

i-Ready[®] *Diagnostic* **New York State Validity Study**

Curriculum Associates[®], LLC

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Educational Research Institute of America

Educational Research Institute of America (ERIA) is an educational research and development company that contracts with textbook companies, state departments of education, and school districts to conduct educational program tryout studies, develop instructional materials, analyze tests and test scores, and conduct technical studies for educational assessments. ERIA was founded in 1999 as an outgrowth of Indiana University Center for Research and Development, entitled the Center for Innovation in Assessment. Over the past decade, ERIA has conducted development and research projects for over 20 publishers, state departments of education, and other agencies.

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Abstract

Effective reading and mathematics skills are crucial if students are to achieve the goals established by the Common Core and other state standards. Reaching the higher-level knowledge and skills called for by new, more rigorous standards is fundamental if students are to become college and career ready.

i-Ready offers one assessment system that efficiently meets many needs. Within that system are two kinds of assessment tools: a Diagnostic that provides a global view of K–12 skills, and a Standards Mastery measure that maps to a district’s scope and sequence. This two-pronged approach provides districts with both a grade-agnostic view into whether students are on track to reach proficiency and meet annual growth goals, and a grade-level view of how well students have learned recently taught content.

The purpose of this study was to examine the validity evidence supporting the use of *i-Ready Diagnostic* as a tool for evaluating students’ progress toward learning the knowledge and skills measured by the Common Core State Standards. Researchers analyzed the relationship between *i-Ready* scores and New York State (NYS) scores for over 11,000 students in grades 3 through 8. Students in the sample were enrolled in 43 schools in 12 districts across the state of New York.

The results showed that *i-Ready Diagnostic* scores (fall, winter, and spring) and the NYS ELA and Mathematics scores were highly correlated. The average spring correlations are 0.81 and 0.84 for ELA and Mathematics, respectively. These high correlations provide support for strong predictive and concurrent validity of *i-Ready Diagnostic*.

Across both subjects and all grades, the Area Under the Curve (AUC) values from ROC analysis are all at .90 or higher, surpassing the National Center on Response to Intervention’s (NCRTI) standard. This provides strong evidence that *i-Ready Diagnostic* can be used to predict students’ proficiency status (i.e., proficient or not proficient) on the NYS assessments.

Using the results from the equipercentile linking, the *i-Ready* scores that corresponded to the NYS assessments’ performance levels were found. Classification accuracy was calculated based on the resulting *i-Ready* cut scores and compared to the actual NYS assessment proficiency status (i.e., proficient/not proficient) these students achieved. Students are proficient or not proficient on the NYS assessments for 88% of the students in Mathematics and 87% of the students in ELA (i.e., classification accuracy).

The study provides overwhelmingly positive validity evidence for the use of *i-Ready Diagnostic* Reading and Mathematics scores as a tool for evaluating students’ progress toward proficiency, as measured by the NYS ELA and Mathematics assessments.

Overview of the Study

Curriculum Associates contracted with the Educational Research Institute of America (ERIA) to conduct a study to evaluate the validity of *i-Ready Diagnostic* for both reading and mathematics. The study utilized *i-Ready Diagnostics* administered to students in grades 3 through 8 during the 2014–2015 academic year and the 2015 New York State (NYS) ELA and Mathematics scores for the same students from participating schools.

Research Questions

The following research questions guided the design of the study and the data analyses:

1. Are *i-Ready Diagnostic* scores correlated to the scores on the NYS English Language Arts and Mathematics assessments administered to students in 2015?
2. Can *i-Ready Diagnostic* scores be used to accurately predict students' proficiency on the 2015 NYS English Language Arts and Mathematics assessments?

Design of the Study

Validity evidence for the *i-Ready Diagnostic* was studied through various statistical procedures using the *i-Ready Diagnostic* and the NYS English Language Arts (ELA) and Mathematics assessments. The study took place during the 2014–2015 academic year. All of the students included in the study were enrolled in grades 3 through 8. A total of 12 school districts and 43 different schools were included in the study.

ERIA contacted schools that had used the *i-Ready* program with the majority of their students during the 2014–2015 school year to determine if they would be interested in participating in the study. When the NYS scores became available, those schools that committed to participation sent their students' NYS scores to ERIA via a secured system that keeps identifiable student information confidential. *i-Ready Diagnostic* scores were also submitted to ERIA. The NYS assessments were administered between March and May across most participating schools. The corresponding *i-Ready Diagnostics* were administered during the 2014–2015 school year in the fall (prior to December), winter (December to mid-March), and spring (mid-March to end of May).

Description of the Research Sample

Table 1 provides the demographic characteristics of the school districts included in the study. The district demographics are aggregated based on the demographics of the participating schools in each district. Schools in each district not participating in the study are excluded from the demographic characteristics. It is important to note that the district data does not provide an exact description of the makeup of the actual students from each of the 12 individual districts that participated in the study. However, the data does provide a general description of the districts and, thereby, a reasonable estimate of the makeup of the students included in the study.

The demographic characteristics indicate that the 12 school districts were diverse and are a fair representation of the districts across the state of New York. Four of the districts were located in urban settings, three were located in suburban settings, and three were located in rural settings. The remaining two districts included schools in two different settings.

The research sample included a diverse range of students enrolled in grades 3 through 8 at 43 elementary and middle schools. The percentage of non-Caucasian students enrolled in the schools ranged from 1% to 98%, with an average of 34%. The percentage of students eligible for the National School Lunch Program (NSLP) ranged from 25% to 91%, with an average of 57%. The percentage of English language learners ranged from 0% to 15%, with an average of 5%.

Compared to the average of all districts in the state of New York, the research sample has fewer non-Caucasian students. The percentage of students eligible for the National School Lunch Program was a bit higher than the average of all districts in the state. The percentage of English language learners in the research sample was almost equal to the average of the all districts in the state.

Table 1
Demographic Characteristics of the
Districts Included in the Study

District	Schools Participating	Grades Included	Location	Total Enrollment	% Non-Caucasian	% NSLP*	% English Language Learners
1	5	3–8	Rural (3) Suburban (2)	2,870	4%	28%	1%
2	1	3–8	Urban	439	98%	91%	0%
3	1	3–5	Urban	734	34%	61%	9%
4	2	3–8	Suburban	1,315	72%	80%	15%
5	15	3–8	Suburban	4,340	79%	62%	8%
6	1	3–4	Urban	509	9%	89%	4%
7	2	3–7	Rural (1) Suburban (1)	894	17%	50%	0%
8	1	6–8	Suburban	599	5%	25%	1%
9	1	3–8	Rural	213	1%	55%	0%
10	1	6–8	Rural	327	9%	35%	1%
11	1	3–8	Rural	547	14%	44%	0%
12	12	3–8	Urban	5,555	71%	66%	15%
Average				3,352	34%	57%	5%
Average of All NYS Districts					54%	48%	6%

*National School Lunch Program

Overview of the *i-Ready Diagnostic* and NYS Assessments

i-Ready Diagnostic

i-Ready Diagnostics are online adaptive assessments designed to diagnose functional reading and mathematics skills. The *i-Ready Diagnostics* were designed to align with the Common Core State Standards and measure students' progress toward meeting those standards. *i-Ready* assesses all students on a single vertical scale and evaluates student needs at the sub-skill level. *i-Ready Diagnostics* measure student ability across the following domains:

Reading Domains	Mathematics Domains
Phonological Awareness	Number and Operations
Phonics	
High-Frequency Words	Measurement and Data
Vocabulary	Geometry
Comprehension: Literature	Algebra
Comprehension: Informational Text	

New York State (NYS) Assessments

The New York State English Language Arts (NYS ELA) and New York State Mathematics (NYS Math) tests administered in 2015 were developed to measure the Common Core Learning Standards (CCLS), which are based on the Common Core State Standards (CCSS).

The following descriptions of the New York State 2015 assessments in mathematics and English language arts are described below. These descriptions are available on the New York State Department of Education website.

Educator Guide to the 2015 Grade 3 to 8 Common Core English Language Arts Tests

The Grade 3 to 8 Common Core English Language Arts Tests are designed to measure student literacy as defined by the CCLS. Many of the questions on the 2015 Grade 3 to 8 Common Core English Language Arts Test are more advanced and complex than those found on prior assessments that measured prior grade-level standards. Answer choices will not jump out; rather, students will need to make hard choices between “fully correct” and “plausible but incorrect” answers that are designed specifically to determine whether students have comprehended the entire passage and are proficient with the deep analyses specified by the standards. To answer ELA questions correctly, students will need to read and analyze each passage completely and closely, and be prepared to carefully consider responses to multiple-choice questions. In many cases, if the student has not read and comprehended the entire passage, the answer choices may not make sense. For constructed response items, students will need to make inferences that can be defended with evidence gathered from rigorous literary and informational passages. Some passages will express an author’s point of view with which not all readers will agree.

Educator Guide to the 2015 Grade 3 to 8 Common Core Mathematics Tests

The Grade 3 to 8 Common Core Mathematics Tests are designed to measure student mathematical understanding as defined by the CCLS. As such, there will be a noticeable change in rigor and depth in mathematics. Many of the questions on the 2015 Grade 3 to 8 Common Core Mathematics Test are more advanced and complex than those found on prior tests that measured prior grade-level standards. Many questions will require that students be fluent in earlier grade level skills, capable of showing their procedural and conceptual proficiency on a single standard in several distinct ways, and capable of negotiating multi-step questions that require knowledge and ability across more than one grade-level standard. Students will be expected to understand math conceptually, use prerequisite skills with grade level math facts, and solve math problems rooted in the real world, deciding for themselves when it is appropriate to use a ruler.

Data Analyses

ERIA conducted data analyses using overall scale scores from *i-Ready Diagnostic* and the scale scores from the 2015 NYS assessments. In addition to scale scores, ELA and Mathematics performance levels produced by the NYS assessments were used to determine classification accuracy; NYS results place students at one of four levels of performance, with an attainment of Level 3 considered “Proficient.”

The following statistical analyses were conducted:

- Correlations between the *i-Ready Diagnostics* and the NYS ELA and NYS Mathematics assessments were computed for each subject, by grade level.
- Area Under the Curve (AUC) values from Receiver Operating Characteristic (ROC) curve analysis were calculated to provide an overall indication of the diagnostic accuracy of the *i-Ready Diagnostics*.
- Equipercentile linking was conducted between scores on the NYS ELA and Mathematics assessments and the *i-Ready* Reading and Mathematics assessments, resulting in concorded scores between the two sets of assessments.
- Classification analyses were conducted for each subject and grade level, using the *i-Ready* cut scores that were comparable to the NYS performance levels that resulted from the equipercentile linking of the *i-Ready* and NYS assessments.

For the correlation analyses, the .05 level of significance was used as the level at which results would be considered statistically significant. All tests were statistically significant, with actual results significant at the $\leq .0001$ level.

Results

Descriptive Statistics for *i-Ready Diagnostic* and NYS Scores

Tables 2 and 3 provide descriptive statistics, by subject and grade level, for the sample's performance on the NYS and *i-Ready* assessments.

Table 2
English Language Arts
Descriptive Statistics for Spring
***i-Ready Diagnostic* Reading and 2015 NYS Scores**

Grade	N	NYS ELA				<i>i-Ready</i> Reading			
		Mean	SD	Min	Max	Mean	SD	Min	Max
3	1,901	289	38.3	171	405	524	52.6	333	671
4	1,729	288	36.5	170	391	539	54.0	351	685
5	1,582	288	37.4	145	389	564	57.2	274	734
6	1,568	290	35.2	141	397	579	58.7	348	733
7	670	290	33.7	154	379	597	59.3	381	763
8	675	283	39.5	155	397	591	70.5	343	780

Table 3
Mathematics
Descriptive Statistics for Spring
***i-Ready Diagnostic* Mathematics and 2015 NYS Scores**

Grade	N	NYS Mathematics				<i>i-Ready</i> Mathematics			
		Mean	SD	Min	Max	Mean	SD	Min	Max
3	1,869	295	35.2	185	397	451	34.3	311	526
4	1,686	293	38.0	169	405	469	36.5	332	545
5	1,537	298	38.8	167	415	485	36.9	325	570
6	1,416	298	37.6	166	411	495	36.2	308	572
7	613	298	38.6	155	390	505	42.4	369	592
8	640	275	36.2	172	367	490	41.7	336	595

Correlation Analyses

Researchers at ERIA computed correlations between the 2015 NYS assessments and the *i-Ready Diagnostic*. Only those students who had completed both assessments were ultimately included in the research sample. The results for ELA and Mathematics are presented in Tables 4 and 5. In both subjects and across all *i-Ready* testing periods, the correlations were high, ranging from a low of .74 to a high of .86. All correlations were statistically significant ($\leq .0001$).¹

The spring *i-Ready Diagnostic* correlated higher than the fall or winter Diagnostic, with the exception of Reading at grade 7. The average spring correlations are .81 and .84 for ELA and Mathematics, respectively.

Table 4
Correlations Between *i-Ready Diagnostic* Reading Scores and 2015 NYS ELA Scores

Grade	Fall		Winter		Spring	
	Number of Students	Correlation	Number of Students	Correlation	Number of Students	Correlation
3	1,888	0.79*	1,911	0.80*	1,901	0.81*
4	1,715	0.80*	1,735	0.79*	1,729	0.81*
5	1,570	0.83*	1,590	0.84*	1,582	0.85*
6	1,638	0.77*	1,522	0.78*	1,568	0.79*
7	730	0.79*	534	0.82*	670	0.78*
8	789	0.75*	559	0.75*	675	0.80*
Average		0.79*		0.80*		0.81*

*All correlations are statistically significant $\leq .0001$

Table 5
Correlations Between *i-Ready Diagnostic* Mathematics Scores and 2015 NYS Mathematics Scores

Grade	Fall		Winter		Spring	
	Number of Students	Correlation	Number of Students	Correlation	Number of Students	Correlation
3	1,855	0.76*	1,880	0.79*	1,869	0.83*
4	1,665	0.76*	1,678	0.80*	1,686	0.83*
5	1,508	0.80*	1,541	0.82*	1,537	0.85*
6	1,458	0.80*	1,362	0.79*	1,416	0.86*
7	685	0.84*	483	0.83*	613	0.86*
8	691	0.74*	476	0.76*	640	0.80*
Average		0.78*		0.80*		0.84*

* All correlations are statistically significant $\leq .0001$

¹ Scatterplots for spring correlations are provided in Appendix A.

Prediction and Classification Analyses

The National Center on Response to Intervention (NCRTI) defines that when the Area Under the Curve (AUC) from ROC analysis² is at least .85, the evidence is convincing that an assessment can accurately predict the binary categorical outcome (e.g., proficient or not proficient) on another assessment. Table 6 shows the AUC values for predicting whether or not students are classified as proficient on NYS ELA and Mathematics assessments using the spring *i-Ready Diagnostic* scores. Across both subjects and all grades, AUC values are all at .90 or higher, surpassing NCRTI's standard.

Table 6
AUC Values Using Spring *i-Ready Diagnostic* Scores
to Predict Proficiency on NYS Assessments

Subject	Grade Level					
	3	4	5	6	7	8
Mathematics	.93	.94	.94	.94	.96	.96
Reading	.91	.91	.93	.91	.90	.93

² For additional information on ROC analysis and AUC, see the NCRTI website: <http://www.rti4success.org/screening-glossary-terms>

i-Ready Diagnostic Cut Scores

Using equipercentile linking, analyses were conducted to statistically link the scales of the *i-Ready Diagnostic* to the scales of the NYS assessments. The linking results allow for the identification of the *i-Ready Diagnostic* scores that correspond to the performance levels for each subject and grade level of the NYS ELA and Mathematics assessments.

Supported by the strong evidence for prediction accuracy, *i-Ready Diagnostic* cut scores from the equipercentile linking were identified. Table 7 displays the cut scores that are comparable to the NYS performance levels.

Table 7
Spring *i-Ready Diagnostic* Cut Score Ranges

Subject	Grade Level	Level 1	Level 2	Level 3	Level 4
Mathematics	3	100–442	443–469	470–491	492–800
	4	100–459	460–487	488–511	512–800
	5	100–480	481–504	505–529	530–800
	6	100–480	481–513	514–534	535–800
	7	100–496	497–529	530–560	561–800
	8	100–502	503–541	542–571	572–800
Reading	3	100–525	526–565	566–619	620–800
	4	100–534	535–584	585–620	621–800
	5	100–564	565–612	613–653	654–800
	6	100–568	569–628	629–656	657–800
	7	100–590	591–644	645–695	696–800
	8	100–590	591–647	648–696	697–800

The spring *i-Ready Diagnostic* cut score ranges presented in Table 7 can be used to assist in providing predictive information about the percentage of students within various classes or grade levels that are predicted to be classified as proficient or not proficient, as measured by the NYS assessments. It should be noted that the spring *i-Ready Diagnostic* cut score ranges are approximations, not equivalences. A student who has a particular score on *i-Ready Diagnostic* would not necessarily obtain the concordant score on the NYS assessment. This information is provided to help *i-Ready* users understand the relationship between the *i-Ready Diagnostic* and NYS scores. This predictive information will help to increase the probability that resources and intervention strategies can be planned, prior to receiving actual NYS assessment scores.

Two-level Proficiency Classifications

Table 8 presents the accuracy in classifying students' NYS proficiency status (proficient or not proficient) using the aforementioned *i-Ready* cut scores, with results provided for each grade and subject. For each grade and subject, the table provides the percentages for accurate classifications, overestimated classifications, and underestimated classifications. (See the note below Table 8, "Understanding These Numbers" for how the aforementioned percentages were calculated.)

Across all students, 88% and 87% of students were accurately classified as proficient or not proficient on the 2015 NYS Mathematics and ELA assessments, respectively.

Table 8
Accuracy in Classifying³ Students' NYS Proficiency Status
(Proficient or Not Proficient)

Subject	Grade	Accurately Classified NYS Proficiency Status ^[1]	Overestimated NYS Proficiency Status ^[2]	Underestimated NYS Proficiency Status ^[3]
Mathematics	3	87%	7%	6%
	4	87%	8%	5%
	5	86%	7%	7%
	6	88%	5%	7%
	7	89%	6%	5%
	8	94%	3%	3%
	Overall, across all students	88%	6%	6%
Reading	3	85%	6%	8%
	4	87%	6%	7%
	5	88%	6%	7%
	6	87%	6%	7%
	7	84%	6%	10%
	8	88%	5%	7%
	Overall, across all students	87%	6%	8%

Note: Percentages may not add up to 100% due to rounding.

Understanding These Numbers

		Students' <i>i-Ready</i> Performance	
		At or Above the Cut Score	Below the Cut Score
Students' NYS Proficiency Status	Proficient	A	B
	Not Proficient	C	D

$$\text{Total Number of Students} = A + B + C + D$$

^[1] **Accurately Classified NYS Proficiency Status** [(A+D)/Total Number of Students]: Percentage of students whose *i-Ready Diagnostic* performance classified the same Proficient/Not Proficient status as the status they obtained on the NYS assessment.

^[2] **Overestimated NYS Proficiency Status** [C/Total Number of Students]: Percentage of students who were classified as Proficient based on *i-Ready* performance but were observed to be Not Proficient on the NYS assessment.

^[3] **Underestimated NYS Proficiency Status** [B/Total Number of Students]: Percentage of students who were classified as Not Proficient based on *i-Ready* performance but were observed to be Proficient on the NYS assessment.

³ Additional classification accuracy results can be found in Appendix B.

Aggregate Proficiency Prediction

Based on strong Area Under the Curve (AUC) values and classification analysis results, the Curriculum Associates team developed a prediction model using logistic regression to aid educators in predicting NYS assessment results. Tables 9 and 10 below provide predictive accuracy information based on students in the study who had complete fall, winter, and spring *i-Ready Diagnostic* scores and the matched NYS results (about 80% of the total sample).

Table 9
Accuracy in Predicting NYS ELA Proficiency

Grade	Fall <i>i-Ready</i> Predicted	Winter <i>i-Ready</i> Predicted	Spring <i>i-Ready</i> Predicted	Observed NYS	Sample Size
3	23%	23%	23%	24%	1,850
4	22%	22%	22%	22%	1,677
5	20%	20%	20%	20%	1,546
6	20%	19%	20%	19%	1,350
7	24%	22%	23%	22%	448
8	11%	12%	12%	12%	425

Note: In the results above, the *i-Ready Predicted* percentage is the percentage of students estimated to be proficient for each grade, using the logistic regression model. The *Observed NYS* percentage is the actual observed proficiency rate for the same group of students.

Table 10
Accuracy in Predicting NYS Mathematics Proficiency

Grade	Fall <i>i-Ready</i> Predicted	Winter <i>i-Ready</i> Predicted	Spring <i>i-Ready</i> Predicted	Observed NYS	Sample Size
3	31%	31%	31%	31%	1,814
4	32%	31%	32%	32%	1,619
5	32%	32%	32%	33%	1,484
6	29%	28%	29%	28%	1,216
7	28%	25%	26%	26%	343
8	10%	11%	10%	10%	393

Note: In the results above, the *i-Ready Predicted* percentage is the percentage of students estimated to be proficient for each grade, using the logistic regression model. The *Observed NYS* percentage is the actual observed proficiency rate for the same group of students.

Based on the strength of the aggregate proficiency prediction results, and similarly strong results from other validity research, Curriculum Associates is developing new proficiency prediction reporting within the *i-Ready* program. Reporting within the *i-Ready* program will use a similar, but not identical model. More information on predictive reporting available within the *i-Ready* program is available from the Curriculum Associates team.

Conclusions

This study was conducted to evaluate the validity of the *i-Ready Diagnostic* for both reading and mathematics. Two research questions guided this study:

1. Are *i-Ready Diagnostic* scores correlated to the scores on the NYS English Language Arts and Mathematics assessments administered to students in 2015?
2. Can *i-Ready Diagnostic* scores be used to accurately predict students' proficiency on the 2015 NYS English Language Arts and Mathematics assessments?

Question 1: Are *i-Ready Diagnostic* scores correlated to the scores on the NYS English Language Arts and Mathematics assessments administered to students in 2015?

The correlations for students at each grade level and the average correlations across all grade levels were very high. The 2015 spring correlations for ELA ranged from a low of .78 to a high of .85. The 2015 spring correlations for Mathematics ranged from a low of .80 to a high of .86. In addition, the correlations were high across all *i-Ready* testing periods and were all statistically significant ($\leq .0001$). These strong correlations indicate that *i-Ready Diagnostic* and the NYS assessments were assessing similar constructs, providing strong evidence of the validity of the *i-Ready* assessments as a measure of students' progress toward meeting the Common Core State Standards.

Question 2: Can *i-Ready Diagnostic* scores be used to accurately predict students' proficiency on the 2015 NYS English Language Arts and Mathematics assessments?

Across both subjects and all grades, the Area Under the Curve (AUC) values from ROC analysis were all at .90 or higher, surpassing the National Center on Response to Intervention's (NCRTI) standard. This provides strong evidence that *i-Ready Diagnostic* can be used to predict students' proficiency status (i.e., proficient or not proficient) on the NYS assessments. In addition, using concorded scores from the equipercentile linking, 88% and 87% of students were accurately classified as proficient or not proficient on the 2015 NYS Mathematics and ELA assessments, respectively. These classification accuracy results provide further evidence of the validity of *i-Ready Diagnostics* as a tool for evaluating students' progress toward learning the knowledge and skills measured by the Common Core State Standards.

On the basis of this study, the research questions can be answered positively.

1. *i-Ready Diagnostic* scores **are strongly correlated** to the scores on the NYS ELA and Mathematics assessments administered to students in 2015.
2. *i-Ready Diagnostic* scores **can be used to accurately predict and classify** students' proficiency on the 2015 NYS ELA and Mathematics assessments.

Summary of Findings

The results of this study show that *i-Ready Diagnostic* scores are strongly correlated to the scores on the NYS assessments and can be used to accurately predict and classify students' proficiency on the 2015 NYS ELA and Mathematics assessments. The study also demonstrates that spring *i-Ready Diagnostic* cut score ranges can provide predictive information about the percentage of students that will reach proficiency, as measured by the NYS assessments. This research further supports *i-Ready* as an ideal tool for informing critical decisions that ultimately improve district, school, and student achievement.

Findings from this study, in combination with future reporting tools within the *i-Ready* program, will help educators predict student results on NYS assessments. Through these tools and the proven resources available through the *i-Ready* program, educators will be able to understand student needs, allocate resources, and deliver effective interventions to their students.

Appendix A: Scatterplots Showing the Relationship Between Spring *i-Ready Diagnostic* and NYS Scores

ELA Scatterplots by Grade

Figure 1
Grade 3 *i-Ready* and NYS ELA Assessments
Correlation = .81*

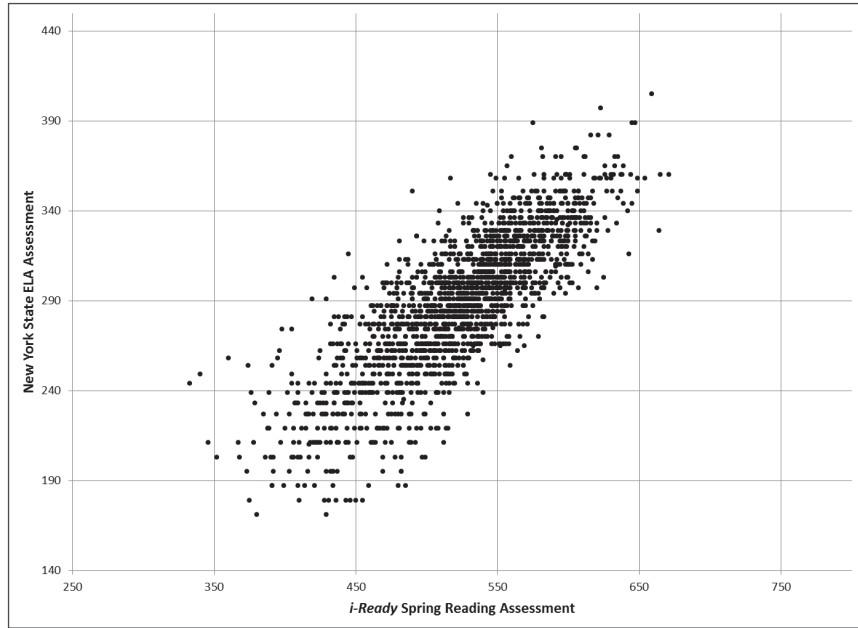
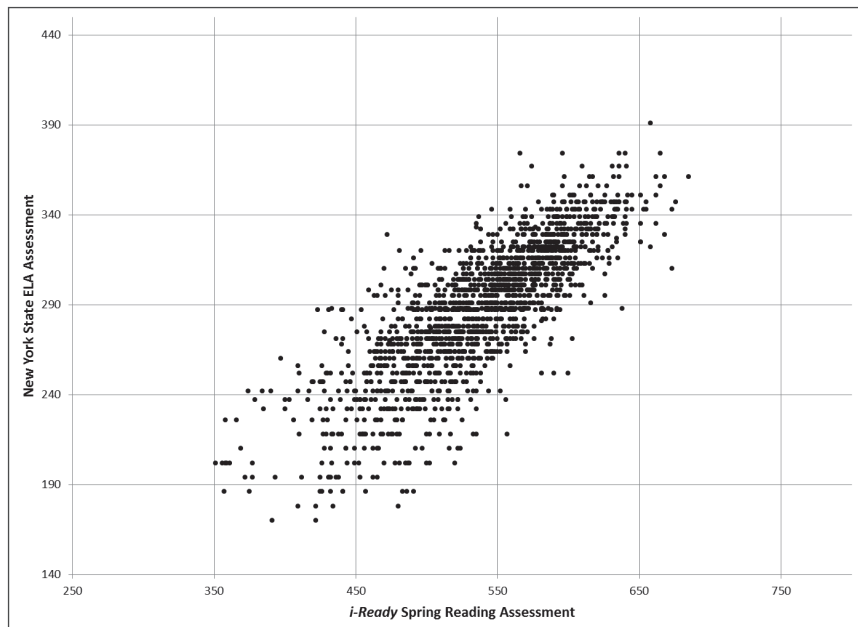


Figure 2
Grade 4 *i-Ready* and NYS ELA Assessments
Correlation = .81*



*Correlation is statistically significant $\leq .0001$

Figure 3
Grade 5 *i-Ready* and NYS ELA Assessments

Correlation = .85*

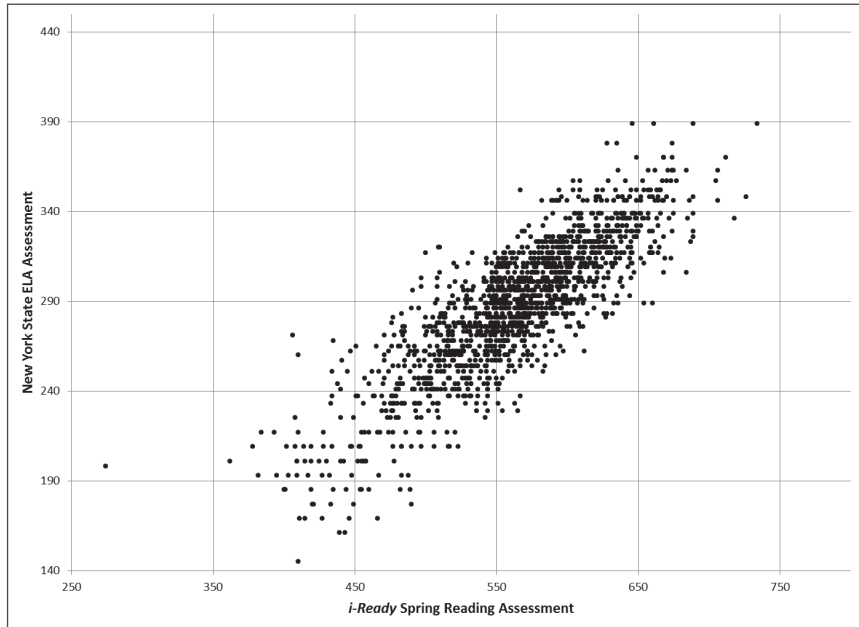
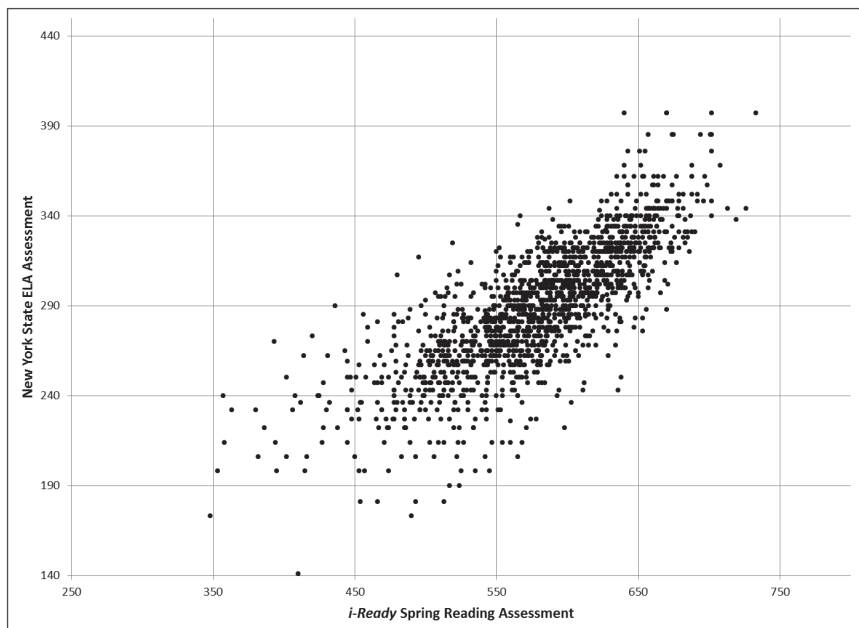


Figure 4
Grade 6 *i-Ready* and NYS ELA Assessments

Correlation = .79*



*Correlation is statistically significant $\leq .0001$

Figure 5
Grade 7 *i-Ready* and NYS ELA Assessments
Correlation = .78*

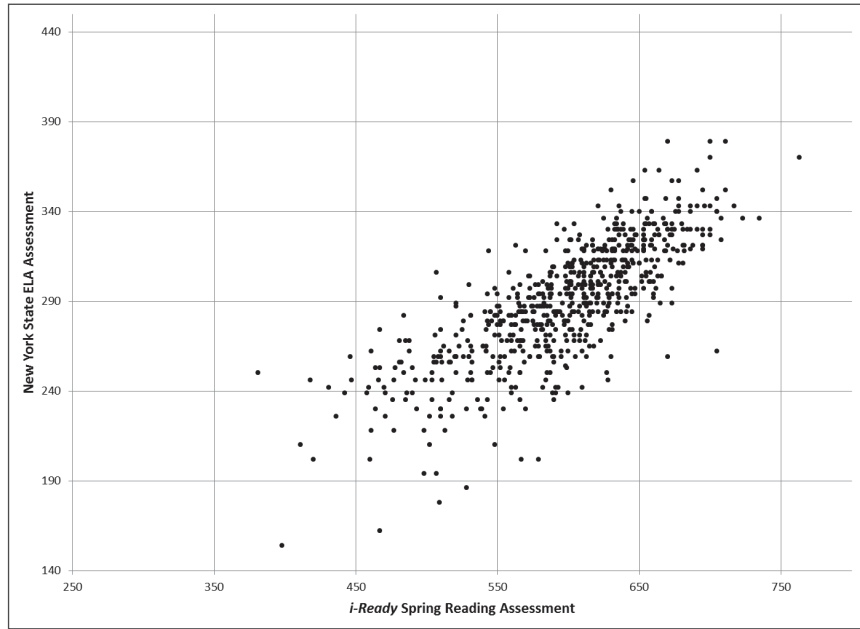
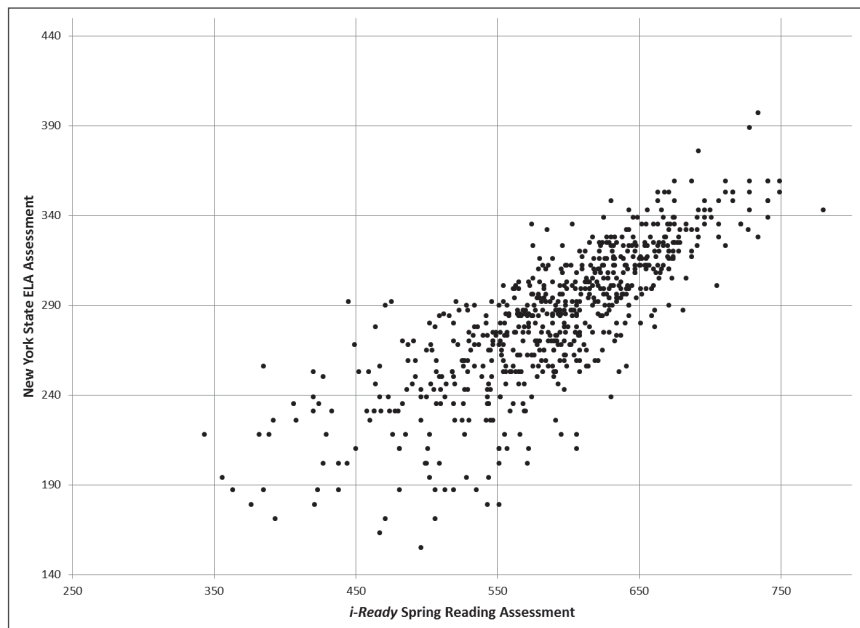


Figure 6
Grade 8 *i-Ready* and NYS ELA Assessments
Correlation = .80*



*Correlation is statistically significant $\leq .0001$

Mathematics Scatterplots by Grade

Figure 7
Grade 3 *i-Ready* and NYS Mathematics Assessments

Correlation = .83*

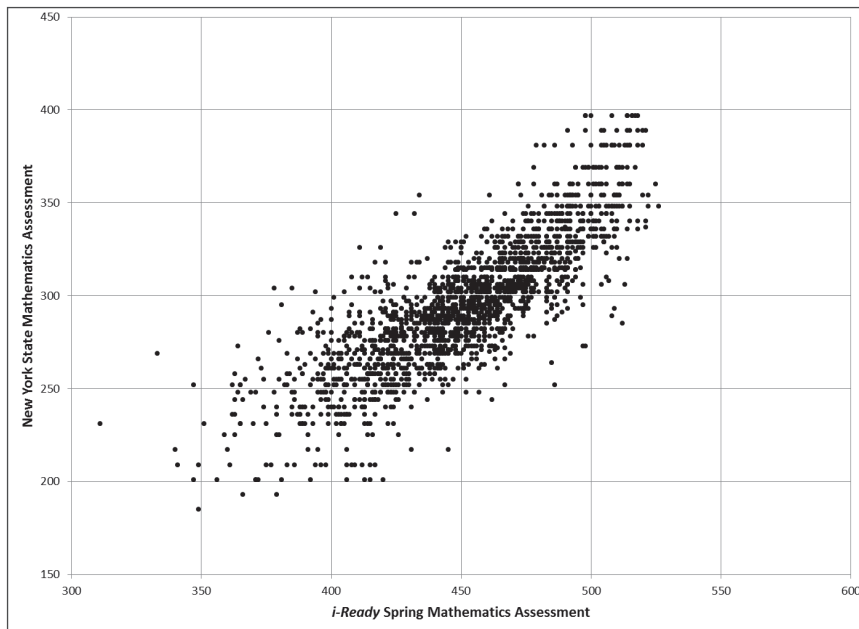
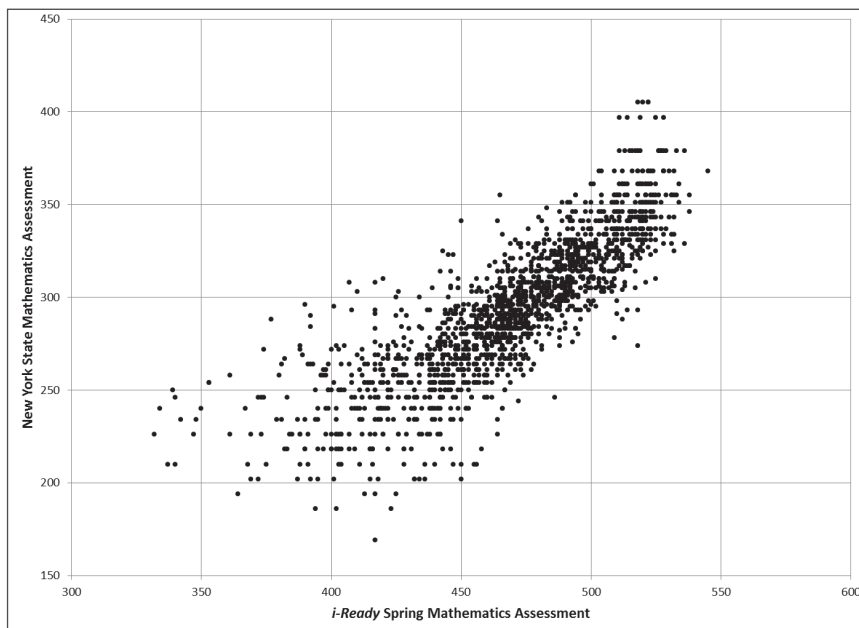


Figure 8
Grade 4 *i-Ready* and NYS Mathematics Assessments

Correlation = .83*



*Correlation is statistically significant $\leq .0001$

Figure 9
Grade 5 *i-Ready* and NYS Mathematics Assessments
Correlation = .85*

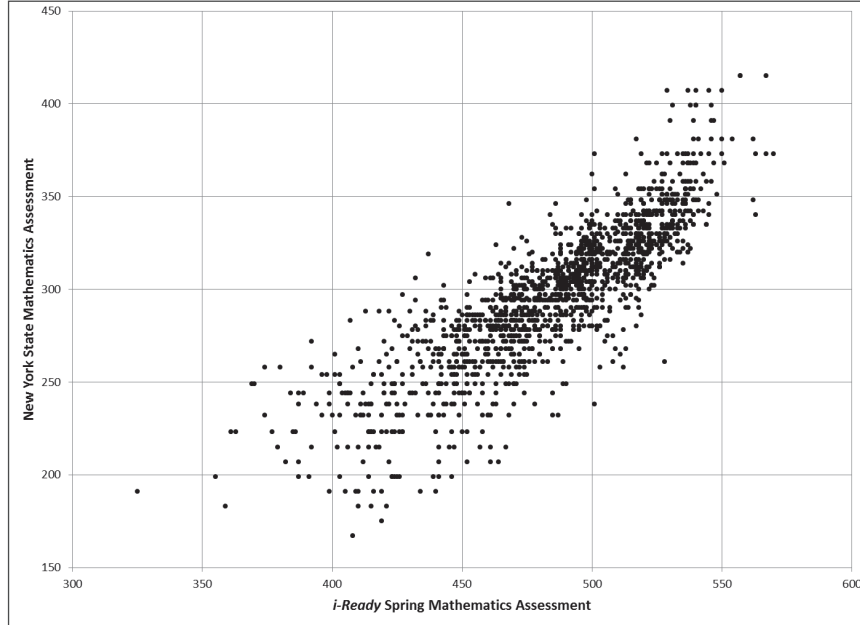
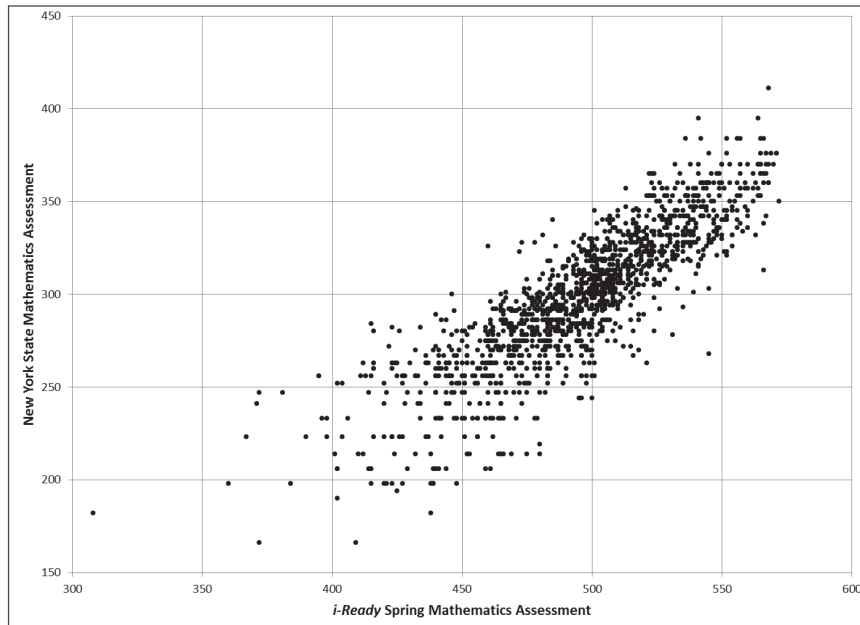


Figure 10
Grade 6 *i-Ready* and NYS Mathematics Assessments
Correlation = .86*



*Correlation is statistically significant $\leq .0001$

Figure 11
Grade 7 *i-Ready* and NYS Mathematics Assessments

Correlation = .86*

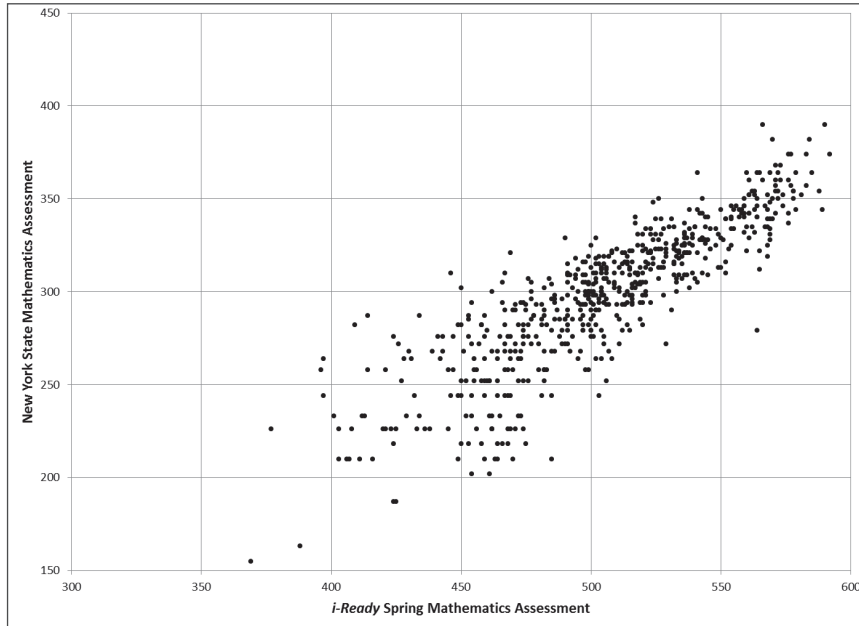
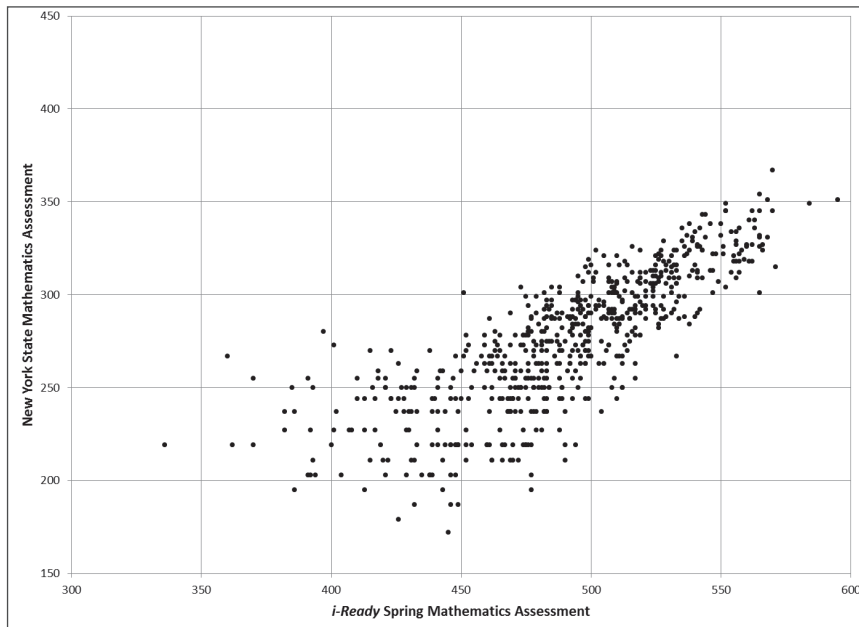


Figure 12
Grade 8 *i-Ready* and NYS Mathematics Assessments

Correlation = .80*



*Correlation is statistically significant $\leq .0001$

Appendix B:

Classification Accuracy—Exact and Within One Level

The classification accuracy presented in Table 11 is based on *i-Ready* cut scores from the equipercentile linking, as presented in Table 7 from this report, that correspond to the NYS performance levels. Results for both Mathematics and Reading in grades 3 through 8 are presented in Table 11. In terms of accurately classifying students' specific NYS performance level, 68% and 66% of students, in Mathematics and Reading respectively, were accurately classified based on their spring *i-Ready Diagnostic* score. Overall, 98% of students were accurately classified within one level of their actual NYS performance level.

Table 11
Accuracy in Classifying Students'
NYS Performance Levels Using *i-Ready* Cut Scores

Subject	Grade	Accurately Classified NYS Level	Accurately Classified Within One Level of NYS Level
Mathematics	3	66%	98%
	4	66%	98%
	5	67%	98%
	6	67%	98%
	7	71%	99%
	8	78%	100%
	Overall	68%	98%
Reading	3	66%	98%
	4	66%	98%
	5	66%	98%
	6	64%	98%
	7	63%	99%
	8	65%	99%
	Overall	66%	98%

Table 7
Spring *i-Ready Diagnostic* Cut Score Ranges

Subject	Grade Level	Level 1	Level 2	Level 3	Level 4
Mathematics	3	100–442	443–469	470–491	492–800
	4	100–459	460–487	488–511	512–800
	5	100–480	481–504	505–529	530–800
	6	100–480	481–513	514–534	535–800
	7	100–496	497–529	530–560	561–800
	8	100–502	503–541	542–571	572–800
Reading	3	100–525	526–565	566–619	620–800
	4	100–534	535–584	585–620	621–800
	5	100–564	565–612	613–653	654–800
	6	100–568	569–628	629–656	657–800
	7	100–590	591–644	645–695	696–800
	8	100–590	591–647	648–696	697–800

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