	610381.143	1	610381.143	547.718	.000[c]
	Residual	417902.746	375	1114.407		
	Total	1028283.889	376			

a. Grade = 3

b. Dependent Variable: SS_ELA

c. Predictors: (Constant), Overall MOY

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	499.127	1.719		290.309	.000
	Overall MOY	2.503	.107	.770	23.403	.000

a. Grade = 3

b. Dependent Variable: SS_ELA

Table 6

Simple Linear Regression Analysis for 3rd Grade: ISIP Reading Comprehension

Model Summary[a]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.756[b]	.571	.570	34.292	.571	499.414	1	375	.000

a. Grade = 3

b. Predictors: (Constant), CMP MOY

ANOVA[a,b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	587295.250	1	587295.250	499.414	.000[c]
	Residual	440988.639	375	1175.970		
	Total	1028283.889	376			

a. Grade = 3

b. Dependent Variable: SS_ELA

c. Predictors: (Constant), CMP MOY

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	499.127	1.766		282.608	.000
	CMP MOY	1.696	.076	.756	22.348	.000

a. Grade = 3

b. Dependent Variable: SS_ELA

Table 7

Simple Linear Regression Analysis for 4th Grade: ISIP Overall Reading Ability

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.800[a]	.640	.639	27.640	.640	644.608	1	363	.000

a. Predictors: (Constant), Overall MOY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	492456.300	1	492456.300	644.608	.000[b]
	Residual	277318.565	363	763.963		
	Total	769774.866	364			

a. Dependent Variable: SS_ELA
b. Predictors: (Constant), Overall MOY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	501.581	1.447		346.698	.000
	Overall MOY	.226	.009	.800	25.389	.000

a. Dependent Variable: SS_ELA

Table 8

Simple Linear Regression Analysis for 4th Grade: ISIP Reading Comprehension

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.761[a]	.579	.578	29.875	.579	499.473	1	363	.000

a. Predictors: (Constant), CMP MOY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	445789.812	1	445789.812	499.473	.000[b]
	Residual	323985.054	363	892.521		
	Total	769774.866	364			

a. Dependent Variable: SS_ELA
b. Predictors: (Constant), CMP MOY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	501.581	1.564		320.758	.000
	CMP MOY	.145	.006	.761	22.349	.000

a. Dependent Variable: SS_ELA

Table 9

Simple Linear Regression Analysis for 5th Grade: ISIP Overall Reading Ability

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.701[a]	.492	.489	28.526	.492	177.031	1	183	.000

a. Predictors: (Constant), Overall MOY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	144060.861	1	144060.861	177.031	.000[b]
	Residual	148918.199	183	813.761		
	Total	292979.059	184			

a. Dependent Variable: SS_ELA
b. Predictors: (Constant), Overall MOY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	480.746	2.097		229.220	.000
	Overall MOY	.181	.014	.701	13.305	.000

a. Dependent Variable: SS_ELA

Table 10

Simple Linear Regression Analysis for 5th Grade: ISIP Reading Comprehension

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.639[a]	.408	.405	30.858	.408	125.552	1	182	.000

a. Predictors: (Constant), CMP MOY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	119555.418	1	119555.418	125.552	.000[b]
	Residual	173307.539	182	952.239		
	Total	292862.957	183			

a. Dependent Variable: SS_ELA
b. Predictors: (Constant), CMP MOY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	480.804	2.275		211.351	.000
	CMP MOY	.115	.010	.639	11.205	.000

a. Dependent Variable: SS_ELA

Table 11

Simple Linear Regression Analysis for 6th Grade: ISIP Overall Reading Ability

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.782[a]	.611	.610	34.017	.611	543.329	1	346	.000

a. Predictors: (Constant), Overall EOY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	628710.470	1	628710.470	543.329	.000[b]
	Residual	400372.183	346	1157.145		
	Total	1029082.652	347			

a. Dependent Variable: SS_ELA
b. Predictors: (Constant), Overall EOY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	484.205	1.824		265.532	.000
	Overall EOY	.249	.011	.782	23.309	.000

a. Dependent Variable: SS_ELA

Table 12

Simple Linear Regression Analysis for 6th Grade: ISIP Reading Comprehension

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.786[a]	.618	.617	33.746	.618	557.782	1	345	.000

a. Predictors: (Constant), CMP EOY

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	635200.465	1	635200.465	557.782	.000[b]
	Residual	392885.080	345	1138.797		
	Total	1028085.545	346			

a. Dependent Variable: SS_ELA
b. Predictors: (Constant), CMP EOY

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	484.220	1.812		267.289	.000
	CMP EOY	.140	.006	.786	23.617	.000

a. Dependent Variable: SS_ELA