

Linking the New Mexico MSSA ELA Assessment to ISIP Reading

June 2023

Raffaela Wolf, PhD

Matthew Jeans, PhD

Victoria Locke, PhD



Support Educators. Empower Kids. Change Lives.

Executive Summary

This study provides the proficiency projection of Istation's Indicators of Progress (ISIP™) Reading on the New Mexico Measures of Student Success and Achievement (NM-MSSA) English Language Arts (ELA) assessments for grades 3 through 6. Classification accuracy is also provided. All data came from students in six school districts in New Mexico.

The Pearson product-moment correlations of ISIP middle-of-the-year (MOY) scores and NM-MSSA ELA scores range from 0.71 to 0.76, and for ISIP end-of-the-year (EOY) scores and NM-MSSA ELA scores, they range from 0.70 to 0.77. This indicates strong associations between ISIP Reading and the NM-MSSA ELA assessment. The linking study between the NM-MSSA ELA and ISIP Reading assessments was conducted using multinomial logistic regression. Low probability of attaining a level was defined as less than .330, a medium probability of attaining a level was .330–.660, and a high probability of attaining a level was set at greater than .660.

At MOY, in order to achieve a high probability of meeting NM-MSSA ELA performance level 2 (*Nearing Proficiency*), students had to attain ISIP scores at the following percentile ranks:

- Third grade: 20th
- Fourth grade: 25th
- Fifth grade: 35th
- Sixth grade: 10th

To attain a high probability of meeting NM-MSSA ELA performance level 3 (*Proficient*) or higher, students needed to reach the following percentile ranks on ISIP Reading:

- Third grade: 80th
- Fourth grade: 70th
- Fifth grade: 70th
- Sixth grade: 65th

To attain a high probability of achieving NM-MSSA ELA performance level 4 (*Advanced*), students had to attain ISIP scores at the following percentile ranks:

- Third grade: 95th
- Fourth grade: 95th
- Fifth grade: 99th
- Sixth grade: 99th

At EOY, students had to attain ISIP Reading scores at the following percentile ranks to have a high probability of meeting NM-MSSA ELA performance level 2 (*Nearing Proficiency*) or higher:

- Third grade: 20th
- Fourth grade: 25th
- Fifth grade: 35th
- Sixth grade: 15th

To attain a high probability of meeting NM-MSSA ELA performance level 3 (*Proficient*) or higher, students needed to reach the following percentile ranks on ISIP Reading:

- Third grade: 80th
- Fourth grade: 65th
- Fifth grade: 75th
- Sixth grade: 75th

To attain a high probability of meeting NM-MSSA ELA Reading performance level 4 (*Advanced*), students needed to attain the following percentile ranks:

- Third grade: 99th
- Fourth grade: 95th
- Fifth grade: 99th
- Sixth grade: 99th

Classification accuracy analyses were conducted. At MOY, 80% of students were correctly classified on ISIP Reading with respect to the NM-MSSA ELA. For example, 69% of students who performed below the cut point on ISIP Reading did not meet level 2 or above on the NM-MSSA ELA assessment; 91% of students who performed above the cut point on ISIP Reading met level 2 or above on the NM-MSSA ELA assessment. ISIP Reading accurately predicted meeting *Nearing Proficiency* on the NM-MSSA ELA assessment about 80% of the time at MOY.

At EOY, the percentage of students correctly classified on ISIP Reading with respect to NM-MSSA ELA was approximately 80% across grades: 70% of students who performed below the cut point on ISIP Reading did not meet level 2 or above on NM-MSSA ELA, and 88% of students who performed above the cut point on ISIP Reading met level 2 or above on NM-MSSA ELA. ISIP Reading accurately predicted meeting *Nearing Proficiency* on the NM-MSSA ELA assessment about 80% of the time at EOY.

Introduction

This study provides the proficiency projection of Istation's Indicators of Progress (ISIP) Reading observed scores on the NM-MSSA ELA scores for grades 3 through 6. Students took these two assessments during the same school year, and a correlational study and classification accuracy were also conducted.

Regular administration of ISIP assessments (either monthly or three times each school year during benchmarking assessment months) and the administration of the NM-MSSA in the spring present an opportunity for conducting a linking study between the ISIP Reading and NM-MSSA ELA assessments. The results from this study can be useful for teachers and school administrators to prepare students for the NM-MSSA in the spring.

The ISIP Reading assessments have strong correlations with other state assessments, and linking studies with other assessments demonstrated that ISIP can be used to project student proficiency on end-of-year assessments such as the State of Texas Assessment of Academic Readiness (STAAR) (Wolf & Locke, 2023), Virginia Standards of Learning (Campbell, Sutter, & Lambie, 2019), Ohio AIR (LePlante, 2019), Renaissance STAR (Campbell, Sutter, Lambie, & Tinstman Jones, 2019), CMAS ELA (Patarapichayatham, 2019), Idaho SAT (Wolfe & Ross, 2020), New Jersey Student Learning Standards (NJSLA) (Wolf & Locke, 2022), and PARCC (Cook & Ross, 2020). All information can be found on our website (www.istation.com).

Background

ISIP Reading Assessments

ISIP Reading assessments utilize a computer-adaptive testing (CAT) approach based on two-parameter item response theory, which enables measurement of critical domains such as reading comprehension, fluency, vocabulary, and spelling. These

assessments are highly efficient, capable of tracking progress within or across academic years, and can be administered to an entire classroom, school, or district in as little as 30 minutes, easily fitting within the school day. Immediate online availability of student results provides teachers and administrators insight into each student’s past and current performance, as well as skill growth. Teachers receive alerts when students are not making adequate progress, allowing them to modify instruction before a pattern of failure develops (Mathes, 2011).

ISIP Reading helps teachers identify deficits and provide differentiated instruction according to a student’s pattern of strengths and weaknesses. ISIP Reading is available for prekindergarten through 8th grade students and has a continuous vertical scale that assesses reading ability across these grades. In addition to detailed reports, Istation provides teachers and other school personnel with links to teaching resources and targeted intervention strategies (Mathes et al., 2016). Scaled scores range from 100 to 900. There are five performance levels for ISIP Reading:

- Level 1: at or below the 20th percentile rank
- Level 2: between the 21st and 40th percentile rank
- Level 3: between the 41st and 60th percentile rank
- Level 4: between the 61st and 80th percentile rank
- Level 5: at or above the 81st percentile rank

New Mexico MSSA ELA Assessment

The NM-MSSA ELA is a statewide computer-based summative assessment for English language arts at the end of grades 3 through 8. Items are aligned to the Common Core State Standards and are based on passages composed of literary and informational texts. Because it is a single measure taken at the conclusion of a grade, NM-MSSA scores should be interpreted and utilized alongside additional measures. Classroom summative and formative assessments in English language arts and interim assessments can provide important supplementary information.

The NM-MSSA is designed to provide evidence that determines grade-level proficiency and progress toward college and/or career readiness. As shown in Table 1, students receive a performance level and a numerical scaled score that corresponds to the knowledge, skills, and abilities that students must demonstrate to be classified into one of four levels:

- *Novice*: Students demonstrate evidence of **emerging** understanding and use of college and career readiness knowledge, skills, and abilities.
- *Nearing Proficiency*: Students demonstrate evidence of **partial** understanding and use of college and career readiness knowledge, skills, and abilities.
- *Proficient*: Students demonstrate evidence of **satisfactory** understanding and use of college and career readiness knowledge, skills, and abilities.
- *Advanced*: Students demonstrate evidence of **thorough** understanding and use of college and career readiness knowledge, skills, and abilities.

The purpose of this study is to predict students’ performance on the NM-MSSA based on their ISIP Reading scores. There are two objectives in the current study:

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

Table 1. Scaled Score Ranges for Performance Levels by Grade on the NM-MSSA ELA

Grade	Level 1 <i>Novice</i>	Level 2 <i>Nearing Proficiency</i>	Level 3 <i>Proficient</i>	Level 4 <i>Advanced</i>
3	300-335	336-359	360-369	370-390
4	400-439	440-459	460-472	473-490
5	500-542	543-559	560-572	573-590
6	600-631	632-659	660-672	673-690
7	700-730	731-759	760-774	775-790
8	800-839	840-859	860-870	871-890

Data from the 2021–2022 school year from six districts in the state of New Mexico 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

The analytical strategy began with evaluating the Pearson product-moment correlations between the ISIP and NM-MSSA ELA assessments. Next, multinomial logistic regression determined probabilities for reaching the *Nearing Proficiency* level or above on the NM-MSSA ELA assessment. Finally, conducting a classification accuracy analysis identified the cut points that best predict whether a student will reach the *Nearing Proficiency* level or above on the NM-MSSA ELA assessment.

Analytic Samples

ISIP Reading

The data for this analysis was obtained from six districts in New Mexico. Only students who had a valid ISIP score and NM-MSSA ELA score were included in the analysis.

Table 2 presents the analytic sample breakdown by school district. District A had the largest sample with 4,481 students, followed by District D (n = 3,070), District C (n = 1,590), District F (n = 879), District E (n = 1,178), and District B (n = 1,091). District D predominately consisted of students who were Hispanic or Latino, and Districts B and F had a majority of students who were Hispanic or Latino. A full description of demographic characteristics for each district is available in Table 3. Sample characteristics came from the National Center for Education Statistics website.

Table 2. *Sample Size per District by Grade*

Grade	A	B	C	D	E	F	Combined
3	1,784	233	539	660	989	510	4,715
4	1,304	204	506	737	95	369	3,215
5	1,393	223	545	856	94		3,111
6		163		817			980
7		148					148
8		120					120

Table 3. Demographic Description of the Sample by District

District	Sample Size	Demographic Characteristic	Percentage
A	N=4,481	Gender: Female	48%
		Gender: Male	52%
		Race/Ethnicity: White/Non-Hispanic	38%
		Race/Ethnicity: African American or Black	2%
		Race/Ethnicity: Hispanic or Latino origin	50%
		Race/Ethnicity: Asian or Other	9%
B	N=823	Gender: Female	48%
		Gender: Male	52%
		Race/Ethnicity: White/Non-Hispanic	32%
		Race/Ethnicity: African American or Black	1%
		Race/Ethnicity: Hispanic or Latino origin	64%
		Race/Ethnicity: Asian or Other	3%
C	N=1590	Gender: Female	50%
		Gender: Male	50%
		Race/Ethnicity: White/Non-Hispanic	45%
		Race/Ethnicity: African American or Black	5%
		Race/Ethnicity: Hispanic or Latino origin	44%
		Race/Ethnicity: Asian or Other	6%
D	N=3070	Gender: Female	50%
		Gender: Male	50%
		Race/Ethnicity: White/Non-Hispanic	8%
		Race/Ethnicity: African American or Black	1%
		Race/Ethnicity: Hispanic or Latino origin	90%
		Race/Ethnicity: Asian or Other	3%
E	N=1178	Gender: Female	47%
		Gender: Male	53%
		Race/Ethnicity: White/Non-Hispanic	47%
		Race/Ethnicity: African American or Black	3%
		Race/Ethnicity: Hispanic or Latino origin	44%
		Race/Ethnicity: Asian or Other	5%
F	N=879	Gender: Female	50%
		Gender: Male	50%
		Race/Ethnicity: White/Non-Hispanic	44%
		Race/Ethnicity: African American or Black	1%
		Race/Ethnicity: Hispanic or Latino origin	51%
		Race/Ethnicity: Asian or Other	3%

Analytic Plan

To provide teachers and administrators with the information they need to determine whether a student is likely to reach the *Nearing Proficiency* level or above on the NM-MSSA ELA assessment, the analysis first examined Pearson product-moment correlations to confirm the correlation of performance between the two assessments. Next, multinomial logistic regression determined the probabilities of reaching the *Nearing Proficiency* (level 2), *Proficient* (level 3), or *Advanced* (level 4) levels of the NM-MSSA ELA. The analysis used the ISIP score as the predictor and the NM-MSSA ELA performance levels as outcome variables. Students with ISIP scores ranging from the 1st to the 99th percentile ranks were part of the analysis. A selection of 20 ISIP Reading scaled scores in MOY and EOY, corresponding to the following percentile ranks, was made: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 99. The model was adapted for each grade individually. The study focused on performance levels 2, 3, and 4.

The probability of achieving NM-MSSA ELA performance level 2 (*Nearing Proficiency*) or above is computed by adding the probabilities of levels 2, 3, and 4. The probability of achieving NM-MSSA ELA performance level 3 (*Proficient*) is the probability of level 3 and 4, and the probability for level 4 (*Advanced*) is the probability only for level 4. The analyses are computed using R software with the nnet package. Finally, classification accuracy analyses determined ISIP cut points that assist in differentiating students who will or will not achieve level 2 *Nearing Proficiency* or higher on the NM-MSSA ELA.

Results

ISIP Reading and NM-MSSA ELA Descriptive Statistics

Tables 4 through 9 present descriptive statistics for NM-MSSA ELA and ISIP Reading performance by district and grade. Table 10 shows data for all districts combined.

Table 4. District A Mean and Standard Deviation (SD) for NM-MSSA and ISIP Reading Scores by Grade

Grade	NM-MSSA Score (SD)	ISIP BOY Reading (SD)	ISIP MOY Reading (SD)	ISIP EOY Reading (SD)
3	345.57 (21.63)	415.53 (72.98)	435.53 (78.99)	451.57 (88.42)
4	446.13 (21.99)	454.60 (67.69)	475.22 (69.89)	487.25 (76.08)
5	546.25 (21.38)	494.25 (69.71)	507.82 (73.72)	523.60 (75.23)

Table 5. District B Mean and Standard Deviation (SD) for NM-MSSA and ISIP Reading Scores by Grade

Grade	NM-MSSA Score (SD)	ISIP BOY Reading (SD)	ISIP MOY Reading (SD)	ISIP EOY Reading (SD)
3	348.44 (21.45)	419.21 (67.20)	439.92 (71.29)	460.67 (81.90)
4	450.50 (22.55)	468.36 (58.00)	483.69 (59.70)	496.32 (62.36)
5	551.19 (20.10)	502.49 (58.89)	516.85 (58.14)	527.87 (62.07)
6	652.95 (19.10)	519.45 (72.22)	536.29 (64.49)	549.59 (68.00)

Table 6. District C Mean and Standard Deviation (SD) for NM-MSSA and ISIP Reading Scores by Grade

Grade	NM-MSSA Score (SD)	ISIP BOY Reading (SD)	ISIP MOY Reading (SD)	ISIP EOY Reading (SD)
3	344.61 (21.94)	410.36 (68.66)	434.09 (83.02)	451.24 (92.48)
4	448.85 (21.27)	461.75 (69.92)	483.90 (76.56)	505.90 (76.68)
5	551.86 (22.08)	501.81 (66.86)	520.75 (75.82)	536.92 (83.96)

Table 7. District D Mean and Standard Deviation (SD) for NM-MSSA and ISIP Reading Scores by Grade

Grade	NM-MSSA Score (SD)	ISIP BOY Reading (SD)	ISIP MOY Reading (SD)	ISIP EOY Reading (SD)
3	346.72 (19.84)	410.43 (70.71)	438.85 (79.73)	464.85 (87.13)
4	448.73 (21.48)	449.32 (65.48)	477.24 (72.07)	500.85 (70.73)
5	547.19 (20.52)	485.82 (65.82)	512.37 (68.67)	533.73 (72.51)
6	650.53 (19.63)	515.26 (74.77)	535.26 (74.98)	558.83 (81.60)

Table 8. District E Mean and Standard Deviation (SD) for NM-MSSA and ISIP Reading Scores by Grade

Grade	NM-MSSA Score (SD)	ISIP BOY Reading (SD)	ISIP MOY Reading (SD)	ISIP EOY Reading (SD)
3	353.93 (20.07)	446.63 (65.15)	472.59 (70.22)	492.45 (76.25)
4	449.84 (19.15)	467.99 (63.55)	488.22 (58.90)	494.86 (67.57)
5	557.33 (16.02)	528.51 (61.79)	532.48 (69.97)	556.23 (65.62)

Table 9. District F Mean and Standard Deviation (SD) for NM-MSSA and ISIP Reading Scores by Grade

Grade	NM-MSSA Score (SD)	ISIP BOY Reading (SD)	ISIP MOY Reading (SD)	ISIP EOY Reading (SD)
3	349.53 (23.28)	423.73 (73.53)	453.22 (83.15)	470.96 (90.69)
4	448.75 (21.66)	463.22 (67.74)	491.08 (69.89)	500.77 (68.69)

Table 10. Districts' Combined Mean and Standard Deviation (SD) for NM-MSSA and ISIP Reading Scores by Grade

Grade	NM-MSSA Score (SD)	ISIP BOY Reading (SD)	ISIP MOY Reading (SD)	ISIP EOY Reading (SD)
3	347.95 (21.54)	421.92 (71.57)	446.70 (79.15)	465.08 (87.49)
4	447.84 (21.71)	456.83 (67.06)	480.06 (70.83)	495.82 (73.36)
5	548.18 (21.20)	494.87 (67.67)	513.38 (71.64)	530.32 (75.30)
6	650.94 (19.56)	515.95 (74.34)	535.44 (73.26)	557.30 (79.55)

Table 11 presents the proportion of students in each NM-MSSA ELA level by grade level for all districts. The largest proportion of students performed at the *Nearing Proficiency* level for grades 3 and 6, whereas grades 4 and 5 had the largest proportion of students perform at the *Novice* level.

Table 11. Percentage of Students by MSSA-ELA Performance Level

Grade	Novice	Nearing Proficiency	Proficient	Advanced
3	29%	40%	16%	15%
4	35%	34%	20%	11%
5	38%	30%	21%	11%
6	20%	45%	23%	12%

Correlational Study: ISIP Reading and NM-MSSA ELA

Table 12 shows the Pearson product-moment correlation coefficients between ISIP Reading scores and NM-MSSA ELA scores for MOY and EOY for all districts combined. The coefficients for grades 3 through 6 range from .70 to .77, indicating a strong relationship between ISIP Reading and the NM-MSSA ELA. If a student does well on ISIP Reading, then it is likely that the student will do well on the NM-MSSA ELA assessment, particularly for grades 3 through 6.

Table 12. *Pearson Product-Moment Correlation Coefficients between ISIP and NM-MSSA*

Grade	MOY ISIP Reading	EOY ISIP Reading
3	.76*	.77*
4	.73*	.75*
5	.71*	.72*
6	.74*	.70*

* $p < .001$

Linking Study: ISIP Reading and NM-MSSA ELA

MOY ISIP and NM-MSSA ELA at Winter Benchmarking

Tables 13 through 16 are concordance tables derived from statistical linking procedures that directly link ISIP Reading scores and NM-MSSA ELA assessment levels. Concordance tables serve as valuable tools for various stakeholders, including educators, parents, administrators, researchers, and policymakers, by offering essential information to assess students' academic performance. These tables allow for a more comprehensive understanding of students' abilities and progress. Moreover, concordance tables aid in identifying strengths and weaknesses in specific subject areas, assisting in the development of targeted interventions and support programs. Furthermore, these tables contribute to the establishment of consistent academic standards and expectations, thereby promoting a unified approach to evaluating and enhancing educational outcomes.

The probabilities of meeting a NM-MSSA ELA performance level were divided into low (less than .330), medium (.330–.660), and high (greater than .660).

Table 13. *Third and Fourth Grades Proficiency Projection for ISIP at MOY*

Grade	Overall Score	Percentile	Nearing Probability	Nearing	Proficient Probability	Proficient	Advanced Probability	Advanced
3	363	5	0.295	Low	0.007	Low	0.000	Low
	392	10	0.477	Medium	0.025	Low	0.002	Low
	410	15	0.600	Medium	0.049	Low	0.005	Low
	423	20	0.686	High	0.078	Low	0.011	Low
	434	25	0.751	High	0.112	Low	0.018	Low
	443	30	0.800	High	0.148	Low	0.028	Low
	452	35	0.842	High	0.193	Low	0.042	Low
	460	40	0.874	High	0.239	Low	0.058	Low
	467	45	0.899	High	0.286	Low	0.076	Low
	474	50	0.920	High	0.337	Medium	0.099	Low
	481	55	0.937	High	0.392	Medium	0.126	Low
	489	60	0.954	High	0.459	Medium	0.164	Low
	496	65	0.965	High	0.520	Medium	0.201	Low
	504	70	0.976	High	0.589	Medium	0.249	Low
	512	75	0.983	High	0.655	Medium	0.301	Low
	522	80	0.990	High	0.731	High	0.371	Low
	533	85	0.994	High	0.802	High	0.448	Low
548	90	0.998	High	0.877	High	0.550	Low	
572	95	0.999	High	0.947	High	0.687	High	
626	99	1.000	High	0.994	High	0.874	High	
	408	5	0.219	Low	0.013	Low	0.000	Low
	435	10	0.394	Medium	0.043	Low	0.002	Low
	452	15	0.531	Medium	0.084	Low	0.006	Low
	465	20	0.638	Medium	0.133	Low	0.012	Low
	476	25	0.722	High	0.187	Low	0.020	Low
	485	30	0.783	High	0.241	Low	0.031	Low
	493	35	0.830	High	0.295	Low	0.044	Low
	501	40	0.871	High	0.354	Medium	0.061	Low
	509	45	0.904	High	0.417	Medium	0.083	Low

4	516	50	0.927	High	0.474	Medium	0.106	Low
	524	55	0.948	High	0.539	Medium	0.137	Low
	531	60	0.962	High	0.595	Medium	0.169	Low
	539	65	0.974	High	0.657	Medium	0.210	Low
	547	70	0.982	High	0.714	High	0.256	Low
	556	75	0.989	High	0.771	High	0.312	Low
	566	80	0.994	High	0.826	High	0.378	Medium
	578	85	0.997	High	0.879	High	0.458	Medium
	593	90	0.999	High	0.926	High	0.556	Medium
	616	95	1.000	High	0.968	High	0.689	High
	661	99	1.000	High	0.995	High	0.862	High

Table 14. *Fifth and Sixth Grades Proficiency Projection for ISIP at MOY*

Grade	Overall Score	Percentile	Nearing Probability	Nearing	Proficient Probability	Proficient	Advanced Probability	Advanced
5	432	5	0.169	Low	0.012	Low	0.000	Low
	461	10	0.303	Low	0.037	Low	0.001	Low
	479	15	0.416	Medium	0.071	Low	0.004	Low
	492	20	0.508	Medium	0.109	Low	0.008	Low
	504	25	0.596	Medium	0.158	Low	0.014	Low
	513	30	0.660	Medium	0.203	Low	0.021	Low
	522	35	0.722	High	0.255	Low	0.032	Low
	531	40	0.778	High	0.314	Low	0.046	Low
	539	45	0.822	High	0.371	Medium	0.062	Low
	547	50	0.860	High	0.431	Medium	0.083	Low
	555	55	0.893	High	0.492	Medium	0.107	Low
	563	60	0.919	High	0.553	Medium	0.137	Low
	571	65	0.940	High	0.612	Medium	0.171	Low
	580	70	0.959	High	0.675	High	0.215	Low
	589	75	0.972	High	0.733	High	0.264	Low
	600	80	0.983	High	0.795	High	0.328	Low
	612	85	0.991	High	0.850	High	0.403	Medium
	629	90	0.996	High	0.909	High	0.509	Medium
653	95	0.999	High	0.958	High	0.648	Medium	
702	99	1.000	High	0.993	High	0.845	High	
	453	5	0.500	Medium	0.030	Low	0.002	Low
	480	10	0.674	High	0.071	Low	0.006	Low
	498	15	0.774	High	0.118	Low	0.012	Low
	512	20	0.838	High	0.168	Low	0.021	Low
	523	25	0.879	High	0.217	Low	0.032	Low
	533	30	0.909	High	0.268	Low	0.046	Low
	543	35	0.933	High	0.326	Low	0.063	Low
	552	40	0.950	High	0.383	Medium	0.083	Low
	560	45	0.962	High	0.437	Medium	0.105	Low

6	568	50	0.972	High	0.492	Medium	0.130	Low
	576	55	0.979	High	0.547	Medium	0.159	Low
	585	60	0.985	High	0.609	Medium	0.196	Low
	593	65	0.990	High	0.661	High	0.232	Low
	602	70	0.993	High	0.716	High	0.276	Low
	612	75	0.996	High	0.772	High	0.328	Low
	622	80	0.997	High	0.820	High	0.381	Medium
	635	85	0.999	High	0.871	High	0.451	Medium
	651	90	0.999	High	0.918	High	0.534	Medium
	675	95	1.000	High	0.960	High	0.646	Medium
	721	99	1.000	High	0.992	High	0.806	High

MOY ISIP and NM-MSSA ELA at Winter Benchmarking

Figure 1 is a graphical representation of the MOY ISIP Reading percentiles associated with the probabilities of attaining the NM-MSSA ELA *Proficient* performance level by grade.

Third grade students who attained an ISIP Reading score of 474–512 (50th to 75th percentile ranks) had a medium probability of achieving the NM-MSSA ELA *Proficient* level or higher. Students with a score higher than 512 and higher than the 75th percentile had a high probability of achieving the *Proficient* level or higher. Students who attained a score of 522 (80th percentile rank) or higher are projected to achieve the NM-MSSA ELA *Proficient* level or higher. Students who attained an ISIP Reading score around 572 (95th percentile rank) are projected to achieve the NM-MSSA ELA *Advanced* level.

Fourth grade students who attained an ISIP Reading score of 501–539 (40th to 65th percentile ranks) had a medium probability of achieving the NM-MSSA ELA *Proficient* level or higher. Students with a score higher than 539 had a high probability of reaching the *Proficient* level or higher. Students who attained an ISIP Reading score around 616 (95th percentile or higher) had a high probability of reaching *Advanced*.

Fifth grade students who attained an ISIP Reading score of 539–571 (45th to 65th percentile ranks) had a medium probability of achieving the *Proficient* level or higher. Students with a score of 580 or greater had a high probability of achieving the *Proficient* level or higher. Students who attained an ISIP Reading score above the 95th percentile had a high probability of reaching *Advanced*.

Sixth grade students who attained an ISIP Reading score of 552–593 (40th to 65th percentile ranks) had a medium probability of reaching the *Proficient* level or higher. Students who attained an ISIP Reading score above 675 (95th percentile rank) had a high probability of reaching the *Advanced* level.

These results show that attaining the *Proficient* level or above on the NM-MSSA ELA assessment varies by grade, with third graders needing to score higher than the 75th percentile to have a high probability of attaining *Proficient* or higher, while fourth through sixth graders needed to score around the 70th–75th percentiles to have a high probability of attaining *Proficient* or higher.

Figure 1. *MOY ISIP Reading Percentiles and NM-MSSA ELA Proficient Probabilities by Grade Level*

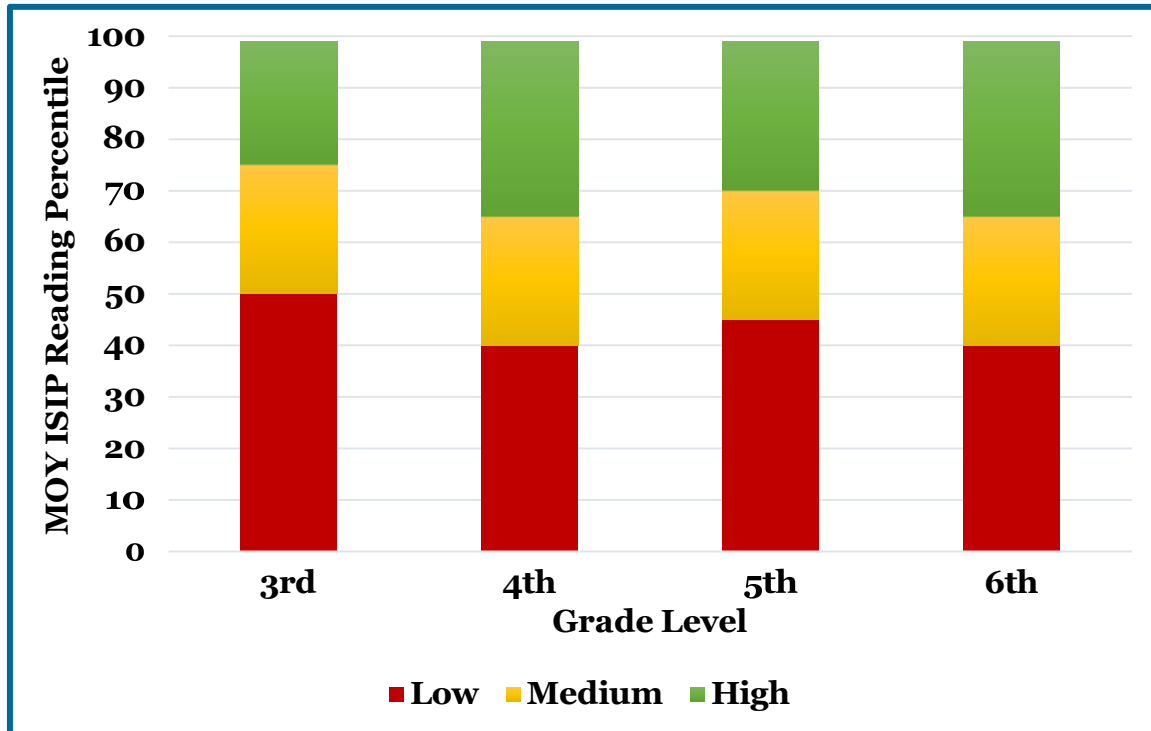


Table 15. *Third and Fourth Grade Proficiency Projection for ISIP at EOY*

Grade	Overall Score	Percentile	Nearing Probability	Nearing	Proficient Probability	Proficient	Advanced Probability	Advanced
3	371	5	0.253	Low	0.006	Low	0.000	Low
	402	10	0.439	Medium	0.020	Low	0.002	Low
	422	15	0.577	Medium	0.043	Low	0.005	Low
	436	20	0.670	High	0.070	Low	0.010	Low
	448	25	0.743	High	0.103	Low	0.018	Low
	458	30	0.797	High	0.139	Low	0.027	Low
	467	35	0.839	High	0.178	Low	0.039	Low
	475	40	0.871	High	0.219	Low	0.053	Low
	483	45	0.899	High	0.266	Low	0.071	Low
	491	50	0.922	High	0.318	Low	0.093	Low
	499	55	0.940	High	0.376	Medium	0.120	Low
	506	60	0.954	High	0.429	Medium	0.148	Low
	514	65	0.966	High	0.492	Medium	0.184	Low
	523	70	0.977	High	0.563	Medium	0.231	Low
	532	75	0.984	High	0.632	Medium	0.282	Low
	542	80	0.990	High	0.704	High	0.342	Medium
	555	85	0.995	High	0.785	High	0.423	Medium
	571	90	0.998	High	0.862	High	0.519	Medium
596	95	0.999	High	0.937	High	0.651	Medium	
653	99	1.000	High	0.992	High	0.844	High	
	419	5	0.194	Low	0.009	Low	0.000	Low
	448	10	0.374	Medium	0.034	Low	0.002	Low
	465	15	0.511	Medium	0.069	Low	0.005	Low
	479	20	0.627	Medium	0.117	Low	0.011	Low
	490	25	0.713	High	0.168	Low	0.018	Low
	500	30	0.782	High	0.225	Low	0.029	Low
	509	35	0.835	High	0.286	Low	0.043	Low
	517	40	0.875	High	0.345	Medium	0.060	Low
	525	45	0.907	High	0.408	Medium	0.080	Low

4	533	50	0.933	High	0.474	Medium	0.105	Low
	541	55	0.952	High	0.540	Medium	0.135	Low
	549	60	0.967	High	0.605	Medium	0.170	Low
	557	65	0.978	High	0.666	High	0.209	Low
	565	70	0.985	High	0.723	High	0.252	Low
	575	75	0.991	High	0.785	High	0.310	Low
	586	80	0.995	High	0.842	High	0.376	Medium
	598	85	0.998	High	0.890	High	0.450	Medium
	614	90	0.999	High	0.935	High	0.545	Medium
	638	95	1.000	High	0.973	High	0.672	High
	685	99	1.000	High	0.996	High	0.845	High

Table 16. Fifth and Sixth Grade Proficiency Projection for ISIP at EOY

Grade	Overall Score	Percentile	Nearing Probability	Nearing	Proficient Probability	Proficient	Advanced Probability	Advanced
5	440	5	0.154	Low	0.012	Low	0.000	Low
	470	10	0.281	Low	0.037	Low	0.002	Low
	488	15	0.387	Medium	0.069	Low	0.005	Low
	502	20	0.480	Medium	0.106	Low	0.009	Low
	514	25	0.565	Medium	0.150	Low	0.016	Low
	524	30	0.635	Medium	0.194	Low	0.024	Low
	533	35	0.695	High	0.241	Low	0.034	Low
	542	40	0.751	High	0.293	Low	0.047	Low
	550	45	0.796	High	0.343	Medium	0.062	Low
	559	50	0.840	High	0.403	Medium	0.083	Low
	567	55	0.874	High	0.457	Medium	0.105	Low
	575	60	0.902	High	0.512	Medium	0.131	Low
	584	65	0.928	High	0.573	Medium	0.165	Low
	593	70	0.948	High	0.631	Medium	0.204	Low
	603	75	0.965	High	0.692	High	0.251	Low
	614	80	0.977	High	0.752	High	0.308	Low
	627	85	0.987	High	0.813	High	0.379	Medium
643	90	0.994	High	0.873	High	0.469	Medium	
669	95	0.998	High	0.937	High	0.608	Medium	
719	99	1.000	High	0.986	High	0.807	High	
	462	5	0.452	Medium	0.037	Low	0.002	Low
	491	10	0.621	Medium	0.080	Low	0.007	Low
	509	15	0.718	High	0.122	Low	0.013	Low
	524	20	0.788	High	0.166	Low	0.021	Low
	536	25	0.836	High	0.209	Low	0.031	Low
	547	30	0.872	High	0.254	Low	0.043	Low

6	556	35	0.898	High	0.295	Low	0.055	Low
	565	40	0.919	High	0.338	Medium	0.070	Low
	574	45	0.937	High	0.384	Medium	0.088	Low
	583	50	0.951	High	0.432	Medium	0.109	Low
	591	55	0.961	High	0.475	Medium	0.130	Low
	600	60	0.971	High	0.525	Medium	0.158	Low
	608	65	0.978	High	0.569	Medium	0.185	Low
	617	70	0.984	High	0.617	Medium	0.218	Low
	627	75	0.988	High	0.669	High	0.259	Low
	638	80	0.992	High	0.723	High	0.307	Low
	651	85	0.995	High	0.780	High	0.366	Medium
	667	90	0.998	High	0.839	High	0.442	Medium
	692	95	0.999	High	0.906	High	0.556	Medium
	739	99	1.000	High	0.971	High	0.734	High

EOY ISIP and NM-MSSA ELA at Spring Benchmarking

Figure 2 is a graphical representation of the EOY ISIP Reading percentiles associated with the probabilities of attaining the NM-MSSA ELA *Proficient* performance level by grade.

Third grade students who attained an ISIP Reading score of 499–532 (55th to 75th percentile ranks) had a medium probability of achieving the NM-MSSA ELA *Proficient* level or higher. Students with a score higher than 532 and higher than the 75th percentile had a high probability of achieving the *Proficient* level or higher. Students who attained a score of 542 (80th percentile rank) or higher are projected to achieve the NM-MSSA ELA *Proficient* level or higher. Students who attained an ISIP Reading score around 653 (99th percentile rank) had a high probability of reaching NM-MSSA ELA *Advanced* level.

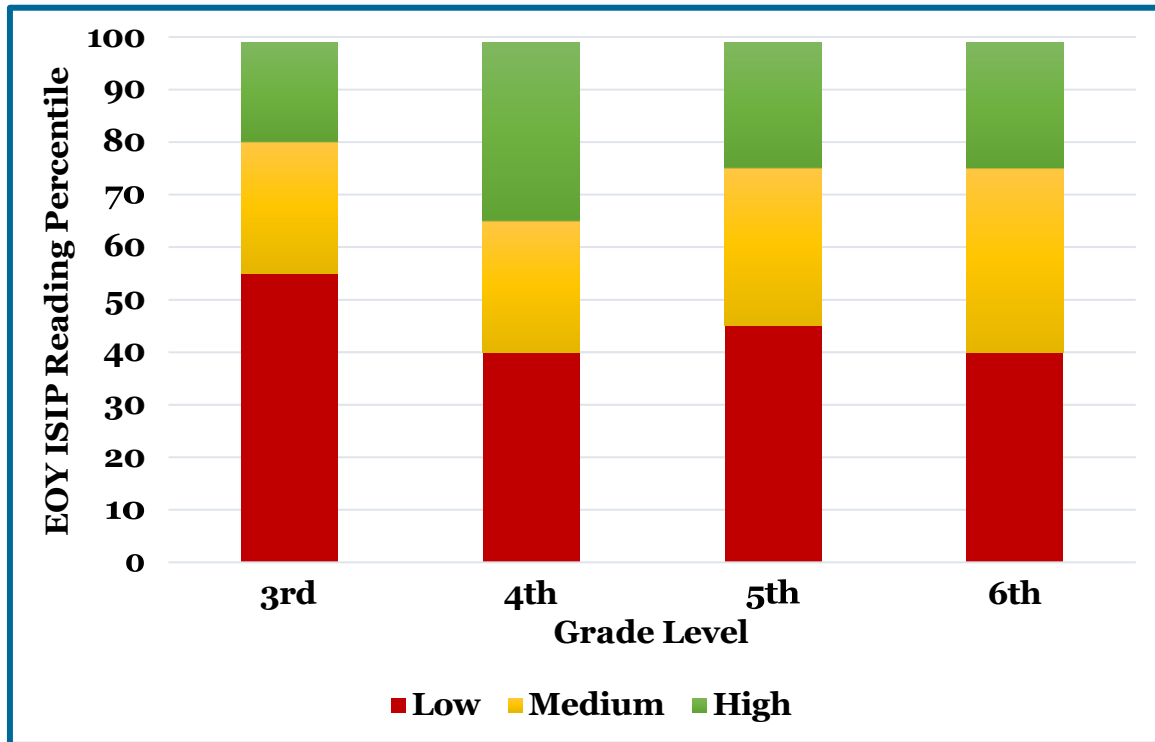
Fourth grade students who attained an ISIP Reading score of 517–549 (40th to 60th percentile ranks) had a medium probability of achieving the NM-MSSA ELA *Proficient* level or higher. Students with a score higher than 549 had a high probability of reaching the *Proficient* level or higher. Students who attained an ISIP Reading score around 638 (95th percentile or higher) had a high probability of reaching *Advanced*.

Fifth grade students who attained an ISIP Reading score of 550–593 (45th to 70th percentile ranks) had a medium probability of achieving the *Proficient* level or higher. Students with a score of 593 or greater had a high probability of achieving the *Proficient* level or higher. Students who attained an ISIP Reading score around 719 (99th percentile or higher) had a high probability of reaching *Advanced*.

Sixth grade students who attained an ISIP Reading score of 565–617 (40th to 70th percentile ranks) had a medium probability of reaching the *Proficient* level or higher. Students who attained an ISIP Reading score around 739 (99th percentile or higher) had a high probability of reaching *Advanced*.

These results show that attaining the *Proficient* level or above on the NM-MSSA ELA assessment varies by grade, with third graders needing to score higher than the 75th percentile to have a high probability of attaining *Proficient* or higher, followed by fifth and sixth graders (70th percentile), and fourth graders (60th percentile) to have a high probability of attaining *Proficient* or higher.

Figure 2. *EOY ISIP Reading Percentiles and NM-MSSA ELA Proficient Probabilities by Grade Level*



Classification Accuracy: ISIP Reading and NM-MSSA ELA

Classification accuracy was conducted to predict whether students in the sample would achieve the *Nearing Proficiency* level or higher on the NM-MSSA ELA assessment. A higher classification accuracy rate indicates stronger congruence between ISIP Reading and NM-MSSA ELA assessments. Classification accuracy was conducted for third through sixth grade ISIP Reading at MOY, ISIP Reading at EOY, and NM-MSSA ELA assessment of *Nearing Proficiency* level or higher. Classification accuracy analyses were performed to determine ISIP Reading cut points that could help differentiate students who would or would not attain *Nearing Proficiency* or higher levels on the NM-MSSA ELA assessment.

Classification accuracy of ISIP cut scores was performed at the 30th percentile and NM-MSSA ELA *Nearing Proficiency* level or higher. The area under the curve (AUC), sensitivity, specificity, positive predictive power, negative predictive power, and the overall rate were computed and compared to determine the best ISIP Reading cut point to identify students who would most likely meet the *Nearing Proficiency* level or higher on the NM-MSSA ELA assessment. Results in Table 17 show that the best cut scores vary by grade on ISIP at MOY and EOY.

MOY Classification Accuracy: ISIP Reading and NM-MSSA ELA

The AUC ranged from 0.77 to 0.82, indicating that the percentage of students correctly classified on ISIP Reading with respect to the NM-MSSA ELA assessment was approximately 80% across grade levels. Sensitivity ranged from 0.62 to 0.73, indicating that approximately 69% of students who performed below the cut point on ISIP Reading did not meet the *Nearing Proficiency* level or above on the NM-MSSA ELA assessment. The specificity ranged from 0.85 to 0.93, indicating that approximately 91% of students who performed above the cut point on ISIP Reading were likely to meet the *Nearing Proficiency* level or above on the NM-MSSA ELA. ISIP Reading accurately predicted attaining *Nearing Proficiency* and above on the NM-MSSA ELA assessment about 80% of the time.

EOY Classification Accuracy: ISIP Reading and NM-MSSA ELA

The AUC ranged from 0.77 to 0.83, indicating that the percentage of students correctly classified on ISIP Reading with respect to the NM-MSSA ELA assessment was approximately 80% across grade levels. Sensitivity ranged from 0.66 to 0.73, indicating

that approximately 71% of students who performed below the cut point on ISIP Reading did not meet the *Nearing Proficiency* level or above on the NM-MSSA ELA assessment. The specificity ranged from 0.82 to 0.93, indicating that approximately 89% of students who performed above the cut point on ISIP Reading were likely to meet the *Nearing Proficiency* level or above on the NM-MSSA ELA. ISIP Reading accurately predicted attaining *Nearing Proficiency* and above on the NM-MSSA ELA assessment about 80% of the time.

Table 17. Classification Accuracy Indices by Benchmark and Grade

Grade	Cut Point	Benchmark	AUC	Sensitivity	Specificity
3	30th	Winter	.82	.72	.92
	30th	Spring	.83	.73	.93
4	30th	Winter	.81	.68	.93
	30th	Spring	.81	.70	.92
5	30th	Winter	.79	.73	.85
	30th	Spring	.78	.74	.82
6	30th	Winter	.77	.62	.92
	30th	Spring	.77	.66	.88

Conclusion

The present study demonstrated a strong positive correlation between ISIP Reading scores and NM-MSSA ELA performance. The MOY and EOY ISIP Reading scores were effective predictors of student achievement on the NM-MSSA ELA assessment. The predictive power was strong for grades 3 through 6, where a clear relationship between higher ISIP Reading scores and the likelihood of attaining the *Proficient* level or above on the NM-MSSA ELA assessment was observed.

The Pearson product-moment correlation coefficients for these grades ranged between .70 and .77, confirming the presence of a robust relationship between ISIP Reading and NM-MSSA ELA scores. The probabilities of meeting various performance levels on the NM-MSSA ELA assessment showed a clear trend: the likelihood of achieving high performance levels on the NM-MSSA ELA assessment increased as students attained higher ISIP Reading scores. While the scores needed to obtain *Proficient* or higher varied by grade level, the classification accuracy analysis reinforced the predictive validity of ISIP Reading scores, with approximately 80% of students correctly classified based on their ISIP Reading scores in relation to their NM-MSSA ELA performance.

The findings underscore the value of ISIP Reading as an assessment tool, not only for tracking student progress within or across academic years, but also for predicting student performance on end-of-grade summative assessments such as the NM-MSSA ELA. Teachers and administrators can effectively utilize these insights to target interventions and support programs more efficiently, thereby promoting improved learning outcomes. The study substantiates the use of ISIP Reading assessments in the classroom, offering a powerful tool for educators to enhance instructional strategies, facilitate learning, and promote student success.

References

- Campbell, L.O., Sutter, C. C., & Lambie, G. W. (2019). Predictability of Istation’s Indicators of Progress scores on students’ Virginia Standard of Learning scores: Grades 3 through 8. University of Central Florida. www.istation.com
- Campbell, L.O., Sutter, C. C., Lambie G. W., & Tinstman Jones, J. (2019). Measuring the predictability of Istation’s Indicators of Progress Early Reading (ISIP ER) scores on Renaissance STAR Reading® scores. University of Central Florida. www.istation.com
- Cook, M., & Ross, S. (2020). PARCC predictability study – 3rd grade. Johns Hopkins University. www.istation.com/studies
- Istation. (2022). Technical manual: Istation’s Indicators of Progress (ISIP) Reading: computer adaptive testing system for continuous progress monitoring of reading for students prekindergarten through grade 8. Dallas, TX: Istation.
- LePlante, J. (2019). Predictability study of Istation ISIP (Math and Reading) and Ohio AIR (Math and English Language Arts) tests for 3rd-8th grade students in the Youngstown City School District. Youngstown City Schools. www.istation.com/studies
- Mathes, P. (2011). Technical manual: Istation’s Indicators of Progress, Advanced Reading: Computer adaptive testing system for continuous progress monitoring of reading growth for students grade 4 through grade 8. Dallas, TX: Istation.
- Mathes, P., Torgesen, J., & Herron, J. (2016). Technical manual: Istation’s Indicators of Progress, Early Reading: Computer adaptive testing system for continuous progress monitoring of reading growth for students pre–K to grade 3.
- Patarapichayatham, C. (2019). Linking the Colorado Measures of Academic Success English Language Arts (CMAS ELA) assessments to ISIP Reading assessments grades 3 through 5. Southern Methodist University. www.istation.com/studies
- Wolf, R., & Locke, V. (2022). Linking ISIP Reading to the New Jersey Student Learning Assessment (NJSLA). Dallas, TX: Istation. www.istation.com/studies
- Wolfe, E., & Ross, S. (2020). Linking Istation ISIP Early Reading with the Idaho ISAT. Johns Hopkins University. www.istation.com/studies
- Wolf, R., & Locke, V. (2023). Linking STAAR to ISIP Reading. Dallas, TX: Istation. www.istation.com/studies