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# Linking Renaissance Star and the Florida Assessment of Student Thinking (FAST) to Istation Reading

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**5214F Diamond Heights Blvd, #3255, San Francisco, CA 94131**
**wwww.AmiraLearning.com | 866–883–7323 | info@amiralearning.com**

# Linking Renaissance Star and the Florida Assessment of Student Thinking (FAST) to Istation Reading

PREPARED BY
Matthew Jeans, PhD

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# Executive Summary

This study provides the proficiency projection of the Istation Reading Formative Assessment on the Florida Assessment of Student Thinking (FAST) Reading assessment for kindergarten through fifth grades. Kindergarten through second grades take the Renaissance Star Early Literacy and Reading assessments under the FAST progress monitoring program. The sample consisted of 32,188 students from three school districts in Florida in the 2022–2023 school year. Students took Istation Reading in the beginning-of-the-year (BOY), middle-of-the-year (MOY), and end-of-the-year (EOY) assessment months, and FAST during the spring assessment month.

The Pearson product-moment correlations of Istation Reading MOY and FAST at MOY range from 0.60 to 0.78 and 0.61 to 0.80 for Istation Reading EOY and FAST at spring benchmarking. They indicate strong relationships between Istation Reading and the FAST Reading assessment.

At MOY, to achieve a high probability of attaining *Transitional Reader/At Benchmark/On Grade Level* performance level or above on the Star/FAST assessments, students had to attain Istation Reading overall scores at the following percentile ranks:

> Kindergarten: 35th
> First grade: 35th
> Second grade: 40th
> Third grade: 65th
> Fourth grade: 65th
> Fifth grade: 65th

At EOY, to achieve a high probability of attaining *Transitional Reader/At Benchmark/On Grade Level* performance level or above on the Star/FAST assessments, students had to attain Istation Reading overall scores at the following percentile ranks:

> Kindergarten: 30th
> First grade: 35th
> Second grade: 40th
> Third grade: 65th

Fourth grade: 60th
Fifth grade: 65th

Classification accuracy analyses were conducted. At MOY, the area under the curve (AUC) ranged from 0.71 to 0.81, indicating that the percentage of students correctly classified on the Istation Reading with respect to the Star/FAST Reading assessments was approximately 76% across grades. Sensitivity ranged from 0.70 to 0.89, indicating that approximately 80% of students who performed above the cut point on Istation Reading attained the *Transitional Reader/At Benchmark/On Grade Level* performance level or above on the Star/FAST assessments. Specificity ranged from 0.58 to 0.88, indicating that approximately 73% of students who performed below the cut point on Istation Reading did not attain the *Transitional Reader/At Benchmark/On Grade Level* performance level or above on the Star/FAST assessments. Istation Reading accurately predicted meeting reading proficiency on the Star and FAST assessments about 78% of the time at the MOY.

At EOY, the AUC ranged from 0.71 to 0.83, indicating that approximately 77% of students were correctly classified on the Istation Reading with respect to the Star and FAST Reading assessments across grades. Sensitivity ranged from 0.70 to 0.91, indicating that approximately 81% of students who performed above the cut point on Istation Reading attained the *Transitional Reader/At Benchmark/On Grade Level* performance level or above on the Star/FAST assessments. Specificity ranged from 0.57 to 0.87, indicating that approximately 72% of students who performed below the cut point on Istation Reading did not attain the *Transitional Reader/At Benchmark/On Grade Level* performance level or above on the Star/FAST assessments. Istation Reading accurately predicted meeting reading proficiency on the Star and FAST assessments about 78% of the time at EOY.

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# Introduction

This study provides the proficiency projection of Istation Reading Formative Assessment (Istation Reading) observed scores on the Renaissance Star and FAST Reading scores for kindergarten through fifth grade. Students took these assessments during the 2022–2023 school year, and a correlational study and classification accuracy were also conducted.

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

The Istation Reading assessments have strong correlations with other state assessments, and linking studies with other assessments demonstrated that Istation Reading can be used to project student proficiency on end–of–year assessments:

- New Mexico Measures of Student Success and Achievement (Wolf et al., 2023)

- State of Texas Assessment of Academic Readiness (STAAR) (Jeans, 2024)

- Georgia Milestones Assessment System (GMAS) ELA (Jeans, 2024)

- Virginia Standards of Learning (Campbell, Sutter, & Lambie, 2019)

- Ohio AIR (LePlante, 2019)

- Renaissance Star (Campbell, Sutter, Lambie, & Tinstman Jones, 2019)

- Colorado Measures of Academic Success ELA (Patarapichayatham, 2019)

- Idaho SAT (Wolfe & Ross, 2020)

- New Jersey Student Learning Standards (NJSLA) (Wolf & Locke, 2022)

- PARCC (Cook & Ross, 2020)

- Kansas Assessment Program (Patarapichayatham, 2017)

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# Background

## Istation Reading Assessment

Istation Reading formative 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).

The Istation Reading formative assessment helps teachers identify areas of need and provide differentiated instruction according to a student's pattern of strengths and weaknesses. Istation 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., 2023). Scaled scores range from 100 to 900. There are five performance levels for Istation 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.

# FAST Reading Assessment

In the 2022–23 school year, Florida schools transitioned to the FAST progress monitoring programs for grades 3–10 ELA Reading. The computer-adaptive assessment is administered three times per year to track students' progress in learning required reading materials within Florida's Benchmarks of Excellent Student Thinking (B.E.S.T.) Standards. FAST for students in grades K–2 is also administered three times per year using Renaissance Learning's Star assessments (i.e., Star Early Literacy, Star Reading).

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 different performance levels as shown in Tables 1 through 3.

Kindergarten students who take the Star Early Literacy assessment are stratified into three levels:

- *Emergent Reader*: Students understand that printed text carries meaning, recognizing letters and their sounds. They're starting to read picture books and familiar words, building vocabulary and comprehension through repeated reading experiences.
- *Transitional Reader*: Students have mastered alphabet skills and understand letter-sound relationships, identifying beginning and ending consonant sounds, as well as long and short vowel sounds. They can likely blend sounds and word parts to read simple words, employing various strategies such as using pictures, story patterns, and phonics to decipher unfamiliar words.
- *Probable Reader*: Students are becoming proficient at recognizing many words in and out of context. They spend less time decoding and more time comprehending what they read. They can blend sounds and word parts to read words and sentences more quickly, smoothly, and independently.

Students in grades 1 and 2 who take the Star Reading assessment are stratified into five levels based on percentile rank, as shown in Table 2.

Students in grades 3 through 5 who took the FAST Reading assessment are stratified into five levels:

- *Well Below Grade Level*: **Highly likely to need substantial support** for the next grade/course

- *Below Grade Level*: **Likely to need substantial support** for the next grade/course

- *On Grade Level*: **May need additional support** for the next grade/course

- *Proficient*: **Likely to excel** in the next grade/course

- *Exemplary*: **Highly likely to excel** in the next grade/course

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

(1) Use Istation Reading scores from the middle-of-year (MOY) benchmark month to predict FAST outcomes.

(2) Use Istation Reading scores from the end-of-year (EOY) benchmark month to predict FAST outcomes.

**Table 1.** *Star Early Literacy Scale Score Ranges by Performance Level*

| Grade | Emergent Reader | Transitional Reader | Probable Reader |
|-------|-----------------|---------------------|-----------------|
| K | 200–785 | 786–851 | 852–1100 |

**Table 2.** *Star Reading Percentile Rank Ranges by Performance Level*

| Grade | Urgent Intervention | Intervention | On Watch | At Benchmark | Above Benchmark |
|-------|---------------------|--------------|----------|--------------|-----------------|
| 1 | <10 | 10–24 | 25–39 | 40–49 | ≥50 |
| 2 | <10 | 10–24 | 25–39 | 40–49 | ≥50 |

**Table 3.** *FAST Reading Scale Score Ranges by Performance Level*

| Grade | Well Below Grade Level | Below Grade Level | On Grade Level | Proficient | Exemplary |
|-------|------------------------|-------------------|----------------|------------|-----------|
| 3 | 140–185 | 186–200 | 201–212 | 213–224 | 225–260 |
| 4 | 154–198 | 199–212 | 213–223 | 224–236 | 237–270 |
| 5 | 160–205 | 206–221 | 222–231 | 232–245 | 246–279 |

# Methodology

## Analytical Sample

The analytical sample consisted of kindergarten through fifth grade students from three school districts in Florida in the 2022-2023 school year. Only students who had valid Istation Reading and FAST scores were included in the analyses.

Table 4 presents the analytic sample breakdown by grade, totaling 32,188 students. There were 1,056 students from District A; 69 students from District B; and 31,063 students from District C. Students took the Istation Reading Formative Assessment at the BOY, MOY, and EOY assessment months and took FAST in the spring. Table 5 has the demographic breakdown by district and grade.

**Table 4.** *Sample Size by District and Grade*

| Grade | A | B | C | Total |
|-------|-----|-----|------|-------|
| K | N/A | N/A | 4256 | 4256 |
| 1 | N/A | N/A | 5291 | 5291 |
| 2 | N/A | N/A | 5386 | 5386 |
| 3 | 379 | 22 | 5741 | 6141 |
| 4 | 341 | 28 | 5179 | 5548 |
| 5 | 336 | 19 | 5211 | 5566 |

**Table 5.** *Sample Demographic Characteristics by District*

| District | Demographic Characteristics | Percentage |
|---|---|---|
| A | Race/Ethnicity: Black or African American | 6% |
| | Race/Ethnicity: Hispanic or Latino origin | 25% |
| | Race/Ethnicity: White/Non-Hispanic | 65% |
| | Race/Ethnicity: Asian or Other | 4% |
| B | Gender: Female/Male | 58%/42% |
| | Race/Ethnicity: Black or African American | 1% |
| | Race/Ethnicity: Hispanic or Latino origin | 64% |
| | Race/Ethnicity: Asian or Other | 3% |
| | Students With Disabilities | 7% |
| | Current English Language Learner | 12% |
| C | Gender: Female/Male | 49%/51% |
| | Race/Ethnicity: Black or African American | 18% |
| | Race/Ethnicity: Hispanic or Latino origin | 21% |
| | Race/Ethnicity: White/Non-Hispanic | 51% |
| | Race/Ethnicity: Asian or Other | 10% |
| | Current English Language Learner | 35% |

# Analytical Approach

Pearson product-moment correlations were conducted to confirm the correlation in performance between Istation Reading and the Star Early Literacy, Star Reading, and FAST Reading assessments. Next, multinomial logistic regression determined the probabilities of reaching (1) *Transitional Reader* and *Probable Reader* on Star Early Literacy; (2) *At Benchmark* and *Above Benchmark* on Star Reading; and (3) *On Grade Level*, *Proficient*, or *Exemplary* on the FAST Reading assessment. The analysis used the Istation Reading score as the predictor and the FAST performance levels as outcome variables. Students with Istation Reading scores ranging from the 1st to the 99th percentile ranks were part of the analysis. A selection of 20 Istation 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 probability of achieving the FAST performance level 3 *(On Grade Level)* or above is computed by adding the probabilities of levels 3 through 5. The probability of achieving the FAST performance level 4 (*Proficient*) or above is computed by adding the probabilities of levels 4 and 5. The probability of achieving FAST performance level 5 (*Exemplary*) is the probability only for level 5. This method was implemented similarly for Star Early Literacy and Star Reading. The analyses were computed using Stata 18.0 software. Finally, classification accuracy analyses determined Istation Reading cut points that assist in differentiating students who will or will not attain *Transitional Reader* or higher on Star Early Literacy; *At Benchmark* or higher on Star Reading; and *On Grade Level* or higher on FAST Reading.

# Results

## Istation Reading and FAST Descriptive Statistics

Table 6 presents the descriptive statistics for Istation Reading and FAST performance by grade and district.

**Table 6.** *Istation Reading and FAST/Star Mean Score and Standard Deviation (SD) by Grade and District*

| District | Grade | Istation BOY (SD) | Istation MOY (SD) | Istation EOY (SD) | FAST/Star Score (SD) |
|---|---|---|---|---|---|
| A | 3 | 444.74 (71.97) | 469.69 (78.72) | 495.98 (87.00) | 197.40 (22.02) |
|  | 4 | 487.51 (68.42) | 506.55 (71.43) | 522.01 (74.56) | 208.42 (20.21) |
|  | 5 | 524.76 (72.73) | 540.42 (75.19) | 550.69 (76.24) | 217.38 (19.93) |
| B | 3 | 434.23 (55.46) | 475.23 (73.15) | 515.64 (68.06) | 202.64 (17.54) |
|  | 4 | 524.04 (48.72) | 523.25 (43.95) | 561.54 (44.51) | 215.32 (12.16) |
|  | 5 | 514.26 (90.56) | 551.05 (83.05) | 570.37 (85.77) | 219.74 (22.08) |
| C | K | 254.56 (43.94) | 291.64 (48.75) | 313.69 (55.26) | 806.14 (70.50) |
|  | 1 | 324.20 (53.68) | 361.58 (62.53) | 388.21 (67.25) | 863.89 (91.70) |
|  | 2 | 397.88 (69.11) | 427.18 (75.09) | 448.50 (75.41) | 935.78 (80.22) |
|  | 3 | 448.11 (72.92) | 472.53 (76.22) | 490.61 (76.26) | 201.45 (21.73) |
|  | 4 | 491.23 (65.60) | 516.06 (67.31) | 529.88 (70.73) | 212.71 (20.77) |
|  | 5 | 531.18 (70.71) | 551.60 (71.77) | 564.98 (75.02) | 222.55 (20.45) |

Tables 7 through 9 present the proportion of students in each performance level by grade and district. Generally, the largest proportion of kindergarten students were in

the *Transitional Reader* performance level, and students in grades 1 and 2 were primarily in the *Above Benchmark* performance level. For Fast Reading, the majority of students in District A were in *Below Grade Level* and lower, and majority of students in District B and District C were in *On Grade Level* or higher.

**Table 7.** *Percentage of Kindergarten Students in Early Literacy Performance Levels*

| District | Grade | Emergent Reader | Transitional Reader | Probable Reader |
|----------|-------|-----------------|---------------------|-----------------|
| C | K | 35% | 40% | 25% |

**Table 8.** *Percentage of First and Second Grade Students in Star Reading Performance Levels by Grade*

| District | Grade | Urgent Intervention | Intervention | On Watch | At Benchmark | Above Benchmark |
|----------|-------|---------------------|--------------|----------|--------------|-----------------|
| C | 1 | 10% | 12% | 9% | 6% | 63% |
|   | 2 | 13% | 9% | 11% | 9% | 58% |

**Table 9.** *Percentage of Students in FAST Performance Levels by District and Grade*

| District | Grade | Well Below Grade Level | Below Grade Level | On Grade Level | Proficient | Exemplary |
|----------|-------|------------------------|-------------------|----------------|------------|-----------|
| A | 3 | 29% | 23% | 24% | 16% | 8% |
|   | 4 | 31% | 26% | 18% | 18% | 7% |
|   | 5 | 28% | 29% | 16% | 22% | 4% |
| B | 3 | 14% | 32% | 18% | 27% | 9% |
|   | 4 | 11% | 32% | 29% | 25% | 4% |
|   | 5 | 21% | 32% | 16% | 21% | 11% |
| C | 3 | 20% | 25% | 24% | 18% | 13% |
|   | 4 | 23% | 23% | 21% | 21% | 11% |
|   | 5 | 20% | 26% | 19% | 23% | 12% |

# Correlational Study: Istation Reading and FAST

Tables 10 and 11 show the Pearson product-moment correlation coefficients between Istation Reading scores and Star/FAST Reading scores for MOY and EOY. The coefficients for grades K through 2 range from .60 to .80, indicating a strong relationship between Istation Reading and the Star Early Literacy and Reading assessments. If a student does well on Istation Reading, then it is likely that the student will do well on the Star assessments. The coefficients for grades 3 through 5 range from .69 to .74, indicating a strong relationship between Istation Reading and

the FAST Reading assessment. Similarly, if a student does well on Istation Reading, then it is likely that the student will do well on the FAST Reading assessment.

**Table 10.** *Pearson Product-Moment Correlation Coefficients between Istation Reading and Star Early Literacy and Reading*

| Grade | Istation Reading MOY | Istation Reading EOY |
|---|---|---|
| K | 0.60* | 0.61* |
| 1 | 0.77* | 0.79* |
| 2 | 0.78* | 0.80* |

*$p < 0.001$

**Table 11.** *Pearson Product-Moment Correlation Coefficients between Istation Reading and FAST Reading*

| Grade | Istation Reading MOY | Istation Reading EOY |
|---|---|---|
| 3 | 0.70* | 0.69* |
| 4 | 0.74* | 0.73* |
| 5 | 0.73* | 0.72 |

*$p < 0.001$

# Linking Study: Istation Reading and FAST Reading

Tables 12 through 17 are concordance tables derived from statistical linking procedures that directly link Istation Reading scores and Star/FAST 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 provide a more comprehensive understanding of students' abilities and progress. Moreover, concordance tables aid in identifying strengths and weaknesses in specific subject areas, assisting in developing targeted interventions and support programs. Furthermore, these tables contribute to the establishment of consistent academic standards and expectations, promoting a unified approach to evaluating and enhancing educational outcomes.

The probabilities of meeting a performance level were divided into low, medium, and high. Students with a probability of ≤.330 had a *low* probability of achieving a level. Those with a probability of .331–.660 had a *medium* probability, and students with a probability of greater than ≥.661 had a *high* probability of attaining *Approaches* or higher.

## Probabilities for the Middle of the Year

The MOY table for kindergarten shows that students need to be at the 35th percentile or above to have a high probability of reaching *Transitional Reader* or higher; students in first through second grade need to be at the 35th and 40th percentile, respectively, to have a high probability of reaching *At Benchmark* or higher. The MOY table for third through fifth grade shows that students in the third through fifth grade need to be at the 65th percentile to have a high probability of reaching *On Grade Level* or higher.

**Table 12.** *Kindergarten Proficiency Projection for Istation Reading at MOY*

| Grade | Overall Score | Percentile | Transitional Probability | Transitional | Probable Probability | Probable |
|-------|---------------|------------|--------------------------|--------------|----------------------|----------|
| | 226 | 5 | 0.254 | Low | 0.027 | Low |
| | 247 | 10 | 0.374 | Medium | 0.057 | Low |
| | 261 | 15 | 0.468 | Medium | 0.089 | Low |
| | 271 | 20 | 0.538 | Medium | 0.119 | Low |
| | 279 | 25 | 0.595 | Medium | 0.147 | Low |
| | 287 | 30 | 0.650 | Medium | 0.180 | Low |
| | 294 | 35 | 0.696 | High | 0.212 | Low |
| | 300 | 40 | 0.733 | High | 0.241 | Low |
| | 306 | 45 | 0.767 | High | 0.272 | Low |
| K | 311 | 50 | 0.794 | High | 0.299 | Low |
| | 317 | 55 | 0.823 | High | 0.332 | Medium |
| | 322 | 60 | 0.846 | High | 0.360 | Medium |
| | 328 | 65 | 0.869 | High | 0.395 | Medium |
| | 334 | 70 | 0.890 | High | 0.429 | Medium |
| | 340 | 75 | 0.909 | High | 0.464 | Medium |
| | 347 | 80 | 0.927 | High | 0.504 | Medium |
| | 356 | 85 | 0.945 | High | 0.553 | Medium |
| | 366 | 90 | 0.961 | High | 0.606 | Medium |
| | 383 | 95 | 0.979 | High | 0.687 | High |
| | 419 | 99 | 0.995 | High | 0.818 | High |

**Table 13.** *First through Second Grade Proficiency Projection for Istation Reading at MOY*

| Grade | Overall Score | Percentile | On Watch Probability | On Watch | At Benchmark Probability | At Benchmark | Above Benchmark Probability | Above Benchmark |
|---|---|---|---|---|---|---|---|---|
| 1 | 275 | 5 | 0.272 | Low | 0.129 | Low | 0.057 | Low |
| | 297 | 10 | 0.422 | Medium | 0.250 | Low | 0.150 | Low |
| | 311 | 15 | 0.540 | Medium | 0.364 | Medium | 0.251 | Low |
| | 321 | 20 | 0.629 | Medium | 0.460 | Medium | 0.343 | Medium |
| | 330 | 25 | 0.706 | High | 0.550 | Medium | 0.435 | Medium |
| | 338 | 30 | 0.768 | High | 0.628 | Medium | 0.519 | Medium |
| | 345 | 35 | 0.816 | High | 0.691 | High | 0.590 | Medium |
| | 352 | 40 | 0.857 | High | 0.749 | High | 0.657 | Medium |
| | 358 | 45 | 0.887 | High | 0.792 | High | 0.708 | High |
| | 365 | 50 | 0.915 | High | 0.835 | High | 0.761 | High |
| | 371 | 55 | 0.934 | High | 0.866 | High | 0.800 | High |
| | 378 | 60 | 0.951 | High | 0.895 | High | 0.839 | High |
| | 384 | 65 | 0.963 | High | 0.916 | High | 0.867 | High |
| | 391 | 70 | 0.973 | High | 0.935 | High | 0.894 | High |
| | 399 | 75 | 0.981 | High | 0.952 | High | 0.918 | High |
| | 408 | 80 | 0.988 | High | 0.966 | High | 0.939 | High |
| | 418 | 85 | 0.992 | High | 0.977 | High | 0.956 | High |
| | 432 | 90 | 0.996 | High | 0.986 | High | 0.972 | High |
| | 453 | 95 | 0.999 | High | 0.994 | High | 0.986 | High |
| | 495 | 99 | 1.000 | High | 0.999 | High | 0.996 | High |
| | 321 | 5 | 0.244 | Low | 0.088 | Low | 0.025 | Low |
| | 348 | 10 | 0.402 | Medium | 0.187 | Low | 0.080 | Low |
| | 366 | 15 | 0.531 | Medium | 0.293 | Low | 0.155 | Low |
| | 379 | 20 | 0.629 | Medium | 0.389 | Medium | 0.234 | Low |
| | 389 | 25 | 0.701 | High | 0.469 | Medium | 0.307 | Low |
| | 399 | 30 | 0.767 | High | 0.552 | Medium | 0.389 | Medium |
| | 407 | 35 | 0.813 | High | 0.616 | Medium | 0.456 | Medium |
| | 415 | 40 | 0.853 | High | 0.677 | High | 0.524 | Medium |
| | 423 | 45 | 0.887 | High | 0.732 | High | 0.588 | Medium |

| 2 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 430 | 50 | 0.911 | High | 0.775 | High | 0.641 | Medium |
| | 437 | 55 | 0.931 | High | 0.813 | High | 0.690 | High |
| | 444 | 60 | 0.947 | High | 0.846 | High | 0.734 | High |
| | 452 | 65 | 0.961 | High | 0.877 | High | 0.779 | High |
| | 459 | 70 | 0.970 | High | 0.900 | High | 0.812 | High |
| | 467 | 75 | 0.979 | High | 0.921 | High | 0.845 | High |
| | 477 | 80 | 0.986 | High | 0.942 | High | 0.879 | High |
| | 487 | 85 | 0.991 | High | 0.958 | High | 0.906 | High |
| | 501 | 90 | 0.995 | High | 0.973 | High | 0.934 | High |
| | 522 | 95 | 0.998 | High | 0.986 | High | 0.961 | High |
| | 566 | 99 | 1.000 | High | 0.997 | High | 0.987 | High |

**Table 14.** *Third through Fifth Grade Proficiency Projection for Istation Reading at MOY*

| Grade | Overall Score | Percentile | On Grade Level Probability | On Grade Level | Proficient Probability | Proficient | Exemplary Probability | Exemplary |
|---|---|---|---|---|---|---|---|---|
| 3 | 363 | 5 | 0.057 | Low | 0.003 | Low | 0.000 | Low |
| | 392 | 10 | 0.115 | Low | 0.010 | Low | 0.000 | Low |
| | 410 | 15 | 0.172 | Low | 0.021 | Low | 0.001 | Low |
| | 423 | 20 | 0.226 | Low | 0.035 | Low | 0.003 | Low |
| | 434 | 25 | 0.279 | Low | 0.052 | Low | 0.005 | Low |
| | 443 | 30 | 0.329 | Low | 0.071 | Low | 0.008 | Low |
| | 452 | 35 | 0.384 | Medium | 0.096 | Low | 0.012 | Low |
| | 460 | 40 | 0.435 | Medium | 0.123 | Low | 0.018 | Low |
| | 467 | 45 | 0.483 | Medium | 0.152 | Low | 0.024 | Low |
| | 474 | 50 | 0.532 | Medium | 0.186 | Low | 0.033 | Low |
| | 481 | 55 | 0.581 | Medium | 0.224 | Low | 0.044 | Low |
| | 489 | 60 | 0.636 | Medium | 0.274 | Low | 0.061 | Low |
| | 496 | 65 | 0.684 | High | 0.322 | Low | 0.079 | Low |
| | 504 | 70 | 0.735 | High | 0.381 | Medium | 0.104 | Low |
| | 512 | 75 | 0.782 | High | 0.443 | Medium | 0.135 | Low |
| | 522 | 80 | 0.834 | High | 0.523 | Medium | 0.181 | Low |
| | 533 | 85 | 0.881 | High | 0.609 | Medium | 0.239 | Low |
| | 548 | 90 | 0.929 | High | 0.715 | High | 0.330 | Low |
| | 572 | 95 | 0.972 | High | 0.845 | High | 0.484 | Medium |
| | 626 | 99 | 0.998 | High | 0.971 | High | 0.762 | High |
| | 408 | 5 | 0.027 | Low | 0.002 | Low | 0.000 | Low |
| | 435 | 10 | 0.067 | Low | 0.007 | Low | 0.000 | Low |
| | 452 | 15 | 0.115 | Low | 0.017 | Low | 0.001 | Low |
| | 465 | 20 | 0.168 | Low | 0.031 | Low | 0.002 | Low |
| | 476 | 25 | 0.227 | Low | 0.050 | Low | 0.003 | Low |
| | 485 | 30 | 0.284 | Low | 0.072 | Low | 0.006 | Low |
| | 493 | 35 | 0.341 | Medium | 0.098 | Low | 0.009 | Low |
| | 501 | 40 | 0.403 | Medium | 0.130 | Low | 0.014 | Low |
| | 509 | 45 | 0.469 | Medium | 0.170 | Low | 0.021 | Low |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **4** | 516 | 50 | 0.528 | Medium | 0.211 | Low | 0.029 | Low |
| | 524 | 55 | 0.595 | Medium | 0.264 | Low | 0.042 | Low |
| | 531 | 60 | 0.652 | Medium | 0.315 | Low | 0.056 | Low |
| | 539 | 65 | 0.714 | High | 0.378 | Medium | 0.076 | Low |
| | 547 | 70 | 0.769 | High | 0.444 | Medium | 0.101 | Low |
| | 556 | 75 | 0.823 | High | 0.518 | Medium | 0.134 | Low |
| | 566 | 80 | 0.872 | High | 0.598 | Medium | 0.178 | Low |
| | 578 | 85 | 0.917 | High | 0.687 | High | 0.239 | Low |
| | 593 | 90 | 0.954 | High | 0.780 | High | 0.324 | Low |
| | 616 | 95 | 0.983 | High | 0.882 | High | 0.464 | Medium |
| | 661 | 99 | 0.998 | High | 0.971 | High | 0.705 | High |
| **5** | 432 | 5 | 0.026 | Low | 0.002 | Low | 0.000 | Low |
| | 461 | 10 | 0.068 | Low | 0.010 | Low | 0.000 | Low |
| | 479 | 15 | 0.115 | Low | 0.022 | Low | 0.001 | Low |
| | 492 | 20 | 0.164 | Low | 0.038 | Low | 0.003 | Low |
| | 504 | 25 | 0.222 | Low | 0.060 | Low | 0.006 | Low |
| | 513 | 30 | 0.273 | Low | 0.084 | Low | 0.009 | Low |
| | 522 | 35 | 0.331 | Medium | 0.114 | Low | 0.013 | Low |
| | 531 | 40 | 0.394 | Medium | 0.151 | Low | 0.020 | Low |
| | 539 | 45 | 0.454 | Medium | 0.191 | Low | 0.028 | Low |
| | 547 | 50 | 0.515 | Medium | 0.236 | Low | 0.038 | Low |
| | 555 | 55 | 0.576 | Medium | 0.287 | Low | 0.051 | Low |
| | 563 | 60 | 0.636 | Medium | 0.342 | Medium | 0.067 | Low |
| | 571 | 65 | 0.692 | High | 0.400 | Medium | 0.086 | Low |
| | 580 | 70 | 0.750 | High | 0.466 | Medium | 0.112 | Low |
| | 589 | 75 | 0.802 | High | 0.533 | Medium | 0.142 | Low |
| | 600 | 80 | 0.854 | High | 0.611 | Medium | 0.183 | Low |
| | 612 | 85 | 0.899 | High | 0.688 | High | 0.233 | Low |
| | 629 | 90 | 0.943 | High | 0.780 | High | 0.311 | Low |
| | 653 | 95 | 0.976 | High | 0.873 | High | 0.427 | Medium |
| | 702 | 99 | 0.997 | High | 0.965 | High | 0.644 | High |

# MOY Istation Reading and FAST at Winter Benchmarking

Figure 1 represents the MOY Istation Reading percentiles associated with the probabilities of attaining the Early Literacy *Transitional Reader*, Star Reading *At Benchmark*, and FAST Reading *On Grade Level* performance level by grade.

Kindergarten students who attained an Istation Reading score around 247–287 (10th to 30th percentile ranks) had a medium probability of achieving the Early Literacy *Transitional Reader* level or higher. Students with scores higher than 294 had a high probability of reaching the *Transitional Reader* level or higher. Students who attained an Istation Reading score around 383 (95th percentile) had a high probability of reaching the Early Literacy *Probable Reader* level.

First grade students who attained an Istation Reading score around 311–338 (15th to 30th percentile ranks) had a medium probability of achieving the Star Reading *At Benchmark* level or higher. Students with a score higher than 345 had a high probability of reaching the *At Benchmark* level or higher. Students who attained an Istation Reading score around 358 (45th percentile) had a high probability of reaching the Star Reading *Above Benchmark* level.

Second grade students who attained an Istation Reading score around 379–407 (20th to 35th percentile ranks) had a medium probability of achieving the Star Reading *At Benchmark* level or higher. Students with a score higher than 415 had a high probability of reaching the *At Benchmark* level or higher. Students who attained an Istation Reading score around 437 (55th percentile) had a high probability of reaching the Star Reading *Above Benchmark* level.

Third grade students who attained an Istation Reading score around 452–489 (35th to 60th percentile ranks) had a medium probability of achieving the FAST *On Grade Level* or higher. Students with a score higher than 496 had a high probability of reaching the *On Grade Level* or higher. Students who attained an Istation Reading score around 626 (99th percentile) had a high probability of reaching the FAST *Exemplary* level.

Fourth grade students who attained an Istation Reading score around 493–531 (35th to 60th percentile ranks) had a medium probability of achieving the FAST *On Grade Level* or higher. Students with a score higher than 539 had a high probability of reaching the *On Grade Level* or higher. Students who attained an Istation Reading score around 661 (99th percentile) had a high probability of reaching the FAST *Exemplary* level.

Fifth grade students who attained an Istation Reading score around 522–563 (35th to 60th percentile ranks) had a medium probability of achieving the FAST *On Grade Level* or higher. Students with a score higher than 571 had a high probability of reaching the *On Grade Level* or higher. Students who attained an Istation Reading score around 702 (99th percentile) had a high probability of reaching the FAST *Exemplary* level.

**Figure 1.** *MOY Istation Reading Percentiles and Star/FAST Reading Transitional Reader/At Benchmark/On Grade Level Probabilities by Grade*
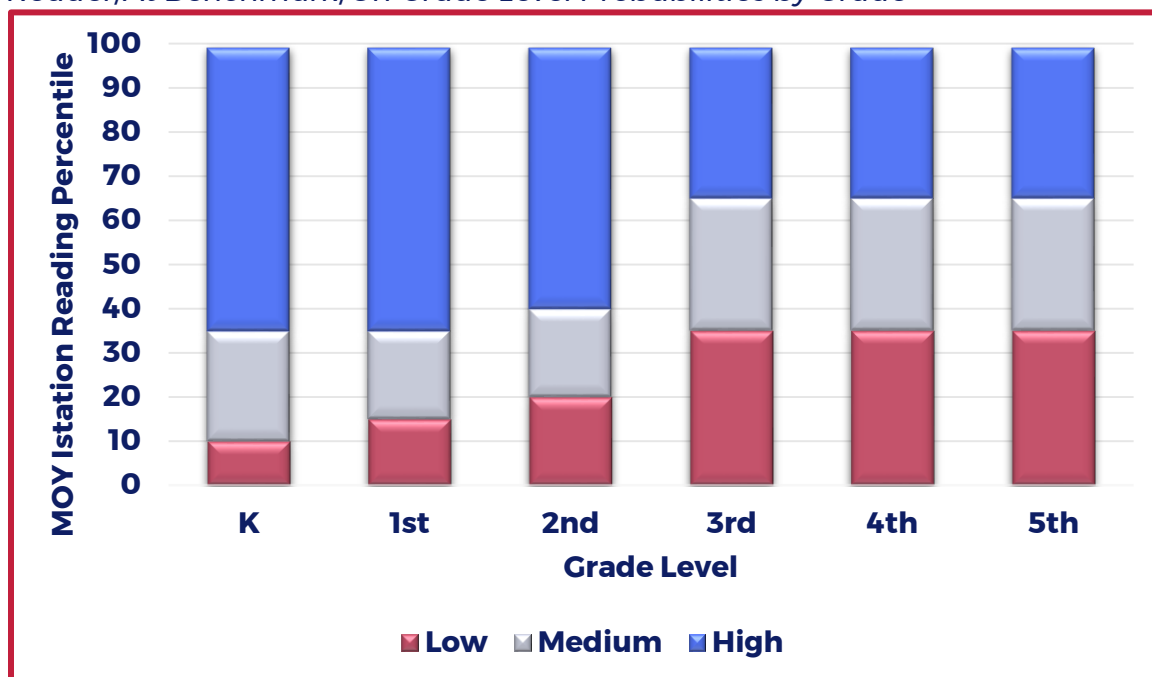
# Probabilities for the End of the Year

The EOY table for kindergarten shows that students need to be at the 30th percentile or above to have a high probability of reaching *Transitional Reader* or higher; students in first through second grade need to be at the 35th and 40th percentile, respectively, to have a high probability of reaching *At Benchmark* or higher. The EOY table for third through fifth grade shows that students in the third grade need to be at the 65th percentile; students in the fourth grade need to be at the 60th percentile; and students in the fifth grade need to be at the 65th percentile to have a high probability of reaching *On Grade Level* or higher.

**Table 15.** *Kindergarten Proficiency Projection for Istation Reading at EOY*

| Grade | Overall Score | Percentile | Transitional Probability | Transitional | Probable Probability | Probable |
|-------|---------------|------------|--------------------------|--------------|----------------------|----------|
|   | 245 | 5 | 0.272 | Low | 0.027 | Low |
|   | 270 | 10 | 0.406 | Medium | 0.061 | Low |
|   | 286 | 15 | 0.506 | Medium | 0.097 | Low |
|   | 297 | 20 | 0.576 | Medium | 0.130 | Low |
|   | 307 | 25 | 0.639 | Medium | 0.166 | Low |
|   | 315 | 30 | 0.687 | High | 0.199 | Low |
|   | 322 | 35 | 0.727 | High | 0.230 | Low |
|   | 328 | 40 | 0.759 | High | 0.259 | Low |
|   | 334 | 45 | 0.789 | High | 0.289 | Low |
| K | 340 | 50 | 0.816 | High | 0.321 | Low |
|   | 345 | 55 | 0.838 | High | 0.348 | Medium |
|   | 351 | 60 | 0.860 | High | 0.381 | Medium |
|   | 356 | 65 | 0.878 | High | 0.409 | Medium |
|   | 362 | 70 | 0.896 | High | 0.442 | Medium |
|   | 368 | 75 | 0.913 | High | 0.476 | Medium |
|   | 375 | 80 | 0.929 | High | 0.514 | Medium |
|   | 383 | 85 | 0.944 | High | 0.557 | Medium |
|   | 393 | 90 | 0.959 | High | 0.609 | Medium |
|   | 410 | 95 | 0.977 | High | 0.688 | High |
|   | 451 | 99 | 0.995 | High | 0.832 | High |

**Table 16.** *First through Second Grade Proficiency Projection for Istation Reading at EOY*

| Grade | Overall Score | Percentile | On Watch Probability | On Watch | At Benchmark Probability | At Benchmark | Above Benchmark Probability | Above Benchmark |
|-------|---------------|------------|----------------------|----------|--------------------------|--------------|-----------------------------|-----------------|
| 1 | 292 | 5 | 0.260 | Low | 0.103 | Low | 0.036 | Low |
| | 317 | 10 | 0.400 | Medium | 0.211 | Low | 0.111 | Low |
| | 333 | 15 | 0.518 | Medium | 0.324 | Low | 0.206 | Low |
| | 346 | 20 | 0.624 | Medium | 0.441 | Medium | 0.316 | Low |
| | 356 | 25 | 0.704 | High | 0.538 | Medium | 0.416 | Medium |
| | 365 | 30 | 0.771 | High | 0.626 | Medium | 0.510 | Medium |
| | 374 | 35 | 0.829 | High | 0.707 | High | 0.602 | Medium |
| | 382 | 40 | 0.872 | High | 0.770 | High | 0.676 | High |
| | 389 | 45 | 0.902 | High | 0.817 | High | 0.734 | High |
| | 396 | 50 | 0.927 | High | 0.856 | High | 0.784 | High |
| | 404 | 55 | 0.948 | High | 0.893 | High | 0.832 | High |
| | 411 | 60 | 0.962 | High | 0.917 | High | 0.866 | High |
| | 419 | 65 | 0.973 | High | 0.939 | High | 0.897 | High |
| | 427 | 70 | 0.981 | High | 0.956 | High | 0.921 | High |
| | 435 | 75 | 0.987 | High | 0.968 | High | 0.940 | High |
| | 445 | 80 | 0.992 | High | 0.978 | High | 0.957 | High |
| | 456 | 85 | 0.995 | High | 0.986 | High | 0.970 | High |
| | 470 | 90 | 0.998 | High | 0.992 | High | 0.981 | High |
| | 491 | 95 | 0.999 | High | 0.997 | High | 0.991 | High |
| | 532 | 99 | 1.000 | High | 0.999 | High | 0.998 | High |
| | 335 | 5 | 0.191 | Low | 0.055 | Low | 0.011 | Low |
| | 367 | 10 | 0.358 | Medium | 0.146 | Low | 0.051 | Low |
| | 387 | 15 | 0.500 | Medium | 0.254 | Low | 0.121 | Low |
| | 401 | 20 | 0.609 | Medium | 0.357 | Medium | 0.201 | Low |
| | 413 | 25 | 0.701 | High | 0.460 | Medium | 0.293 | Low |
| | 423 | 30 | 0.771 | High | 0.551 | Medium | 0.382 | Medium |
| | 432 | 35 | 0.826 | High | 0.630 | Medium | 0.466 | Medium |
| | 440 | 40 | 0.867 | High | 0.695 | High | 0.540 | Medium |
| | 448 | 45 | 0.900 | High | 0.754 | High | 0.611 | Medium |

| 2 | 455 | 50 | 0.924 | High | 0.799 | High | 0.668 | High |
|---|-----|----|-------|------|-------|------|-------|------|
|   | 462 | 55 | 0.943 | High | 0.838 | High | 0.720 | High |
|   | 469 | 60 | 0.957 | High | 0.870 | High | 0.765 | High |
|   | 477 | 65 | 0.970 | High | 0.900 | High | 0.809 | High |
|   | 484 | 70 | 0.978 | High | 0.921 | High | 0.842 | High |
|   | 492 | 75 | 0.985 | High | 0.940 | High | 0.873 | High |
|   | 501 | 80 | 0.990 | High | 0.956 | High | 0.902 | High |
|   | 511 | 85 | 0.994 | High | 0.970 | High | 0.926 | High |
|   | 525 | 90 | 0.997 | High | 0.982 | High | 0.950 | High |
|   | 546 | 95 | 0.999 | High | 0.991 | High | 0.973 | High |
|   | 594 | 99 | 1.000 | High | 0.998 | High | 0.993 | High |

**Table 17.** *Third through Fifth Grade Proficiency Projection for Istation Reading at EOY*

| Grade | Overall Score | Percentile | On Grade Level Probability | On Grade Level | Proficient Probability | Proficient | Exemplary Probability | Exemplary |
|-------|---------------|------------|----------------------------|----------------|------------------------|------------|-----------------------|-----------|
| 3 | 371 | 5 | 0.044 | Low | 0.002 | Low | 0.000 | Low |
| | 402 | 10 | 0.095 | Low | 0.008 | Low | 0.000 | Low |
| | 422 | 15 | 0.150 | Low | 0.017 | Low | 0.001 | Low |
| | 436 | 20 | 0.203 | Low | 0.029 | Low | 0.002 | Low |
| | 448 | 25 | 0.258 | Low | 0.045 | Low | 0.003 | Low |
| | 458 | 30 | 0.311 | Low | 0.065 | Low | 0.005 | Low |
| | 467 | 35 | 0.364 | Medium | 0.087 | Low | 0.009 | Low |
| | 475 | 40 | 0.415 | Medium | 0.113 | Low | 0.013 | Low |
| | 483 | 45 | 0.469 | Medium | 0.144 | Low | 0.019 | Low |
| | 491 | 50 | 0.524 | Medium | 0.181 | Low | 0.028 | Low |
| | 499 | 55 | 0.580 | Medium | 0.224 | Low | 0.039 | Low |
| | 506 | 60 | 0.629 | Medium | 0.267 | Low | 0.053 | Low |
| | 514 | 65 | 0.684 | High | 0.322 | Low | 0.073 | Low |
| | 523 | 70 | 0.741 | High | 0.389 | Medium | 0.102 | Low |
| | 532 | 75 | 0.794 | High | 0.460 | Medium | 0.138 | Low |
| | 542 | 80 | 0.845 | High | 0.541 | Medium | 0.188 | Low |
| | 555 | 85 | 0.898 | High | 0.643 | Medium | 0.265 | Low |
| | 571 | 90 | 0.943 | High | 0.754 | High | 0.374 | Medium |
| | 596 | 95 | 0.980 | High | 0.878 | High | 0.549 | Medium |
| | 653 | 99 | 0.999 | High | 0.983 | High | 0.834 | High |
| | 419 | 5 | 0.029 | Low | 0.002 | Low | 0.000 | Low |
| | 448 | 10 | 0.074 | Low | 0.007 | Low | 0.000 | Low |
| | 465 | 15 | 0.122 | Low | 0.017 | Low | 0.001 | Low |
| | 479 | 20 | 0.180 | Low | 0.032 | Low | 0.002 | Low |
| | 490 | 25 | 0.237 | Low | 0.051 | Low | 0.003 | Low |
| | 500 | 30 | 0.299 | Low | 0.075 | Low | 0.006 | Low |
| | 509 | 35 | 0.362 | Medium | 0.105 | Low | 0.010 | Low |
| | 517 | 40 | 0.422 | Medium | 0.138 | Low | 0.015 | Low |
| | 525 | 45 | 0.486 | Medium | 0.179 | Low | 0.022 | Low |

| Grade | Score | % | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | 533 | 50 | 0.550 | Medium | 0.226 | Low | 0.032 | Low |
| | 541 | 55 | 0.614 | Medium | 0.280 | Low | 0.045 | Low |
| | 549 | 60 | 0.675 | High | 0.339 | Medium | 0.062 | Low |
| | 557 | 65 | 0.732 | High | 0.402 | Medium | 0.083 | Low |
| | 565 | 70 | 0.784 | High | 0.468 | Medium | 0.109 | Low |
| | 575 | 75 | 0.839 | High | 0.550 | Medium | 0.149 | Low |
| | 586 | 80 | 0.888 | High | 0.636 | Medium | 0.200 | Low |
| | 598 | 85 | 0.927 | High | 0.720 | High | 0.264 | Low |
| | 614 | 90 | 0.961 | High | 0.811 | High | 0.359 | Medium |
| | 638 | 95 | 0.987 | High | 0.905 | High | 0.505 | Medium |
| | 685 | 99 | 0.999 | High | 0.980 | High | 0.744 | High |
| 5 | 440 | 5 | 0.023 | Low | 0.002 | Low | 0.000 | Low |
| | 470 | 10 | 0.063 | Low | 0.010 | Low | 0.001 | Low |
| | 488 | 15 | 0.109 | Low | 0.022 | Low | 0.002 | Low |
| | 502 | 20 | 0.162 | Low | 0.040 | Low | 0.003 | Low |
| | 514 | 25 | 0.220 | Low | 0.063 | Low | 0.006 | Low |
| | 524 | 30 | 0.277 | Low | 0.089 | Low | 0.010 | Low |
| | 533 | 35 | 0.335 | Medium | 0.119 | Low | 0.015 | Low |
| | 542 | 40 | 0.397 | Medium | 0.156 | Low | 0.022 | Low |
| | 550 | 45 | 0.455 | Medium | 0.194 | Low | 0.029 | Low |
| | 559 | 50 | 0.522 | Medium | 0.244 | Low | 0.041 | Low |
| | 567 | 55 | 0.581 | Medium | 0.292 | Low | 0.054 | Low |
| | 575 | 60 | 0.638 | Medium | 0.344 | Medium | 0.069 | Low |
| | 584 | 65 | 0.698 | High | 0.405 | Medium | 0.090 | Low |
| | 593 | 70 | 0.753 | High | 0.468 | Medium | 0.115 | Low |
| | 603 | 75 | 0.806 | High | 0.536 | Medium | 0.146 | Low |
| | 614 | 80 | 0.855 | High | 0.609 | Medium | 0.184 | Low |
| | 627 | 85 | 0.900 | High | 0.686 | High | 0.235 | Low |
| | 643 | 90 | 0.939 | High | 0.768 | High | 0.302 | Low |
| | 669 | 95 | 0.975 | High | 0.865 | High | 0.418 | Medium |
| | 719 | 99 | 0.996 | High | 0.959 | High | 0.624 | Medium |

# EOY Istation Reading and FAST at Spring Benchmarking

Figure 2 represents the EOY Istation Reading percentiles associated with the probabilities of attaining the Early Literacy *Transitional Reader*, Star Reading *At Benchmark*, and FAST Reading *On Grade Level* performance level by grade.

Kindergarten students who attained an Istation Reading score around 270–307 (10th to 25th percentile ranks) had a medium probability of achieving the Early Literacy *Transitional Reader* level or higher. Students with scores higher than 315 had a high probability of reaching the *Transitional Reader* level or higher. Students who attained an Istation Reading score around 410 (95th percentile) had a high probability of reaching the Early Literacy *Probable Reader* level.

First grade students who attained an Istation Reading score around 346–365 (20th to 30th percentile ranks) had a medium probability of achieving the Star Reading *At Benchmark* level or higher. Students with a score higher than 374 had a high probability of reaching the *At Benchmark* level or higher. Students who attained an Istation Reading score around 382 (40th percentile) had a high probability of reaching the Star Reading *Above Benchmark* level.

Second grade students who attained an Istation Reading score around 401–432 (20th to 35th percentile ranks) had a medium probability of achieving the Star Reading *At Benchmark* level or higher. Students with a score higher than 440 had a high probability of reaching the *At Benchmark* level or higher. Students who attained an Istation Reading score around 455 (50th percentile) had a high probability of reaching the Star Reading *Above Benchmark* level.

Third grade students who attained an Istation Reading score around 467–506 (35th to 60th percentile ranks) had a medium probability of achieving the FAST *On Grade Level* or higher. Students with a score higher than 514 had a high probability of reaching the *On Grade Level* or higher. Students who attained an Istation Reading score around 653 (99th percentile) had a high probability of reaching the FAST *Exemplary* level.

Fourth grade students who attained an Istation Reading score around 509–541 (35th to 55th percentile ranks) had a medium probability of achieving the FAST *On Grade Level* or higher. Students with a score higher than 549 had a high probability of reaching the *On Grade Level* or higher. Students who attained an Istation Reading score around 685 (99th percentile) had a high probability of reaching the FAST *Exemplary* level.

Fifth grade students who attained an Istation Reading score around 533–575 (35th to 60th percentile ranks) had a medium probability of achieving the FAST *On Grade Level* or higher. Students with a score higher than 584 had a high probability of reaching the *On Grade Level* or higher. Students who attained an Istation Reading score around 719 (99th percentile) had a medium probability of reaching the FAST *Exemplary* level.

**Figure 2.** *EOY Istation Reading Percentiles and Star/FAST Reading Transitional Reader/At Benchmark/On Grade Level Probabilities by Grade*
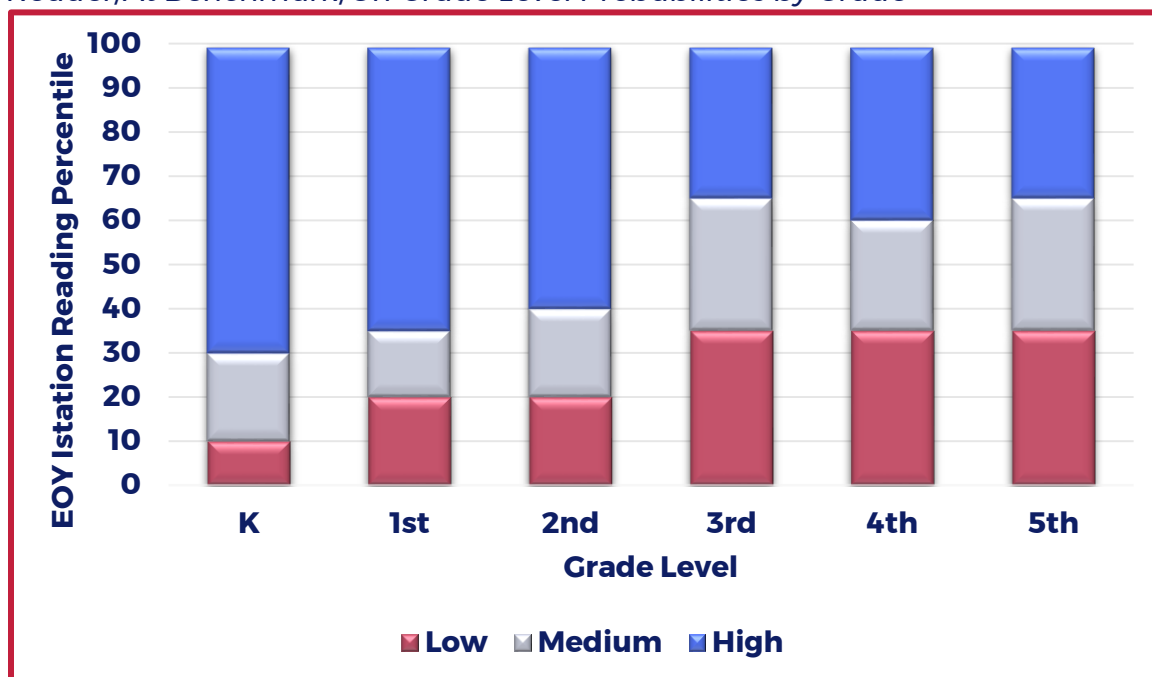
# Classification Accuracy: Istation Reading and FAST

Classification accuracy was conducted to predict whether students in the sample would achieve a particular performance level or higher on the Star and FAST assessments. A higher classification accuracy rate indicates stronger congruence between the Istation Reading and Star/FAST assessments. Classification accuracy was conducted for kindergarten through fifth grade Istation Reading at MOY, Istation Reading at EOY, and Star/FAST levels defined as:

- *Transitional Reader* level or higher on the Star Early Literacy assessment
- *At Benchmark* or higher on the Star Reading assessment
- *On Grade Level* or higher on the FAST Reading assessment

Classification accuracy analyses were performed to determine Istation Reading cut points that could help differentiate students who would or would not attain these levels or higher on the Star/FAST assessments. Table 18 shows the overall proportion of students in the FAST assessment levels by grade. Tables 7 and 8 show this for the Star assessments.

**Table 18.** *Percentage of Students in FAST Performance Levels by Grade*

| Grade | Well Below Grade Level | Below Grade Level | On Grade Level | Proficient | Exemplary |
|-------|------------------------|-------------------|----------------|------------|-----------|
| 3 | 20% | 25% | 24% | 18% | 13% |
| 4 | 24% | 24% | 21% | 21% | 11% |
| 5 | 20% | 26% | 19% | 23% | 12% |

Classification accuracy of Istation cut scores were performed at the 30th, 35th, 40th, 45th, 50th, 55th, 60th, 65th, 70th, 75th, and 80th percentiles. The AUC, sensitivity, specificity, positive predictive power, negative predictive power, and the overall rate were computed and compared to determine the best Istation Reading cut point to identify students who would most likely meet the associated performance levels on the Star/FAST assessment. Results in Table 19 show that the 30th to 35th percentile was the best cut score across grade levels on Istation Reading at MOY and EOY.

## MOY Classification Accuracy: Istation Reading and FAST

Classification accuracy analyses were conducted. At MOY, the AUC ranged from 0.71 to 0.81, indicating that the percentage of students correctly classified on the Istation Reading with respect to the Star/FAST Reading assessments was approximately 76% across grades. Sensitivity ranged from 0.70 to 0.89, indicating that approximately 80% of students who performed above the cut point on Istation Reading attained the *Transitional Reader/At Benchmark/On Grade Level* performance level or above on the Star/FAST assessments. Specificity ranged from 0.58 to 0.88, indicating that approximately 73% of students who performed below the cut point on Istation Reading did not attain the *Transitional Reader/At Benchmark/On Grade Level* performance level or above on the Star/FAST assessments. Istation Reading accurately predicted meeting reading proficiency on the Star and FAST assessments about 78% of the time at the MOY.

## EOY Classification Accuracy: Istation Reading and FAST

At EOY, the AUC ranged from 0.71 to 0.83, indicating that approximately 77% of students were correctly classified on the Istation Reading with respect to the Star and FAST Reading assessments across grades. Sensitivity ranged from 0.70 to 0.91, indicating that approximately 81% of students who performed above the cut point on Istation Reading attained the *Transitional Reader/At Benchmark/On Grade Level* performance level or above on the Star/FAST assessments. Specificity ranged from 0.57 to 0.87, indicating that approximately 72% of students who performed below the cut point on Istation Reading did not attain the *Transitional Reader/At Benchmark/On Grade Level* performance level or above on the Star/FAST assessments. Istation Reading accurately predicted meeting reading proficiency on the Star and FAST assessments about 78% of the time at EOY.

**Table 12.** *Classification Accuracy Indices by Benchmark and Grade*

| Grade | Cut Point | Benchmark | AUC | Sensitivity | Specificity |
|-------|-----------|-----------|-----|-------------|-------------|
| K | 30th | Winter | .71 | .83 | .58 |
|   | 30th | Spring | .71 | .86 | .57 |
| 1 | 30th | Winter | .78 | .89 | .67 |
|   | 30th | Spring | .71 | .91 | .70 |
| 2 | 35th | Winter | .81 | .88 | .75 |
|   | 35th | Spring | .83 | .90 | .76 |
| 3 | 30th | Winter | .77 | .70 | .84 |
|   | 30th | Spring | .77 | .70 | .85 |
| 4 | 30th | Winter | .79 | .70 | .88 |
|   | 30th | Spring | .79 | .70 | .87 |
| 5 | 35th | Winter | .79 | .72 | .86 |
|   | 35th | Spring | .79 | .72 | .86 |

# Conclusion

This research establishes a significant positive link between students' scores in Istation Reading and their FAST outcomes, particularly from kindergarten through fifth grade. Both MOY and EOY scores on Istation Reading are reliable indicators for predicting FAST Reading assessment performance. These correlations are particularly strong in the mentioned grades, with Pearson product-moment correlation coefficients ranging from 0.60 to 0.80.

Furthermore, the findings reveal a consistent trend: as students achieve higher scores in Istation Reading, their chances of reaching or surpassing the *Transitional Reader/At Benchmark/On Grade Level* performance level on the Star/FAST assessments increase. This pattern is evident across different grade levels, though the exact scores required vary. The classification accuracy analysis supports this, showing that nearly 80% of students' performance can be accurately predicted based on their Istation Reading scores.

These results highlight the utility of Istation Reading as a tool for monitoring student progress and predicting their performance in key assessments like Renaissance Star and FAST. For educators and school administrators, these insights are invaluable for

designing targeted interventions and enhancing learning outcomes. This study reinforces the role of Istation Reading assessments in educational settings, proving their effectiveness in guiding instructional strategies and fostering student achievement.

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