Linking ISIP Reading to the New Jersey Student Learning Assessment (NJSLA)

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Executive Summary

This study provides the proficiency projection of Istation's Indicators of Progress (ISIP™) Reading on the New Jersey Student Learning Assessment—English Language Arts (NJSLA-ELA)   for grades three through eight. Classification accuracy is also provided. All data came from students in two school districts in New Jersey. There was a total of 11,927 students (District A: 1,886; District B: 10,041).

The Pearson product-moment correlations of ISIP middle-of-the-year (MOY) scores   and NJSLA-ELA scores range from 0.67 to 0.70, and for ISIP end-of-the-year (EOY) scores and NJSLA-ELA scores, the correlations   range from 0.65 to 0.69. This indicates strong associations between the ISIP Reading and   NJSLA-ELA assessments.

The linking study between NJSLA-ELA and ISIP Reading was conducted using multinomial logistic regression. At MOY, to achieve a high likelihood of NJSLA-ELA performance level 3 (*Approached Expectations*), students had to achieve ISIP scores corresponding to the following percentile ranks:

Grade	Percentile Rank
3	50th
4	35th
5 – 6	35th
7 – 8	25th

To attain a medium probability of achieving performance level 4 (*Met Expectations*) on NJSLA-ELA, students had to attain ISIP scores between the following percentile ranges:

Grade	Percentile Rank
3	50th – 80th
4	30th – 70th
5	35th – 65th
6	40th – 70th
7	25th – 55th
8	25th – 50th

ISIP™ and NJSLA-ELA Linking Study

At EOY, students had to attain ISIP Reading scores at the following percentile ranks to meet a high likelihood of achieving level 3 (*Approached Expectations*):

Grade	Percentile Rank
3	50th
4 – 5	35th
6	40th
7 – 8	30th

To attain a medium probability of achieving NJSLA-ELA performance level 4 (*Met Expectations*), students needed to reach the following percentile ranks on ISIP Reading at EOY:

Grade	Percentile Rank
3	50th – 80th
4	30th – 70th
5	35th – 70th
6	40th – 75th
7	25th – 60th
8	30th – 70th

Classification accuracy analyses were conducted. Between 62% and 81% of students were correctly classified on ISIP Reading with respect to the performance on NJSLA-ELA (*Met Expectations* or higher), whereas 69–77% of students who were not classified as *Met Expectations* or above did in fact not reach level 4 or above.

Introduction

Istation's Indicators of Progress (ISIP™) assessments (ISIP Reading and ISIP Math) are web-delivered computer-adaptive testing (CAT) assessments. The purpose of this report is to explore how well performance on ISIP Reading predicts performance on the New Jersey Student Learning Assessment—English Language Arts (NJSLA-ELA) used by the state of New Jersey in the spring as an end-of-year summative assessment. The predictability of the ISIP assessments can inform students and stakeholders of the probability that a student will be successful on the spring NJSLA and provide information needed to inform personalized instruction.

Background

ISIP Assessments

A favorable feature of ISIP assessments is that they adapt to an individual student's ability level (Mathes et al., 2015). Typically, a student will receive an item of medium difficulty during the first CAT administration. If the student answers the item correctly, then they will receive a more difficult item. Similarly, if the student answers the item incorrectly then the next item delivered will be less difficult.

ISIP assessments are built using a two-parameter model from the family of Item Response Theory. ISIP gathers and reports frequent information about student progress in the critical domains throughout and across academic years (Patarapichayatham et al., 2013). ISIP accomplishes this by delivering monthly tests that target critical areas to inform instruction. With adequate computer resources, it is possible to administer ISIP assessments to an entire classroom, school, or district in a single day. Student results

are immediately available online for teachers and administrators, illustrating 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, 2016).

ISIP Reading measures students' ability and identifies deficits in critical areas to provide continuous differentiated instruction. ISIP Reading is available for prekindergarten through eighth grade. Istation provides teachers and other school personnel with easy-to-interpret, web-based reports that detail student strengths and deficits and which provide links to teaching resources and targeted intervention strategies (Mathes, et al., 2022).

ISIP Reading has strong predictability with several state assessments, including the Virginia Standards of Learning (Campbell, L.O., Sutter, C. C., & Lambie, G. W. (2019)), the PARCC (Cook & Ross, 2020), the Idaho ISAT (Wolfe & Ross, 2020), the Renaissance Star (Campbell, L.O., Sutter, C. C., Lambie G. W., & Tinstman Jones, J. (2019)), the Colorado Measures of Academic Success (Patarapichayatham, 2019), and the Ohio AIR (LePlante, 2019).

New Jersey Student Learning Assessments (NJSLA)

The state of New Jersey requires public school students in grades 3 through 10 to participate in a statewide program of educational assessments in English language arts (ELA), mathematics, and science in the spring. Each student will participate in English, reading, writing, mathematics, and science end-of-year testing. This report focuses on ELA only.

ISIP™ and NJSLA-ELA Linking Study

The NJSLA-ELA measures student proficiency with grade-level skills, knowledge, and concepts that are deemed critical for college and career readiness. The assessments target the importance of close reading, synthesizing ideas within and across texts, determining the meaning of words and phrases in context, and writing effectively when using and/or analyzing sources.

The purpose of this study is to predict students' performance on the NJSLA based on their ISIP scores in reading. There are two objectives in the current study:

1) Use the middle-of-the-year assessment month (MOY) ISIP Reading scores to predict NJSLA-ELA outcomes.
2) Use the end-of-the-year assessment month (EOY) ISIP Reading scores to predict NJSLA-ELA outcomes.

There are five performance levels for the NJSLA assessments: level 1 – *Did Not Yet Meet Expectations*; level 2 – *Partially Met Expectations*; level 3 – *Approached Expectations*; level 4 – *Met Expectations*; level 5 – *Exceeded Expectations*. Students in levels 4 and 5 are considered on track for meeting college and career readiness criteria. The following table provides the scaled score ranges for each performance level on the NJSLA assessments.

Table 1. *Scaled Score Ranges for Each Performance Level by Grade on the NJSLA*

Grade	Level 1 Did Not Yet Meet Expectations	Level 2 Partially Met Expectations	Level 3 Approached Expectations	Level 4 Met Expectations	Level 5 Exceeded Expectations
3	650 – 699	700 – 724	725 – 749	750 – 809	810 – 850
4	650 – 699	700 – 724	725 – 749	750 – 789	790 – 850
5	650 – 699	700 – 724	725 – 749	750 – 798	799 – 850
6	650 – 699	700 – 724	725 – 749	750 – 789	790 – 850
7	650 – 699	700 – 724	725 – 749	750 – 784	785 – 850
8	650 – 699	700 – 724	725 – 749	750 – 793	794 – 850

Data from the 2021–2022 school year from two districts in the state of New Jersey were shared with Istation. Data were collected from students in third through eighth grade who had taken the ISIP Reading assessment during the 2021–2022 academic school year. The ISIP Reading assessment was renormed in 2022 using data from the 2018–2019 school year, and the scores were put on a vertical scale. For this analysis, we converted the old scores to the new scale using the equating constants from the new norms.

Methodology

Our analytic plan first consisted of evaluating the Pearson product-moment correlations between the ISIP assessment and the NJSLA. Then we used multinomial logistic regression to determine probabilities for reaching the *Met Expectations* level or above on the NJSLA. Lastly, we conducted a classification accuracy to determine the cut points that best predict whether the student will reach the *Met Expectations* level or above on the NJSLA-ELA assessment.

Analytic Samples

ISIP Reading

We obtained data from two districts in New Jersey for this analysis. Only students who had a valid ISIP score and NJSLA score were included in the analysis.

Across grades the demographic breakdown for District A consisted of 1,886 students, and District B had 10,041 students. District A predominately consisted of students who were Hispanic or Latino. A full description is available in Table 3. For District A, sample characteristics came from enrollment data for gender and

race/ethnicity. The ELL characteristics came from the National Center for Education

Statistics (NCES) website. For district B, all sample characteristics were obtained from

NCES.

Table 2. *Sample Size per District by Grade*

Grade	District A	District B	Combined
3	315	1,615	1,930
4	301	1,616	1,917
5	325	1,623	1,948
6	283	1,679	1,962
7	356	1,763	2,119
8	306	1,745	2,051

Table 3. *Demographic Description of the Sample by District*

Demographic Characteristic	District A (N = 1,886)	District B (N = 10,041)
Gender: Female	48%	49%
Gender: Male	52%	51%
Race/Ethnicity: White Alone	3.7%	9%
Race/Ethnicity: Black or African American	6.8%	25%
Race/Ethnicity: Hispanic or Latino	88.3%	61%
Race/Ethnicity: Asian or other	1.9%	6%
ELL	13.0%	7.7%

Analytic Plan

To provide teachers and administrators with the information they need to

determine whether a student is likely to reach the *Met Expectations* level or above on

the NJSLA-ELA assessment, we first evaluated the Pearson product-moment

correlations to establish that performance on the two assessments was correlated. Next,

we used multinomial logistic regression to determine the probabilities of reaching the

Approached Expectations (level 3) *Met Expectations* (level 4) or *Exceeded Expectations*

*(*level 5*)* of the NJSLA-ELA. The ISIP scores are the predictor, and the NJSLA-ELA

performance levels are the outcome variable. Students who had ISIP scores between the 1st and 99th percentile ranks were included in the analysis. A total of 20 ISIP Reading scaled scores in MOY and EOY were chosen, which correspond to the following percentile ranks: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 99. The model is fitted for each grade separately. This study investigates performance levels 3 – 5.

The probability of achieving NJSLA performance level 3 (*Approached Expectations*) or above is computed by adding the probabilities of levels 3, 4 and 5. The probability of achieving NJSLA-ELA performance level 4 (*Met Expectations*) is the probability of level 4 and 5, and the probability for level 5 is the probability only for level 5. The analyses are computed using *R* software with the nnet package.

Lastly, we conducted a classification accuracy to determine ISIP cut points that could help differentiate students who would or would not attain level 4 *Met Expectations* or higher on the NJSLA-ELA.

Results

ISIP Reading and NJSLA-ELA

Tables 4 and 5 present descriptive statistics for NJSLA-ELA and ISIP performance by district and grade. Table 6 shows data for both districts combined.

Table 4. *District A Mean and Standard Deviation (SD) for NJSLA-ELA and ISIP Reading Scores by Grade*

Grade	NJSLA-ELA Score (SD)	ISIP BOY Reading (SD)	ISIP MOY Reading (SD)	ISIP EOY Reading (SD)
3	732.59 (35.15)	411.47 (59.23)	422.56 (72.54)	448.22 (73.61)
4	739.05 (30.33)	454.05 (55.05)	473.28 (59.00)	481.44 (64.00)
5	742.24 (29.22)	488.42 (59.45)	500.23 (62.05)	514.00 (72.20)
6	737.27 (28.38)	526.24 (55.26)	534.91 (60.83)	547.43 (72.67)
7	740.88 (30.42)	544.36 (52.93)	558.40 (61.79)	571.37 (77.48)
8	734.49 (30.25)	577.15 (61.90)	560.95 (91.48)	586.57 (85.46)

Table 5. *District B Mean and Standard Deviation (SD) for NJSLA-ELA and ISIP Reading Scores by Grade*

Grade	NJSLA-ELA Score (SD)	ISIP BOY Reading (SD)	ISIP MOY Reading (SD)	ISIP EOY Reading (SD)
3	707.74 (41.04)	395.94 (68.76)	408.32 (87.63)	404.77 (111.05)
4	720.42 (36.86)	458.09 (67.56)	463.18 (73.55)	473.85 (79.33)
5	722.59 (36.56)	492.45 (69.16)	494.02 (75.07)	503.14 (86.91)
6	724.10 (33.17)	520.74 (66.24)	521.33 (80.37)	539.19 (94.85)
7	727.54 (40.23)	536.42 (66.39)	543.20 (81.52)	549.03 (95.62)
8	728.07 (42.22)	560.52 (78.83)	558.97 (96.33)	579.06 (112.33)

Table 6. *Districts' Combined Mean and Standard Deviation (SD) for NJSLA-ELA and ISIP Reading Scores by Grade*

Grade	NJSLA-ELA Score (SD)	ISIP BOY Reading (SD)	ISIP MOY Reading (SD)	ISIP EOY Reading (SD)
3	711.80 (41.17)	401.22 (66.05)	411.44 (84.73)	413.59 (105.98)
4	723.35 (36.54)	456.88 (64.06)	465.07 (71.21)	475.28 (76.71)
5	725.87 (36.19)	491.19 (66.27)	495.43 (72.34)	505.59 (83.91)
6	726.00 (32.84)	522.28 (63.39)	524.01 (77.07)	540.60 (91.45)
7	729.78 (39.07)	539.01 (62.40)	546.49 (77.91)	554.03 (92.32)
8	729.03 (40.71)	563.37 (76.43)	559.19 (95.77)	580.40 (108.01)

Table 7 shows the Pearson product-moment correlation coefficients between ISIP Reading scores and NJSLA-ELA scores for MOY and EOY for both districts combined. The coefficients range from .65 to .70, indicating a strong relationship between ISIP Reading and the NJSLA-ELA. If a student does well on ISIP Reading, then it is likely that the student will do well on the NJSLA-ELA. This finding holds across all grades.

Table 7. *Pearson Product-Moment Correlation Coefficients between ISIP and NJSLA-ELA*

Grade	MOY ISIP Reading	EOY ISIP Reading
3	.68*	.67*
4	.68*	.66*
5	.67*	.68*
6	.69*	.69*
7	.70*	.67*
8	.69*	.65*

*$p < .001$

Tables 8 through 13 show the probability projection of MOY and EOY ISIP Reading scores to predict NJSLA-ELA performance levels. Low, medium, and high likelihood of attaining a proficiency level can be defined as follows: low is less than 33.0%, medium is 33.1% to 66.0%, and high is greater than 66.1%.

Third Grade

Table 8 shows the probability projection of third grade MOY and EOY ISIP Reading scores to predict NJSLA-ELA performance levels. Students in third grade who attained an ISIP Reading score at MOY and EOY corresponding to the 50th percentile rank had a high probability of achieving level 3 (*Approached Expectations)* on the NJSLA-ELA. Furthermore, students who had ISIP scores around the 50th – 80th percentile ranks had a medium likelihood of achieving level 4 (*Met Expectations)* on the NJSLA-ELA. Similarly, at EOY, ISIP Reading scores corresponding to the 50th – 80th percentile ranks had a medium probability of achieving level 4. A high probability of *level 4* is achieved at the 85th percentile rank.

Students who attained ISIP Reading scores corresponding to the 99th percentile ranks at MOY and EOY had a medium likelihood of achieving level 5 (*Exceeded Expectations)* on the NJSLA-ELA.

Table 8. *Third Grade MOY and EOY ISIP Reading Scores to Predict NJSLA-ELA Performance Levels*

ISIP Score MOY/ EOY	Percentile	Level 3 MOY Prob-ability	Level 3 MOY	Level 3 EOY Prob-ability	Level 3 EOY	Level 4 MOY Prob-ability	Level 4 MOY	Level 4 EOY Prob-ability	Level 4 EOY	Level 5 MOY Prob-ability	Level 5 MOY	Level 5 EOY Prob-ability	Level 5 EOY
363/371	5	0.186	Low	0.148	Low	0.027	Low	0.018	Low	0.000	Low	0.000	Low
392/402	10	0.290	Low	0.250	Low	0.063	Low	0.047	Low	0.001	Low	0.000	Low
410/422	15	0.369	Medium	0.334	Medium	0.101	Low	0.081	Low	0.002	Low	0.001	Low
423/436	20	0.431	Medium	0.400	Medium	0.138	Low	0.116	Low	0.003	Low	0.001	Low
434/448	25	0.485	Medium	0.460	Medium	0.176	Low	0.153	Low	0.005	Low	0.002	Low
443/458	30	0.531	Medium	0.511	Medium	0.212	Low	0.190	Low	0.007	Low	0.003	Low
452/467	35	0.576	Medium	0.556	Medium	0.251	Low	0.228	Low	0.009	Low	0.004	Low
460/475	40	0.616	Medium	0.597	Medium	0.290	Low	0.264	Low	0.012	Low	0.005	Low
467/483	45	0.649	Medium	0.636	Medium	0.325	Low	0.303	Low	0.015	Low	0.007	Low
474/491	50	0.682	High	0.674	High	0.363	Medium	0.345	Medium	0.019	Low	0.010	Low
481/499	55	0.714	High	0.711	High	0.401	Medium	0.388	Medium	0.023	Low	0.013	Low
489/506	60	0.748	High	0.741	High	0.446	Medium	0.427	Medium	0.029	Low	0.017	Low
496/514	65	0.776	High	0.773	High	0.485	Medium	0.472	Medium	0.035	Low	0.022	Low
504/523	70	0.805	High	0.807	High	0.530	Medium	0.523	Medium	0.043	Low	0.030	Low
512/532	75	0.832	High	0.837	High	0.574	Medium	0.573	Medium	0.052	Low	0.040	Low
522/542	80	0.862	High	0.867	High	0.627	Medium	0.627	Medium	0.065	Low	0.054	Low
533/555	85	0.890	High	0.899	High	0.681	High	0.693	High	0.083	Low	0.077	Low
548/571	90	0.921	High	0.931	High	0.748	High	0.764	High	0.112	Low	0.117	Low
572/592	95	0.956	High	0.964	High	0.835	High	0.855	High	0.170	Low	0.206	Low
626/653	99	0.990	High	0.994	High	0.946	High	0.965	High	0.354	Medium	0.515	Medium

Fourth Grade

Table 9 shows the probability projection of fourth grade MOY and EOY ISIP Reading scores to predict NJSLA-ELA performance levels.

Students in fourth grade who attained an ISIP Reading score corresponding to the 35th percentile rank at MOY and EOY had a high likelihood of attaining level 3 (*Approached Expectations)* on the NJSLA-ELA. Students with an ISIP performance around the 35th – 70th percentile ranks at MOY or EOY had a medium probability of reaching level 4 (*Met Expectations)* on the NJSLA-ELA. At EOY, Students who attained an ISIP reading score relating to percentile ranks of 90th – 95th in MOY or EOY had a medium probability of achieving level 5 (*Exceeded Expectations)* on the NJSLA-ELA.

Table 9. *Fourth Grade MOY and EOY ISIP Reading Scores to Predict NJSLA-ELA Performance Levels*

ISIP Score MOY/EOY	Percentile	Level 3 MOY Prob-ability	Level 3 MOY	Level 3 EOY Prob-ability	Level 3 EOY	Level 4 MOY Prob-ability	Level 4 MOY	Level 4 EOY Prob-ability	Level 4 EOY	Level 5 MOY Prob-ability	Level 5 MOY	Level 5 EOY Prob-ability	Level 5 EOY
408/419	5	0.253	Low	0.260	Low	0.049	Low	0.056	Low	0.000	Low	0.001	Low
435/448	10	0.373	Medium	0.383	Medium	0.102	Low	0.115	Low	0.001	Low	0.003	Low
452/465	15	0.458	Medium	0.464	Medium	0.152	Low	0.166	Low	0.003	Low	0.005	Low
465/479	20	0.524	Medium	0.532	Medium	0.201	Low	0.217	Low	0.005	Low	0.009	Low
476/490	25	0.580	Medium	0.585	Medium	0.249	Low	0.263	Low	0.008	Low	0.014	Low
485/500	30	0.624	Medium	0.632	Medium	0.292	Low	0.310	Low	0.012	Low	0.020	Low
493/509	35	0.663	High	0.673	High	0.334	Medium	0.354	Medium	0.018	Low	0.027	Low
501/517	40	0.700	High	0.708	High	0.377	Medium	0.396	Medium	0.025	Low	0.036	Low
509/525	45	0.736	High	0.741	High	0.423	Medium	0.439	Medium	0.034	Low	0.047	Low
516/533	50	0.765	High	0.773	High	0.465	Medium	0.483	Medium	0.045	Low	0.060	Low
524/541	55	0.797	High	0.802	High	0.513	Medium	0.527	Medium	0.060	Low	0.076	Low
531/549	60	0.823	High	0.829	High	0.555	Medium	0.571	Medium	0.077	Low	0.095	Low
539/557	65	0.850	High	0.854	High	0.604	Medium	0.614	Medium	0.102	Low	0.118	Low
547/565	70	0.875	High	0.876	High	0.651	Medium	0.656	Medium	0.132	Low	0.145	Low
556/575	75	0.899	High	0.901	High	0.702	High	0.707	High	0.173	Low	0.184	Low
566/586	80	0.923	High	0.924	High	0.756	High	0.758	High	0.228	Low	0.234	Low
578/598	85	0.946	High	0.944	High	0.814	High	0.809	High	0.307	Low	0.297	Low
593/614	90	0.967	High	0.965	High	0.875	High	0.865	High	0.420	Medium	0.390	Medium
616/638	95	0.986	High	0.984	High	0.939	High	0.926	High	0.599	Medium	0.537	Medium
661/685	99	0.998	High	0.997	High	0.989	High	0.982	High	0.852	High	0.779	High

Fifth Grade

Table 10 shows the probability projection of fifth grade MOY and EOY ISIP Reading scores to predict NJSLA -ELA performance levels.

Students in fifth grade who attained an ISIP Reading score corresponding to the 35th percentile at MOY and EOY had a high probability of attaining level 3 (Approached Expectations) on the NJSLA-ELA.. Students with an ISIP Reading score corresponding to the 35th – 65th percentile ranks at MOY had a medium probability of achieving level 4 (*Met Expectations)* on the NJSLA-ELA. A similar trend was observed for EOY in that students with ISIP scores corresponding to the 35th – 70th percentile ranks had a medium probability of reaching level 4 on the NJSLA-ELA.

At MOY and EOY, students who had ISIP scores around the 99th percentiles had a medium probability of reaching level 5 (*Exceeded Expectations)* performance level on the NJSLA-ELA.

Table 10. *Fifth Grade MOY and EOY ISIP Reading Scores to Predict NJSLA-ELA Performance Levels*

ISIP Score MOY/EOY	Percentile	Level 3 MOY Probability	Level 3 MOY	Level 3 EOY Probability	Level 3 EOY	Level 4 MOY Probability	Level 4 MOY	Level 4 EOY Probability	Level 4 EOY	Level 5 MOY Probability	Level 5 MOY	Level 5 EOY Probability	Level 5 EOY
432/440	5	0.261	Low	0.244	Low	0.040	Low	0.045	Low	0.000	Low	0.000	Low
461/470	10	0.391	Medium	0.372	Medium	0.094	Low	0.099	Low	0.001	Low	0.001	Low
479/488	15	0.480	Medium	0.457	Medium	0.147	Low	0.149	Low	0.002	Low	0.002	Low
492/502	20	0.545	Medium	0.525	Medium	0.197	Low	0.198	Low	0.003	Low	0.004	Low
504/514	25	0.604	Medium	0.582	Medium	0.251	Low	0.247	Low	0.005	Low	0.006	Low
513/524	30	0.648	Medium	0.629	Medium	0.297	Low	0.292	Low	0.007	Low	0.008	Low
522/533	35	0.689	High	0.669	High	0.345	Medium	0.335	Medium	0.010	Low	0.011	Low
531/542	40	0.729	High	0.707	High	0.396	Medium	0.380	Medium	0.013	Low	0.015	Low
539/550	45	0.761	High	0.739	High	0.443	Medium	0.421	Medium	0.017	Low	0.019	Low
547/559	50	0.792	High	0.772	High	0.490	Medium	0.468	Medium	0.021	Low	0.025	Low
555/567	55	0.820	High	0.800	High	0.536	Medium	0.510	Medium	0.026	Low	0.031	Low
563/575	60	0.845	High	0.825	High	0.582	Medium	0.551	Medium	0.032	Low	0.039	Low
571/584	65	0.868	High	0.851	High	0.626	Medium	0.597	Medium	0.038	Low	0.049	Low
580/593	70	0.891	High	0.875	High	0.673	High	0.641	Medium	0.047	Low	0.061	Low
589/603	75	0.910	High	0.897	High	0.716	High	0.687	High	0.058	Low	0.078	Low
600/614	80	0.930	High	0.918	High	0.764	High	0.734	High	0.073	Low	0.099	Low
612/627	85	0.948	High	0.939	High	0.810	High	0.784	High	0.092	Low	0.130	Low
629/643	90	0.966	High	0.958	High	0.863	High	0.837	High	0.124	Low	0.177	Low
653/669	95	0.982	High	0.979	High	0.917	High	0.902	High	0.183	Low	0.273	Low
702/719	99	0.996	High	0.995	High	0.973	High	0.969	High	0.347	Medium	0.508	Medium

Sixth Grade

Table 11 shows the probability projection of sixth grade MOY and EOY ISIP Reading scores to predict NJSLA-ELA Reading performance levels.

Students in sixth grade who attained an ISIP Reading score corresponding to the 35th percentile at MOY and the 40th percentile at EOY had a high probability of achieving level 3 (*Approached Expectations)* on the NJSLA-ELA. Students who attained ISIP scores around the 40th – 70th percentile ranks at MOY and 45th – 75th at EOY had a medium probability of level 4 (*Met Expectations)* on the NJSLA-ELA. To have a medium probability of reaching level 5 (*Exceeded Expectations)* on the NJSLA-ELA, students needed to attain an ISIP score around the 95th percentile at MOY and 99th percentile at EOY.

Table 11. *Sixth Grade MOY and EOY ISIP Reading Scores to Predict NJSLA-ELA Performance Levels*

ISIP Score MOY/ EOY	Percentile	Level 3 MOY Prob-ability	Level 3 MOY	Level 3 EOY Prob-ability	Level 3 EOY	Level 4 MOY Prob-ability	Level 4 MOY	Level 4 EOY Prob-ability	Level 4 EOY	Level 5 MOY Prob-ability	Level 5 MOY	Level 5 EOY Prob-ability	Level 5 EOY
453/462	5	0.265	Low	0.237	Low	0.029	Low	0.028	Low	0.000	Low	0.000	Low
480/491	10	0.379	Medium	0.360	Medium	0.066	Low	0.064	Low	0.000	Low	0.001	Low
498/509	15	0.461	Medium	0.442	Medium	0.108	Low	0.099	Low	0.001	Low	0.001	Low
512/524	20	0.527	Medium	0.511	Medium	0.152	Low	0.139	Low	0.002	Low	0.002	Low
523/536	25	0.580	Medium	0.565	Medium	0.195	Low	0.177	Low	0.003	Low	0.004	Low
533/547	30	0.627	Medium	0.614	Medium	0.241	Low	0.218	Low	0.005	Low	0.006	Low
543/556	35	0.673	High	0.652	Medium	0.291	Low	0.255	Low	0.007	Low	0.007	Low
552/565	40	0.713	High	0.688	High	0.342	Medium	0.294	Low	0.011	Low	0.010	Low
560/574	45	0.747	High	0.723	High	0.389	Medium	0.337	Medium	0.015	Low	0.013	Low
568/583	50	0.779	High	0.756	High	0.438	Medium	0.382	Medium	0.021	Low	0.017	Low
576/591	55	0.809	High	0.784	High	0.489	Medium	0.423	Medium	0.028	Low	0.022	Low
585/600	60	0.840	High	0.813	High	0.546	Medium	0.470	Medium	0.039	Low	0.028	Low
593/608	65	0.865	High	0.836	High	0.596	Medium	0.512	Medium	0.051	Low	0.035	Low
602/617	70	0.890	High	0.861	High	0.650	Medium	0.559	Medium	0.069	Low	0.044	Low
612/627	75	0.914	High	0.885	High	0.707	High	0.609	Medium	0.094	Low	0.056	Low
622/638	80	0.934	High	0.907	High	0.758	High	0.663	High	0.125	Low	0.072	Low
635/651	85	0.954	High	0.930	High	0.817	High	0.721	High	0.177	Low	0.095	Low
651/667	90	0.972	High	0.951	High	0.876	High	0.784	High	0.258	Low	0.131	Low
675/692	95	0.988	High	0.974	High	0.937	High	0.862	High	0.409	Medium	0.202	Low
721/739	99	0.998	High	0.993	High	0.988	High	0.949	High	0.707	High	0.385	Medium

Seventh Grade

Table 12 shows the probability projection of seventh grade MOY and EOY ISIP Reading scores to predict NJSLA-ELA performance levels.

Students in seventh grade who attained an ISIP Reading score corresponding to at least the 25th percentile at MOY and at least the 30th percentile at EOY had a high likelihood of achieving level 3 (Approached Expectations) on the NJSLA-ELA. Students who attained an ISIP Reading score that corresponded to the 25th – 55th percentile ranks at MOY and the 25th – 60th percentile ranks at EOY had a medium probability of achieving level 4 (*Met Expectations)* on the NJSLA-ELA. Students who attained ISIP scores around the 80th – 95th percentile ranks at MOY and above the 95th percentile rank at EOY had a medium probability of achieving level 5 (*Exceeded Expectations)* on the NJSLA-ELA.

Table 12. *Seventh Grade MOY and EOY ISIP Reading Scores to Predict NJSLA-ELA Performance Levels*

ISIP SCORE MOY/ EOY	Percentile	Level 3 MOY Prob-ability	Level 3 MOY	Level 3 EOY Prob-ability	Level 3 EOY	Level 4 MOY Prob-ability	Level 4 MOY	Level 4 EOY Prob-ability	Level 4 EOY	Level 5 MOY Prob-ability	Level 5 MOY	Level 5 EOY Prob-ability	Level 5 EOY
476/484	5	0.313	Low	0.346	Medium	0.080	Low	0.102	Low	0.002	Low	0.005	Low
506/516	10	0.469	Medium	0.474	Medium	0.163	Low	0.180	Low	0.008	Low	0.012	Low
526/537	15	0.569	Medium	0.556	Medium	0.238	Low	0.246	Low	0.016	Low	0.021	Low
541/553	20	0.638	Medium	0.616	Medium	0.304	Low	0.303	Low	0.025	Low	0.030	Low
554/566	25	0.693	High	0.662	Medium	0.366	Medium	0.353	Medium	0.038	Low	0.040	Low
565/578	30	0.737	High	0.702	High	0.421	Medium	0.401	Medium	0.052	Low	0.051	Low
576/588	35	0.776	High	0.733	High	0.477	Medium	0.441	Medium	0.070	Low	0.061	Low
585/598	40	0.806	High	0.762	High	0.524	Medium	0.482	Medium	0.088	Low	0.074	Low
595/608	45	0.836	High	0.789	High	0.576	Medium	0.523	Medium	0.112	Low	0.088	Low
604/617	50	0.861	High	0.812	High	0.621	Medium	0.560	Medium	0.137	Low	0.102	Low
612/626	55	0.880	High	0.833	High	0.660	Medium	0.596	Medium	0.163	Low	0.117	Low
621/635	60	0.900	High	0.852	High	0.703	High	0.630	Medium	0.195	Low	0.134	Low
630/645	65	0.918	High	0.872	High	0.742	High	0.667	High	0.231	Low	0.155	Low
640/655	70	0.934	High	0.890	High	0.783	High	0.703	High	0.275	Low	0.177	Low
650/665	75	0.948	High	0.906	High	0.820	High	0.736	High	0.323	Low	0.201	Low
662/677	80	0.962	High	0.923	High	0.858	High	0.773	High	0.383	Medium	0.232	Low
675/690	85	0.973	High	0.938	High	0.893	High	0.809	High	0.450	Medium	0.268	Low
692/707	90	0.984	High	0.954	High	0.928	High	0.850	High	0.538	Medium	0.318	Low
717/733	95	0.993	High	0.972	High	0.962	High	0.899	High	0.658	Medium	0.398	Medium
764/781	99	0.999	High	0.990	High	0.990	High	0.956	High	0.826	High	0.549	Medium

Eighth Grade

Table 13 shows the probability projection of eighth grade MOY and EOY ISIP Reading scores to predict NJSLA-ELA performance levels.

Students in eighth grade who attained an ISIP Reading score corresponding to the 25th percentile at MOY and the 30th percentile at EOY had a high probability of achieving level 3 (*Approached Expectations)* on the NJSLA-ELA. Students who attained an ISIP reading score corresponding to the 25th – 50th percentiles at MOY and 30th – 70th percentiles at EOY had a medium likelihood of attaining level 4 (*Met Expectations)* on the NJSLA-ELA. Students who scored at or above the 85th percentile at MOY and the 99th percentile at EOY had a medium likelihood of reaching level 5 (*Exceeded Expectations)* on the NJSLA-ELA.

Table 13. *Eighth Grade MOY and EOY ISIP Reading Scores to Predict NJSLA-ELA Performance Levels*

ISIP SCORE MOY/ EOY	Percentile	Level 3 MOY Prob-ability	Level 3 MOY	Level 3 EOY Prob-ability	Level 3 EOY	Level 4 MOY Prob-ability	Level 4 MOY	Level 4 EOY Prob-ability	Level 4 EOY	Level 5 MOY Prob-ability	Level 5 MOY	Level 5 EOY Prob-ability	Level 5 EOY
496/503	5	0.326	Low	0.332	Low	0.087	Low	0.098	Low	0.002	Low	0.003	Low
530/539	10	0.474	Low	0.451	Medium	0.173	Low	0.167	Low	0.006	Low	0.008	Low
552/561	15	0.574	Low	0.526	Medium	0.250	Low	0.221	Low	0.013	Low	0.014	Low
569/579	20	0.648	Low	0.585	Medium	0.319	Low	0.271	Low	0.021	Low	0.020	Low
583/593	25	0.705	High	0.630	Medium	0.381	Medium	0.313	Low	0.031	Low	0.026	Low
595/606	30	0.749	High	0.669	High	0.437	Medium	0.354	Medium	0.043	Low	0.033	Low
606/618	35	0.787	High	0.704	High	0.489	Medium	0.394	Medium	0.057	Low	0.041	Low
617/628	40	0.821	High	0.731	High	0.541	Medium	0.427	Medium	0.074	Low	0.049	Low
627/639	45	0.849	High	0.759	High	0.587	Medium	0.464	Medium	0.092	Low	0.059	Low
636/649	50	0.871	High	0.783	High	0.627	Medium	0.498	Medium	0.111	Low	0.069	Low
646/659	55	0.893	High	0.805	High	0.671	High	0.531	Medium	0.136	Low	0.080	Low
656/669	60	0.912	High	0.826	High	0.712	High	0.564	Medium	0.165	Low	0.093	Low
665/679	65	0.927	High	0.845	High	0.746	High	0.597	Medium	0.193	Low	0.107	Low
676/689	70	0.942	High	0.863	High	0.785	High	0.628	Medium	0.232	Low	0.122	Low
687/700	75	0.955	High	0.881	High	0.820	High	0.662	High	0.275	Low	0.141	Low
699/713	80	0.966	High	0.900	High	0.854	High	0.700	High	0.325	Low	0.165	Low
713/727	85	0.976	High	0.917	High	0.887	High	0.738	High	0.388	Medium	0.194	Low
730/745	90	0.985	High	0.936	High	0.920	High	0.783	High	0.467	Medium	0.235	Low
756/771	95	0.993	High	0.957	High	0.955	High	0.838	High	0.586	Medium	0.300	Low
805/820	99	0.998	High	0.981	High	0.987	High	0.914	High	0.771	High	0.438	Medium

Classification Accuracy

We conducted a classification accuracy analysis (Table 14) for third through eighth grade MOY and EOY ISIP Reading scores and NJSLA-ELA levels. Classification accuracy analyses are performed to determine ISIP cut points that can help determine which students likely will or will not attain level 4 (*Met Expectations*) or higher on the NJSLA-ELA. To that end, we computed sensitivity (students who met the *Met Expectations* level or above), specificity (students who did not meet the *Met Expectations* level or above), and the AUC (area under the curve) to determine the best ISIP cut points to identify students who would most likely meet the *Met Expectations* level or higher in the winter and spring for all students. Students at risk are those that did not score well enough on ISIP to reach either the *Met* or *Exceeded Expectations* on the NJSLA-ELA.

The State Department of Education showed that in the 2021 – 2022 school year, 42 % of third grade students in New Jersey met the benchmark in reading (36% in level 4: *Met Expectations* and 6% in level 5: *Exceeded Expectations*). In fourth grade, 49% met benchmark in reading (35% in level 4; 14% in level 5). 49% of fifth grade students met benchmark in reading in New Jersey (40% in level 4; 9% in level 5). In sixth grade, 47% of students were level 4 or above in reading (37% in level 4; 10% in level 5), and 52% of students in seventh grade *met* or *exceeded expectations* in reading (31% in level 4; 21% in level 5). A similar trend was observed for students in eighth grade in that 52% were on levels 4 or above (36% in level 4; 16% in level 5).

In our sample of students, 17% of third grade students were on track to meet expectations (level 4: 16%; level 5=1%) on NJSLA-ELA. In fourth and fifth grades, 25%

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of students were on track to meet expectations (level 4=20%; level 5: 4%). There were

24% (level 4:21%; level 5: 3%), 32% (level 4: 24%; level 5: 8%), and 30% (level 4: 24%;

level 5: 6%) of students who were on track to *meet expectations* in sixth, seventh, and

eighth grades respectively.

Table 14 shows that sensitivity ranged from .62 (grade 8) to .81 (grade 6)

indicating that 62 – 81% of students who were classified by ISIP as likely *Met*

Expectations or above on the NJSLA-ELA did achieve those levels. Specificity was .70 in

grades 4 and 8, and .77 in grade 30, meaning that 70 – 77% of students who were

classified as at risk of not meeting expectations by ISIP did in fact not reach level 4 (*Met*

Expectations) or higher level on the NJSLA-ELA. The AUC ranges from .68 to .77,

meaning that the model has discriminatory ability: 68–77% of the time, the model will

correctly assign a higher absolute risk to a randomly selected student who is at risk of

not meeting benchmark or expectations than to a randomly selected student who is not

at risk.

Table 14. *Classification Accuracy Indices by Benchmark and Grade*

Grade	Cut Point	Benchmark	AUC	Sensitivity	Specificity
3	35th	Winter	.76	.76	.76
3	35th	Spring	.77	.76	.77
4	30th	Winter	.71	.71	.70
4	30th	Spring	.71	.67	.74
5	30th	Winter	.77	.79	.74
5	30th	Spring	.75	.79	.71
6	35th	Winter	.75	.78	.71
6	35th	Spring	.76	.81	.71
7	30th	Winter	.68	.67	.69
7	30th	Spring	.70	.67	.72
8	30th	Winter	.69	.62	.76
8	30th	Spring	.70	.70	.70

Conclusion and Limitations

This study evaluated the relationship between the ISIP Reading assessment and the NJSLA-ELA. The goal of this study is to provide information to teachers and administrators to help them prepare their students for the NJSLA-ELA assessments in the spring. Results showed that students in this sample had to attain high scores on ISIP in order to attain a medium likelihood of achieving level 4 (*Met Expectations*) or level 5 (*Exceeded Expectations*) on NJSLA-ELA. Cut points at the 30th to 35th percentiles showed good classification accuracy for predicting students who would pass the state assessment, although the results varied by grade.

This study has some limitations. First, these results are based on data from two school districts in New Jersey. Their demographic characteristics and performance may differ from other districts in the state. While the results are promising for identifying students who may not pass the state assessment, complete certainty of performance on the state assessment is unknown. Other factors may affect students' NJSLA-ELA scores besides their reading ability as measured by the ISIP assessment.

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