



Linking Study Between STAAR Reading and ISIP ER Assessments for Second and Third Grade Students

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Abstract

This study provides the correlational relationship between Istation's Indicators of Progress Early Reading (ISIP™ ER) and State of Texas Assessments of Academic Readiness (STAAR) Reading scores. The data came from students in a large school district in the Houston area. The Pearson product-moment correlations are applied between the middle-of-the-year (MOY) ISIP ER scores of kindergarten, first grade, second grade, and third grade students and STAAR Reading scores in the same students' third grade year and between the end-of-the-year (EOY) ISIP ER scores of kindergarten, first grade, second grade, and third grade students and STAAR Reading scores in the same students' third grade year. Results show a strong relationship between ISIP ER and STAAR Reading scores.

This study also provides the proficiency projection of the EOY ISIP ER for second grade students and STAAR Reading in third grade and MOY ISIP ER for third grade students and STAAR Reading in third grade. Students in the study were in third grade in the 2018-2019 academic year and in second grade in the 2017-2018 academic year. Multinomial logistic regression analysis is applied. The ISIP scores are the predictor, and the STAAR Reading performance levels 2, 3, and 4 are the outcome variable. Results show that second and third grade students need to achieve ISIP scores near the 45th percentile rank or higher to have a medium probability of passing the STAAR Reading (performance level 3 or higher). They need to achieve ISIP scores near the 70th percentile rank or higher to have a medium probability of reaching the STAAR Reading performance level 4 – Masters.

Introduction

Istation's Indicators of Progress (ISIP) Reading assessments use a web-delivered computer-adaptive testing (CAT) system. They are built using two-parameter Item Response Theory and driven by a fully CAT algorithm. 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 illustrating each student's past and present performance and skill growth are immediately available online for teachers and administrators. 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).

The purpose of ISIP Reading is to measure reading ability and identify deficits in critical areas to provide continuous differentiated instruction. ISIP ER is available for prekindergarten through 3rd grade, and ISIP Advanced Reading (AR) is available for students in 4th through 8th grade. ISIP provides teachers and other school personnel with easy-to-interpret, web-based reports that detail student strengths and deficits and provide links to teaching resources and targeted intervention strategies (Istation, 2018).

Texas public school students take the State of Texas Assessments of Academic Readiness (STAAR) tests in grades 3 through 8 and high school. STAAR tests are aligned to the Texas Essential Knowledge and Skills (TEKS) learning standards. The Texas state standards define what Texas students should learn in each grade level. STAAR test

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results provide useful information for parents, teachers, and administrators on students' academic performance in reading, math, writing, science, and social studies.

This study aims to evaluate the relationship between ISIP ER and STAAR Reading scores. Research on ISIP ER consistently demonstrates a strong relationship between ISIP ER and state assessments including the ACT Aspire (Patarapichayatham, 2020), the Idaho Standards Achievement Test (Wolf & Ross, 2020), the PARCC (Cook & Ross, 2020), the Virginia Standards of Learning (Campbell et al., 2019), the Colorado Measure of Academic Success (Patarapichayatham, 2019), and the Ohio AIR (LePlante, 2018).

There are two main parts in this study. First, the correlational relationships between ISIP ER and STAAR Reading scores are analyzed using Pearson product-moment correlations. Second, we provide a linking study between ISIP ER and STAAR Reading scores. Since students in third grade take STAAR Reading in spring, we wanted to find the relationships between ISIP ER and STAAR Reading at the end of their second grade year, using April as the benchmark month, and at the middle of their third grade year in using January scores, to see if these benchmarks can be used to prepare students for the STAAR. The end-of-the-year (EOY) ISIP scores for second grade from April and the middle-of-the-year (MOY) ISIP scores for third grade were predictors, and STAAR performance levels (Approaches, Meets, and Masters) were the outcome variables. Note that a sample in each study might be different depending on a purpose of the study.

Part I: Correlational Study

Part I of this study aims to evaluate the relationship between ISIP ER and STAAR Reading scores. The Pearson product-moment correlations are applied between (a) January MOY ISIP ER scores of kindergarten, first grade, second grade, and third grade and STAAR Reading scores in the same students' third grade year and between (b) April EOY ISIP ER scores of kindergarten, first grade, second grade, and third grade, and STAAR Reading scores in the same students' third grade year.

Measures

This study uses the ISIP ER and STAAR Reading tests, and the correlational analysis uses the overall reading ability scaled scores. In ISIP ER, as students master lower-level skills, they progress to more difficult skills, so in each grade, different subtests comprise the overall ISIP ER score. In kindergarten, the overall scores are computed based on the Listening Comprehension, Phonemic Awareness, Letter Knowledge, and Vocabulary subtests. In first grade, the overall scores are computed from the Phonemic Awareness, Letter Knowledge, Alphabetic Decoding, Reading Comprehension, Spelling, and Vocabulary subtests. In second and third grades, the overall scores are computed from the Reading Comprehension, Spelling, and Vocabulary subtests.

Sample

The sample came a large school district in the Houston metropolitan area. The district is approximately 44% Hispanic or Latino, 18% Asian, 27% Black or African American, and 10% White (NCES, 2018). Approximately twenty eight percent (28.5%)

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of families in the district have incomes below the poverty level. We evaluated the cohort of students who were in third grade in the 2018-2019 school year and took the STAAR Reading test in spring 2019. This cohort was in the second grade in the 2017-2018 school year, first grade in 2016-2017, and kindergarten in 2015-2016. These students took the ISIP ER assessment as a benchmarking assessment. The original data file had 3,410 third grade students in the 2018-2019 school year who had STAAR Reading scores. Since this study aims to investigate the relationship between ISIP ER and STAAR Reading scores from kindergarten to third grade, only the same students from kindergarten to third grade were included in the correlation analysis. Students used the Istation program in all grades. A total of 837 students were included in the correlational study.

Table 1 shows the mean and standard deviation of the ISIP ER and STAAR Reading scores. Students in kindergarten gained approximately 10 ISIP scaled score points from the MOY to EOY assessment months. Students gained approximately 10, 6, and 4 ISIP scaled score points from the winter benchmarking assessment month to the spring benchmarking assessment month in first, second, and third grade, respectively. The STAAR Reading mean score was 1,448 with the standard deviation of 148.

Table 2 shows the demographics of the sample. Half of these students were female students. Approximately 34% of the total were Hispanic/Latino, 36% were African American, 25% were Asian or other race/ethnicities, 4% were White. Students who were limited English proficient comprised 50% of the sample. Forty-two percent (42.2%) were English as second language (ESL) students and 3% were identified as having dyslexia. Eight percent (8.2%) were enrolled in a special education program, and

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10% were identified as gifted. Approximately 75% of the sample met STAAR Reading Approaches, 45% met STAAR Reading Meets, and 30% met STAAR Reading Masters in spring 2019.

Table 1: Mean and Standard Deviation of ISIP ER and STAAR Reading

Grade	Assessment	Mean	SD
Kindergarten	ISIP MOY	190.50	14.23
	ISIP EOY	199.87	15.16
First	ISIP MOY	213.12	16.22
	ISIP EOY	222.63	16.75
Second	ISIP MOY	232.96	18.42
	ISIP EOY	238.60	18.12
Third	ISIP MOY	247.97	19.23
	ISIP EOY	251.55	19.62
	STAAR Reading	1,447.93	148.34

Table 2: Demographic Description of the Sample for the Correlational Study

Demographic	Variable	Frequency
Gender	Female	49.9%
	Male	50.1%
Race/Ethnicity	Asian or Other	22.1%
	African American	36.3%
	Hispanic/Latino	34.2%
	White	4.4%
LEP Status	No	49.9%
	Yes	50.1%
Bilingual	No	92.2%
	Yes	7.8%
ESL	No	57.8%
	Yes	42.2%
Dyslexia Identification	No	96.8%
	Yes	3.2%
Special Education	No	91.8%
	Yes	8.2%
Gifted talented	No	90.1%
	Yes	9.9%
At Risk	No	13.3%
	Yes	86.7%
STAAR Reading Approaches	No	24.5%
	Yes	75.5%
STAAR Reading Meets	No	56.0%
	Yes	44.0%
STAAR Reading	No	72.8%

Results

Table 4 shows Pearson product-moment correlations between ISIP ER and STAAR Reading scores. The correlations between ISIP assessments from kindergarten to third grade were high, ranging from 0.59 to 0.89. This indicates a moderate to strong relationship between ISIP ER assessment months. It also indicates how reliable the ISIP assessments were across kindergarten to third grade. The Pearson correlations between ISIP ER and STAAR Reading scores were relatively high, ranging from 0.49 to 0.73. Correlations are lower in kindergarten and first grade, and higher in second and third grade. To be more specific, the correlations were 0.49 and 0.55 in kindergarten, 0.67 and 0.69 in first grade, 0.73 and 0.72 in second grade, and 0.73 and 0.72 in third grade for MOY and EOY assessment months.

Table 4: Pearson Product-Moment Correlations between ISIP ER and STAAR Reading Scores

	K_EOY	G1_MOY	G1_EOY	G2_MOY	G2_EOY	G3_MOY	G3_EOY	STAAR
K_MOY	0.76**	0.70**	0.67**	0.59**	0.60**	0.56**	0.54**	0.49**
K_EOY		0.73**	0.69**	0.62**	0.61**	0.59**	0.57**	0.55**
G1_MOY			0.89**	0.82**	0.79**	0.76**	0.73**	0.67**
G1_EOY				0.86**	0.83**	0.79**	0.77**	0.69**
G2_MOY					0.89**	0.85**	0.84**	0.73**
G2_EOY						0.86**	0.84**	0.72**
G3_MOY							0.86**	0.73**
G3_EOY								0.72**

Note: ** = correlation is significant at the 0.01 level (2-tailed)

Conclusions

ISIP ER scores correlate well across the benchmark periods, and with STAAR Reading scores across grades. ISIP ER scores in higher grades were highly correlated with STAAR Reading scores more than in younger grades, especially in second and third grade. This suggests a deeper analysis between the ISIP ER assessment and STAAR Reading should be further investigated.

Part II: Linking Study Between STAAR and ISIP ER

After establishing that correlations were strong between the ISIP ER and the STAAR, we next evaluated how well the ISIP ER scores predict students' performance on the STAAR state assessment tests in reading. There are two objectives in this study: (a) using the second grade EOY ISIP ER score to predict the third grade STAAR Reading and (b) using the third grade MOY ISIP ER to predict the third grade STAAR Reading.

STAAR assessments are criterion-referenced tests based on the Texas Essential Knowledge and Skills (TEKS) learning standards. Students' STAAR scores are determined by how well they have mastered grade-specific TEKS standards, rather than comparing their performance to other test takers. The goal is for all students to meet or exceed Texas state standards. STAAR scale score performance levels are used to place students' assessment scores in one of four levels of achievement: level 1 – Did not meet; level 2 – Approaches; level 3 – Meets; or level 4 – Masters. The raw scores, scale scores, and percentile ranks of STAAR Reading performance levels of third grade are presented in Table 5. STAAR performance level 3 identifies whether students pass the assessment or not. If students meet STAAR performance levels 1 or 2, they do not pass the STAAR.

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If, on the other hand, students meet STAAR performance levels 3 or 4, then they do pass the STAAR.

Table 5: STAAR Reading Performance Levels of Third Grade

Raw Score	Scale Score	Performance Level	Percentile
0	769	Did not meet	0
1	910		0
2	993		0
3	1045		0
4	1083		0
5	1113		0
6	1139		1
7	1162		2
8	1183		3
9	1203		4
10	1221		6
11	1238		8
12	1254		10
13	1270		12
14	1285		15
15	1300		17
16	1315		20
17	1330	23	
18	1345	Approaches	27
19	1359		30
20	1374		34
21	1390		39
22	1405		43
23	1422		48
24	1439		53
25	1457		58
26	1468	Meets	64
27	1498		70
28	1521		76
29	1555	Masters	81
30	1579		87
31	1617		92
32	1669		96
33	1754		99
34	1895		100

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Measures

The ISIP ER in second and third grades and STAAR Reading in third grade are used in this study. The data were collected from students during the 2018-2019 academic year. Students were in third grade in the 2018-2019 academic year and had MOY ISIP ER scores and STAAR Reading scores from the state test in spring 2019. They were in second grade in the 2017-2018 academic year and had EOY ISIP ER scores from spring 2018 and STAAR Reading in the spring of third grade.

Sample

The original data file had 3,410 third grade students in the 2018-2019 school year that had STAAR Reading scores, most of which (3,132) had MOY ISIP ER scores in third grade and STAAR Reading scores. Of these students, 2,681 had EOY ISIP ER scores for their second grade year and STAAR Reading scores in their third grade year.

For second grade, a description of the sample is available in Table 6. Gender was balanced at 49.3% female and 50.7% male students. Most of the students were Hispanic or Latino (58.8%), followed by 24.9% who were Black or African American, 12.4% who were Asian or other races/ethnicities, and 3.9% who were White. Bilingual students comprised 43.6% of the sample, 23.5% were ESL students, 2.4% were identified with dyslexia, 8.4% were enrolled in a special education program, and 6.0% were gifted and talented students. STAAR performance levels for third grade were 35.4% in STAAR performance level 1 – Did not meet; 32.3% in level 2 – Approaches; 13.6% in level 3 – Meets; and 18.2% in level 4 – Masters. Demographics were similar in third grade, and results are also available in Table 6.

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Table 6: Demographic Composition of the Sample for the Linking Study

	Grade 2 N=2,681	Grade 3 N=3,132
Gender		
<i>Male</i>	51.1%	51.1%
<i>Female</i>	48.9%	48.9%
Race/Ethnicity		
<i>Black or African American</i>	24.9%	26.9%
<i>Hispanic or Latino</i>	58.8%	57.1%
<i>Asian or Other</i>	12.4%	11.8%
<i>White</i>	3.9%	4.2%
Bilingual	43.6%	41.8%
ESL	23.5%	23.9%
Dyslexia Identification	2.4%	2.4%
Special Education	8.4%	8.0%
Gifted and Talented	6.0%	5.3%
Test Scores	Mean (SD)	Mean (SD)
ISIP ER	230.02 (20.09)	239.33 (20.90)
	EOY	MOY
STAAR	1,405.43 (144.44)	1,400.73 (142.68)
<i>Level 1 – Did not meet</i>	35.4%	36.5%
<i>Level 2 – Approaches</i>	32.3%	32.7%
<i>Level 3 – Meets</i>	13.6%	13.3%
<i>Level 4 – Masters</i>	18.2%	17.7%

The means were 230.02 for second grade’s EOY ISIP ER scores and 239.33 for third grade’s MOY ISIP ER scores. The means of STAAR Reading scores were 1,405.43 for second grade and 1,400.73 for third grade.

Analysis

We used multinomial logistic regression analysis to determine the probability of reaching a specific level for the STAAR. The ISIP ER scores are the predictor, and the STAAR Reading performance levels are the outcome variable. Students who had ISIP ER scores between the 1st and 99th percentile ranks were included in the analysis. The model is fitted by grade level.

Based on the estimated multinomial logistic regression coefficients, probabilities for the four performance levels are computed for selected ISIP ER scores. A total of 99 ISIP ER scaled scores from EOY of second grade and MOY of third grade are selected, which correspond to the 1st through 99th percentile ranks with an increment of one. For the outcome variable in the multinomial logistic regression, performance levels are defined by STAAR Reading performance level cut points.

The probability of STAAR Reading performance level 2 – Approaches or above is computed by adding the probabilities of levels 2, 3, and 4. The probability of STAAR Reading performance level 3 – Meets or above is computed by adding the probabilities of levels 3 and 4. The probability of STAAR Reading performance level 4 – Masters is the probability of level 4 itself. The analyses were calculated using *R* software with the *nnet* package.

Results

Second Grade ISIP ER Predicts Third Grade STAAR Reading

Table 7 shows the probability projection of second grade EOY ISIP ER scores and STAAR Reading performance levels. A low probability is defined as a less than 33.3%

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chance of attaining a proficiency level, medium probability is defined as between 33.3% and 66.7%, and high probability is defined as greater than 66.7%. All students at the end of their second grade had a high probability of achieving STAAR Reading performance level 2 – Approaches or higher. Students who obtained an ISIP ER score of 232 to 248 (43rd to 75th percentile ranks) had a medium probability of achieving STAAR Reading performance level 3 – Meets or higher. Students who obtained an ISIP ER score greater than 248 had a high probability of achieving STAAR Reading performance level 3 – Meets or higher. Students who obtained a score of 245 to 263 (69th to 93rd percentile ranks) had a medium probability of achieving STAAR Reading performance level 4 – Masters. Second graders who obtained an ISIP ER score greater than 263 had a high probability of achieving STAAR Reading performance level 4 – Masters. Students with an ISIP score of 241 (the 60th percentile) had a 51% probability of achieving Meets or higher.

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Table 7: Second Grade EOY ISIP ER Scores to Predict STAAR Reading Levels

ISIP Score	Percentile	Approaches	Approaches Prob	Meets	Meets Prob	Masters	Masters Prob
185	1	0.973	High	0.019	Low	0.002	Low
194	2	0.976	High	0.034	Low	0.004	Low
198	3	0.978	High	0.044	Low	0.007	Low
200	4	0.978	High	0.050	Low	0.008	Low
203	5	0.979	High	0.060	Low	0.011	Low
205	6	0.980	High	0.068	Low	0.013	Low
206	7	0.980	High	0.073	Low	0.015	Low
208	8	0.981	High	0.083	Low	0.018	Low
209	9	0.981	High	0.088	Low	0.020	Low
210	10	0.982	High	0.094	Low	0.022	Low
211	11	0.982	High	0.100	Low	0.024	Low
212	12	0.982	High	0.106	Low	0.026	Low
213	13	0.983	High	0.113	Low	0.029	Low
214	14	0.983	High	0.120	Low	0.031	Low
215	15	0.983	High	0.128	Low	0.034	Low
216	16	0.984	High	0.136	Low	0.038	Low
217	17	0.984	High	0.145	Low	0.041	Low
217	18	0.984	High	0.145	Low	0.041	Low
218	19	0.984	High	0.154	Low	0.045	Low
219	20	0.985	High	0.164	Low	0.050	Low
219	21	0.985	High	0.164	Low	0.050	Low
220	22	0.985	High	0.174	Low	0.054	Low
221	23	0.985	High	0.185	Low	0.059	Low
221	24	0.985	High	0.185	Low	0.059	Low
222	25	0.986	High	0.196	Low	0.065	Low
223	26	0.986	High	0.208	Low	0.071	Low
223	27	0.986	High	0.208	Low	0.071	Low
224	28	0.986	High	0.220	Low	0.077	Low
224	29	0.986	High	0.220	Low	0.077	Low
225	30	0.987	High	0.233	Low	0.084	Low
226	31	0.987	High	0.247	Low	0.091	Low
226	32	0.987	High	0.247	Low	0.091	Low
227	33	0.988	High	0.261	Low	0.099	Low

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ISIP Score	Percentile	Approaches	Approaches Prob	Meets	Meets Prob	Masters	Masters Prob
228	35	0.988	High	0.276	Low	0.107	Low
228	36	0.988	High	0.276	Low	0.107	Low
229	37	0.988	High	0.292	Low	0.116	Low
229	38	0.988	High	0.292	Low	0.116	Low
230	39	0.989	High	0.308	Low	0.126	Low
230	40	0.989	High	0.308	Low	0.126	Low
231	41	0.989	High	0.325	Low	0.136	Low
231	42	0.989	High	0.325	Low	0.136	Low
232	43	0.990	High	0.342	Medium	0.146	Low
232	44	0.990	High	0.342	Medium	0.146	Low
233	45	0.990	High	0.360	Medium	0.158	Low
233	46	0.990	High	0.360	Medium	0.158	Low
234	47	0.990	High	0.378	Medium	0.170	Low
234	48	0.990	High	0.378	Medium	0.170	Low
235	49	0.991	High	0.397	Medium	0.182	Low
235	50	0.991	High	0.397	Medium	0.182	Low
236	51	0.991	High	0.416	Medium	0.195	Low
236	52	0.991	High	0.416	Medium	0.195	Low
237	53	0.992	High	0.435	Medium	0.209	Low
237	54	0.992	High	0.435	Medium	0.209	Low
238	55	0.992	High	0.455	Medium	0.223	Low
238	56	0.992	High	0.455	Medium	0.223	Low
239	57	0.992	High	0.475	Medium	0.238	Low
239	58	0.992	High	0.475	Medium	0.238	Low
240	59	0.993	High	0.495	Medium	0.253	Low
240	60	0.993	High	0.495	Medium	0.253	Low
241	61	0.993	High	0.516	Medium	0.269	Low
241	62	0.993	High	0.516	Medium	0.269	Low
242	63	0.993	High	0.536	Medium	0.285	Low
242	64	0.993	High	0.536	Medium	0.285	Low
243	65	0.994	High	0.556	Medium	0.302	Low
243	66	0.994	High	0.556	Medium	0.302	Low
244	67	0.994	High	0.577	Medium	0.319	Low
244	68	0.994	High	0.577	Medium	0.319	Low
245	69	0.995	High	0.597	Medium	0.336	Medium
245	70	0.995	High	0.597	Medium	0.336	Medium

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ISIP Score	Percentile	Approaches	Approaches Prob	Meets	Meets Prob	Masters	Masters Prob
246	71	0.995	High	0.617	Medium	0.354	Medium
246	72	0.995	High	0.617	Medium	0.354	Medium
247	73	0.995	High	0.637	Medium	0.372	Medium
247	74	0.995	High	0.637	Medium	0.372	Medium
248	75	0.995	High	0.656	Medium	0.390	Medium
249	76	0.996	High	0.675	High	0.408	Medium
249	77	0.996	High	0.675	High	0.408	Medium
250	78	0.996	High	0.693	High	0.426	Medium
250	79	0.996	High	0.693	High	0.426	Medium
251	80	0.996	High	0.711	High	0.444	Medium
252	81	0.997	High	0.728	High	0.462	Medium
253	82	0.997	High	0.745	High	0.479	Medium
253	83	0.997	High	0.745	High	0.479	Medium
254	84	0.997	High	0.761	High	0.497	Medium
255	85	0.997	High	0.777	High	0.515	Medium
256	86	0.997	High	0.792	High	0.532	Medium
257	87	0.998	High	0.806	High	0.549	Medium
258	88	0.998	High	0.819	High	0.565	Medium
259	89	0.998	High	0.832	High	0.581	Medium
260	90	0.998	High	0.844	High	0.597	Medium
261	91	0.998	High	0.856	High	0.613	Medium
262	92	0.999	High	0.866	High	0.628	Medium
263	93	0.999	High	0.877	High	0.642	Medium
265	94	0.999	High	0.895	High	0.670	High
266	95	0.999	High	0.903	High	0.683	High
268	96	0.999	High	0.918	High	0.708	High
270	97	0.999	High	0.931	High	0.732	High
273	98	0.999	High	0.947	High	0.764	High
277	99	>0.999	High	0.963	High	0.800	High

Using Third Grade MOY ISIP ER Scores to Predict STAAR Reading

Table 8 shows the probability projection of MOY for third grade ISIP ER scores and STAAR Reading performance levels. Students in third grade who obtained an ISIP ER score of 200 to 286 (1st to 99th percentile ranks) had a high probability of achieving STAAR Reading performance level 2 – Approaches or higher. Students who obtained an

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ISIP ER score of 242 to 258 (45th to 77th percentile ranks) had a medium probability of achieving STAAR Reading performance level 3 – Meets or higher. Students who obtained an ISIP ER score greater than 258 had a high probability of achieving STAAR Reading performance level 3 – Meets or higher. Moreover, students who obtained an ISIP ER score of 255 to 272 (71st to 93rd percentile ranks) had a medium probability of achieving STAAR performance level 4 – Masters. Students who obtained an ISIP ER score greater than 272 had a high probability of achieving STAAR Reading performance level 4 – Masters. Students with a score of 251, at the 63rd percentile, had a 50% probability of achieving Meets or higher.

Table 8: Third Grade MOY ISIP ER Scores to Predict STAAR Reading Levels

ISIP Score	Percentile	Approaches	Approaches Prob	Meets	Meets Prob	Masters	Masters Prob
200	1	0.969	High	0.023	Low	0.002	Low
203	2	0.971	High	0.028	Low	0.002	Low
207	3	0.973	High	0.036	Low	0.004	Low
209	4	0.975	High	0.041	Low	0.005	Low
212	5	0.976	High	0.050	Low	0.006	Low
214	6	0.977	High	0.057	Low	0.008	Low
215	7	0.978	High	0.061	Low	0.009	Low
217	8	0.979	High	0.069	Low	0.011	Low
218	9	0.980	High	0.074	Low	0.012	Low
219	10	0.980	High	0.079	Low	0.013	Low
220	11	0.981	High	0.085	Low	0.015	Low
221	12	0.981	High	0.090	Low	0.017	Low
222	13	0.982	High	0.096	Low	0.018	Low
223	14	0.982	High	0.103	Low	0.021	Low
224	15	0.983	High	0.110	Low	0.023	Low
225	16	0.983	High	0.117	Low	0.025	Low
226	17	0.984	High	0.125	Low	0.028	Low
226	18	0.984	High	0.125	Low	0.028	Low
227	19	0.984	High	0.133	Low	0.031	Low
228	20	0.985	High	0.142	Low	0.035	Low
228	21	0.985	High	0.142	Low	0.035	Low
229	22	0.985	High	0.152	Low	0.038	Low

ISIP AND STAAR READING LINKING STUDY

ISIP Score	Percentile	Approaches	Approaches Prob	Meets	Meets Prob	Masters	Masters Prob
230	23	0.986	High	0.161	Low	0.042	Low
230	24	0.986	High	0.161	Low	0.042	Low
231	25	0.986	High	0.172	Low	0.047	Low
232	26	0.987	High	0.183	Low	0.052	Low
232	27	0.987	High	0.183	Low	0.052	Low
233	28	0.987	High	0.195	Low	0.057	Low
233	29	0.987	High	0.195	Low	0.057	Low
234	30	0.988	High	0.207	Low	0.063	Low
235	31	0.988	High	0.220	Low	0.069	Low
235	32	0.988	High	0.220	Low	0.069	Low
236	33	0.989	High	0.234	Low	0.076	Low
236	34	0.989	High	0.234	Low	0.076	Low
237	35	0.989	High	0.249	Low	0.083	Low
237	36	0.989	High	0.249	Low	0.083	Low
238	37	0.989	High	0.264	Low	0.091	Low
238	38	0.989	High	0.264	Low	0.091	Low
239	39	0.990	High	0.280	Low	0.100	Low
239	40	0.990	High	0.280	Low	0.100	Low
240	41	0.990	High	0.296	Low	0.109	Low
240	42	0.990	High	0.296	Low	0.109	Low
241	43	0.991	High	0.313	Low	0.119	Low
241	44	0.991	High	0.313	Low	0.119	Low
242	45	0.991	High	0.331	Medium	0.130	Low
242	46	0.991	High	0.331	Medium	0.130	Low
243	47	0.992	High	0.350	Medium	0.142	Low
243	48	0.992	High	0.350	Medium	0.142	Low
244	49	0.992	High	0.369	Medium	0.154	Low
244	50	0.992	High	0.369	Medium	0.154	Low
245	51	0.992	High	0.389	Medium	0.167	Low
245	52	0.992	High	0.389	Medium	0.167	Low
246	53	0.993	High	0.409	Medium	0.181	Low
246	54	0.993	High	0.409	Medium	0.181	Low
247	55	0.993	High	0.429	Medium	0.195	Low
247	56	0.993	High	0.429	Medium	0.195	Low
248	57	0.994	High	0.450	Medium	0.210	Low
248	58	0.994	High	0.450	Medium	0.210	Low
249	59	0.994	High	0.472	Medium	0.226	Low
249	60	0.994	High	0.472	Medium	0.226	Low
250	61	0.994	High	0.494	Medium	0.243	Low

ISIP AND STAAR READING LINKING STUDY

ISIP Score	Percentile	Approaches	Approaches Prob	Meets	Meets Prob	Masters	Masters Prob
250	62	0.994	High	0.494	Medium	0.243	Low
251	63	0.995	High	0.515	Medium	0.260	Low
251	64	0.995	High	0.515	Medium	0.260	Low
252	65	0.995	High	0.537	Medium	0.278	Low
252	66	0.995	High	0.537	Medium	0.278	Low
253	67	0.995	High	0.559	Medium	0.296	Low
253	68	0.995	High	0.559	Medium	0.296	Low
254	69	0.996	High	0.581	Medium	0.315	Low
254	70	0.996	High	0.581	Medium	0.315	Low
255	71	0.996	High	0.603	Medium	0.334	Medium
255	72	0.996	High	0.603	Medium	0.334	Medium
256	73	0.996	High	0.624	Medium	0.354	Medium
256	74	0.996	High	0.624	Medium	0.354	Medium
257	75	0.997	High	0.645	Medium	0.373	Medium
258	76	0.997	High	0.666	Medium	0.393	Medium
258	77	0.997	High	0.666	Medium	0.393	Medium
259	78	0.997	High	0.686	High	0.414	Medium
259	79	0.997	High	0.686	High	0.414	Medium
260	80	0.997	High	0.706	High	0.434	Medium
261	81	0.998	High	0.725	High	0.454	Medium
262	82	0.998	High	0.743	High	0.474	Medium
262	83	0.998	High	0.743	High	0.474	Medium
263	84	0.998	High	0.761	High	0.494	Medium
264	85	0.998	High	0.778	High	0.514	Medium
265	86	0.998	High	0.794	High	0.534	Medium
266	87	0.998	High	0.809	High	0.553	Medium
267	88	0.999	High	0.824	High	0.572	Medium
268	89	0.999	High	0.837	High	0.590	Medium
269	90	0.999	High	0.850	High	0.608	Medium
270	91	0.999	High	0.862	High	0.625	Medium
271	92	0.999	High	0.874	High	0.642	Medium
272	93	0.999	High	0.884	High	0.658	Medium
274	94	0.999	High	0.903	High	0.689	High
275	95	0.999	High	0.912	High	0.704	High
277	96	>0.999	High	0.927	High	0.731	High
279	97	>0.999	High	0.939	High	0.757	High
282	98	>0.999	High	0.955	High	0.791	High
286	99	>0.999	High	0.970	High	0.829	High

Conclusion

The findings from this study give useful information for school administrators, superintendents, teachers, and parents to predict students' performance on STAAR Reading based on their academic achievement as measured by ISIP ER. This information can help teachers identify students who are at risk of not achieving level 3 as early as the end of second grade, giving them an entire academic year to help students perform at grade level as measured by the STAAR assessment. In third grade at the middle of the year, they can also use ISIP to monitor student progress and help provide targeted intervention to students that have a low or medium probability of achieving level 3 – Meets or higher. By providing the low, medium, and high categories, this research gives teachers additional information regarding students that may need critical intervention versus those that may need some additional targeted instruction to help them achieve success on the STAAR.

Overall, students need to achieve near the 45th percentile rank or higher to have a medium probability of meeting STAAR Reading performance level 3 or higher. They need to achieve near the 70th percentile rank or higher to have a medium probability of STAAR Reading performance level 4 – Masters.

Limitations

The results confirm a that there is a strong relationship between the ISIP ER and STAAR Reading assessments. While the results are promising, it must be understood that complete certainty of passing the STAAR is unknown. There are many other factors that may affect students' STAAR Reading scores besides their reading abilities. Also, this study used ISIP ER scores from EOY of second grade, which is one year before these

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students take the STAAR in third grade. It must be understood that students need to continue improving their reading abilities until they take the STAAR Reading test in the spring of third grade. Similarly, their third grade MOY scores are used, which is about three months before they take the STAAR. Students need to continue to improve their reading skills until they take the STAAR in the spring. In addition, the data for this study came from one school district in Texas whose students were in third grade in the 2018-2019 school year. Generalizing these results to other cohorts of students in districts with a different demographic composition, is possible but may be limited.

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