



WHITEPAPER

The Rigor of the *i-Ready Diagnostic*: A Credible Assessment You Can Trust



Our Purpose

Curriculum Associates' purpose is to ensure every decision and tool we make supports the educators and students we serve. Our driving goal is to provide educators with opportunities to make data-driven decisions for their students and to optimize each student's educational growth. Curriculum Associates developed the *i-Ready Diagnostic* assessment to provide the best-possible data-driven recommendations for educators for students.



Assessment in Service of Instruction

The *i-Ready Diagnostic* is first and foremost an assessment in service of instruction. More specifically, the assessment was designed to be used primarily as an interim or benchmark assessment.

Perie et al. (2009) from the Center for Assessment coined the term "interim assessment":

"Interim assessments are driven by their purpose, which fall into the categories of instructional, evaluative, or predictive . . . The primary goal of an interim assessment designed to serve instructional purposes is to adapt instruction and curriculum to better meet student needs . . . the results of these assessments are used to adjust instruction with the intent of helping the students assessed meet the learning goals."

The primary objective is to provide teachers with precise information on what students know and can do and timely, actionable instructional information based on where each student is on the learning trajectory.

The *i-Ready Diagnostic* assessment is built to support this crucial goal: assessment in service of instruction. Our evidence of credibility is developed according to a framework that illustrates the technical integrity of the Diagnostic.

The *i-Ready Diagnostic* provides:

- Actionable score reports/dashboards that help drive instructional decision making
- Efficient, easy-to-access, understandable professional learning around assessment
- Opportunities to create environments focused on continuous improvement and growth (e.g., data chats)
- Data-driven information on student growth and proficiency targets

Robust Assessment Design, Powerful Psychometrics, and Extensive External Validation: The Pillars of the Diagnostic's Credibility

The *i-Ready Diagnostic* is built upon three pillars of credibility that provide evidence of the integrity of our assessment system.

The three pillars that support the credibility and integrity of the *i-Ready Diagnostic* are:

- Robust Assessment Design
- Powerful Psychometrics
- Extensive External Validation

These components of the Diagnostic create a full picture of an assessment that is credible, technically rigorous, actionable, and data driven.

i-Ready Diagnostic



Robust Assessment Design

The assessment design of the *i-Ready Diagnostic* is planned around a systematic approach that ensures the validity of the test scores as well as the uses and interpretations of those test scores. To effectively build an assessment for targeted instructional use, the *i-Ready Diagnostic* is designed to carefully consider the purposes of the test, the claims that will be made from student performance, and the evidence to support the validity of score interpretations and uses.

The design of an assessment includes many aspects of development: the articulation of assessment purposes and uses, item and test development, and scoring and reporting.

Adherence to Industry Standards

Well-constructed assessments that are valid for their intended purposes have the potential to provide substantial benefits to students and their educators. Fortunately, in the field of assessment development, there are standards for best practices that provide criteria for the development and evaluation of assessments and provide guidelines for assessing the validity of interpretations of test scores for the intended test uses.

In the design of the *i-Ready Diagnostic*, Curriculum Associates placed high value on industry standards for assessment development. Those standards include:

- [The Standards for Educational and Psychological Testing](#): The Standards for Educational and Psychological Testing (American Educational Research Association et al., 2014) provide criteria and guidelines for all test development and validation activities.
- [Web Content Accessibility Guidelines](#): With internationally recognized standards, WCAG provide testable success criteria to make digital resources more accessible to people with disabilities.

Alignment to Essential Content

The *i-Ready Diagnostic* has been carefully aligned to the rigorous reading and mathematics content measured commonly by state assessments across the nation. Alignment is of utmost importance, because without evidence of alignment to the most critical work of the grade, it would be nearly impossible to interpret assessment scores in relation to the standards evaluated by the assessments.

Our goal at Curriculum Associates is to evaluate the alignment and cohesion of *i-Ready Diagnostic* content in light of the current mathematics and reading expectations used throughout the nation. Grounded in best practices in alignment and assessment, the *i-Ready Diagnostic* provides robust information and data by assessing the content that matters most in each grade.

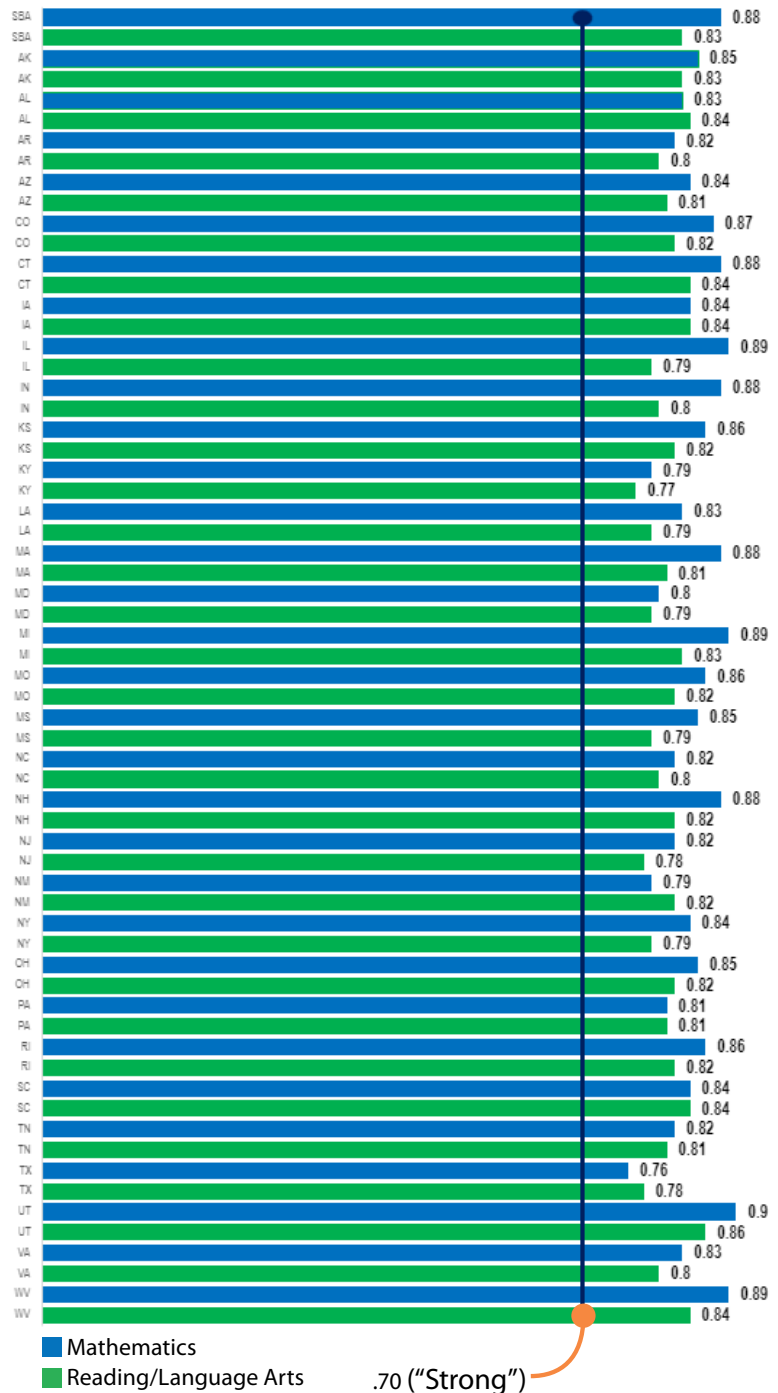
It is true that not all content in each grade is emphasized equally in any set of standards. Some content requires greater emphasis based on the depth of the ideas, the instructional time required, and/or its importance to future college, career, and workforce readiness. However, the Diagnostic is designed to measure the major work of the grade, assessing the content that is most essential. At times, standards may shift, but core content generally remains consistent. This is the content that is essential to student learning in each grade and subject, and the *i-Ready Diagnostic* is carefully aligned to it. This alignment is evidenced by strong correlations between state standards and performance on the *i-Ready Diagnostic* in both mathematics and in reading.

Thoughtful and Strategic Development Process

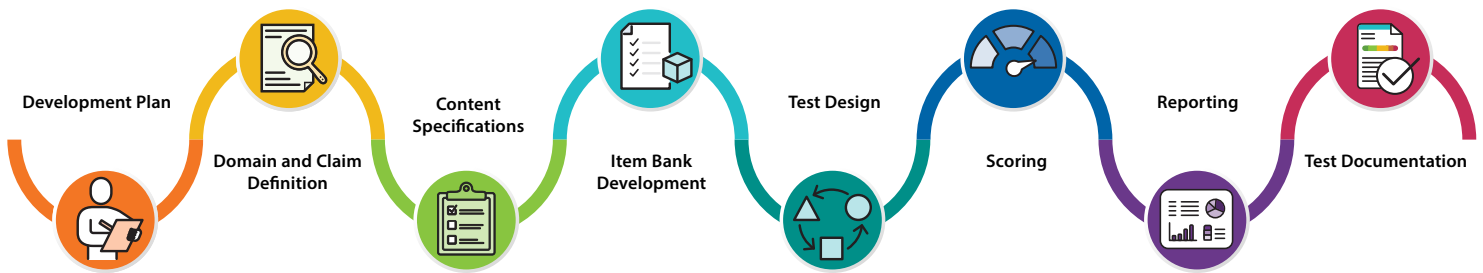
The quality of an assessment's design is often a key factor in the quality of its results and, ultimately, whether those results are able to help inform decisions in the classroom. In order to develop assessments that meet the needs of users and produce intended results, a theory of action is created to articulate how the assessment is designed to work and produce the intended results. The purpose of our validation process is to systematically collect evidence guided by a theory of action developed for the *i-Ready Diagnostic* as a component of a larger theory of action about how these assessments are intended to be used within a system.

The *i-Ready* development process is meticulous, strategic, and intended to produce items and reports that are instructionally valuable and actionable. A test score is only useful to the extent that it provides valid information about the degree to which a student understands the content standards targeted for assessment. While ensuring alignment between test blueprints, test items, and the content standards is necessary, it is not sufficient. It is also necessary to show that test items were designed, developed, and evaluated using high-quality, technically sound procedures.

Correlations between *i-Ready Diagnostic* and Consortium and State Summative Assessments



The following table outlines key steps used in the creation of the *i-Ready Diagnostic* assessment.



<i>i-Ready Diagnostic</i> Process Step	Description
Development Plan	Develop an overall plan that provides a systematic framework for all activities associated with development and design of the assessment. In this phase, validity evidence is identified that will support the score interpretations and uses of the assessments.
Domain and Claim Definition	Identify the domains, constructs, and content that will be assessed, and determine the knowledge and skills that are important evidence of those domains.
Content Specifications	Specifications are developed that document the content, format, length, administration, scoring, and reporting of the assessment.
Item Bank Development	Items are developed according to specifications to be accessible, fair, and reliable measurements of skills and knowledge.
Test Design	Design and create a well-rounded and robust item bank that can support quality measurement of the content outlined in test specifications.
Scoring	Establish accurate, valid, and consistent procedures for scoring and reporting.
Reporting	Develop understandable, accurate, and user-friendly reports that inform instruction and next steps for students.
Test Documentation	Create technical reports and other documentation that support the validity, fairness, and technical appropriateness of the assessment.

Actionable Score Reports

Assessment score reports are arguably one of the most important outcomes of a test. *i-Ready* scores and the reports that explain and articulate them are the basis for inferences, instructional decisions, and next steps for students. The *i-Ready Diagnostic* reports are designed to provide information to multiple test users, including educators, administrators, students, and families. *i-Ready* score reports provide much more than numbers on a scale. The reports show proficiency in content, relative performance, expected and aspirational growth targets, and next steps for students and educators. The combination of these reports creates a fuller picture that helps illuminate instructional needs. Specifically, *i-Ready* reports contain information about:

- What students can do and what they should work on next
- Instructional Groupings profiles that can be used to automatically assign students into small groups for instruction
- Standards and the related skills students have likely mastered
- Lesson plans for one-on-one or small group instruction on skills measured by the assessment
- Student growth as compared with growth targets
- Class performance with reference to a nationally representative sample

A Complete Picture of What a Student Can Do and Where They Need the Most Support

Placement by Domain

Results in Phonics indicate that Danielle has difficulty decoding words accurately. Vocabulary is another cause for concern. This score indicates that Danielle has areas of need in grade-level word knowledge. Targeting Phonics and Vocabulary instruction is the best way to support this student's growth as a reader. Taken together, this information places Danielle in Instructional Grouping 1.

Phonological Awareness	Phonics	High-Frequency Words	Vocabulary	Comprehension: Literature	Comprehension: Informational Text
Not Assessed	Grade 3 514	Surpassed Level	Grade 4 561	Grade 4 547	Grade 3 519

Developmental Analysis

This domain addresses Danielle's understanding of informational text. Results indicate that Danielle needs instruction in Grade 3 informational skills and strategies, such as identifying and evaluating an author's point of view or purpose, as well as analyzing cause-and-effect relationships. Teach a variety of informational genres, including biographies, autobiographies, and newspaper or magazine articles.

Can Dos

- Danielle is developing proficiency with below-grade level informational texts in skills such as:
- Demonstrating understanding of key ideas and details
 - Using text features to locate information
 - Identifying reasons that support an author's point
 - Retelling the most important ideas
 - Comparing and contrasting information between two texts

Standards

Next Steps & Resources for Instruction

Extend understanding of cause and effect.

Extend understanding of cause and effect.

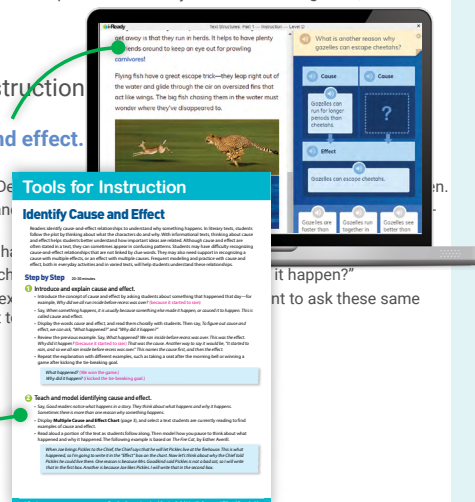
- Define effect as something that happens. Do not use the word "effect" to describe a cause.
- Read aloud a Grade 3 informational book and discuss cause and effect relationships.
- Say, "When I read, I think about things that happen and why they happen."
- Model asking and answering questions such as "What happened?" and "Why did it happen?"
- Then have Danielle read an informational text and ask her to look for details in the text to support her understanding of cause and effect.

Tools for Instruction

Identify Cause and Effect

Additional Resources

Magnetic Reading



Input from Educators and Content and Pedagogy Experts

Test items of a superb quality are necessary for an assessment to have reliability and draw valid conclusions from the resulting scores. *i-Ready* makes certain to involve both educators and experts in test content and pedagogy. In order to have an assessment that measures skills and knowledge in a meaningful, relevant, and significant way, it is important to involve stakeholders and experts who are familiar with both the test content and the testing population.

The development and design of *i-Ready Diagnostic* assessments included these experts during the articulation of the test purpose, content specifications, item development, and determination of cut scores on the score scale. This brings a level of credibility and integrity to an assessment that evaluates student proficiency in essential and important skills and content during the school year.

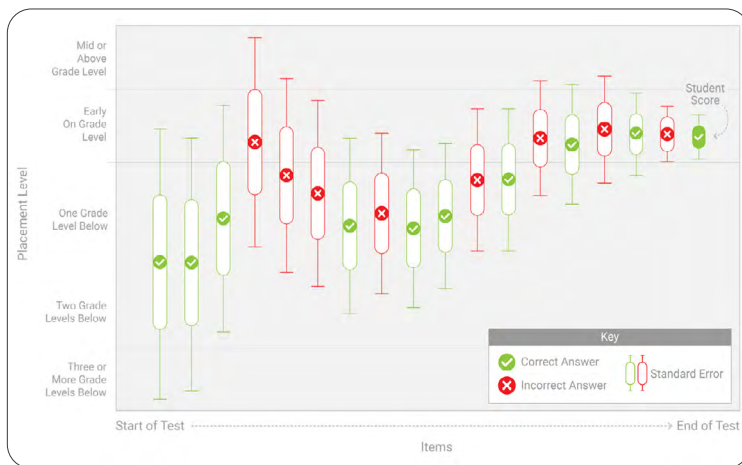


Powerful Psychometrics

The technical integrity of an assessment is essential to overall credibility. The inferences that are made from test scores have impact in the classroom, and it is important for users to have evidence that the claims they make using the results are accurate, valid, and reliable. The powerful psychometrics in *i-Ready* are leveraged in several ways: a computer-adaptive test (CAT) engine servicing a quality item bank, a growth model that makes use of a vertical scale, multiple score interpretations supported by technical evidence, and robust research to evidence the validity of the assessments.

Adaptive Test Engine with Quality Item Bank

The *i-Ready Diagnostic* is a CAT designed with flexibility in mind. This flexibility, built into the adaptive algorithm, means students see the questions that are most appropriately matched to their proficiency level in order to accurately pinpoint their instructional needs. By adapting to student responses and assessing a broad range of skills, the *i-Ready Diagnostic* can pinpoint student proficiency levels, identify the specific skills students need to learn to accelerate their growth, and chart a personalized learning path for each student.



i-Ready's sophisticated, computer-adaptive algorithms ensure learners are assessed efficiently across a number of content domains. As students answer questions correctly or incorrectly, the Diagnostic responds, adjusting the difficulty of future questions to match the student's current performance level. This means students see an assessment that is most appropriate for their individual performance.

By using high-quality, engaging items, the scores from *i-Ready Diagnostic* assessments efficiently make meaningful inferences about what a student needs to continue growing. We can then connect the teacher and student to this appropriate instruction. The adaptive algorithm allows us to deliver on the primary purpose of the assessment: to improve student learning outcomes by precisely identifying instructional needs. The psychometrics are sound, and the delivery is intentional.

Growth Model with Vertical Scale

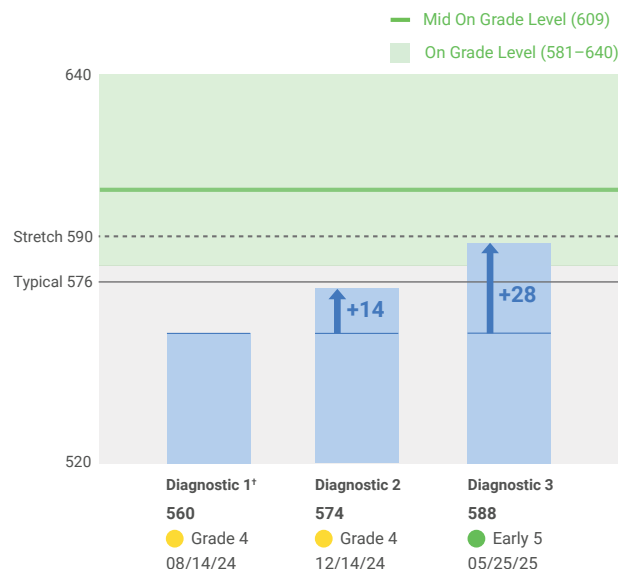
i-Ready's growth model helps educators understand and respond to student growth. The *i-Ready* approach to measuring student growth is based on research and is substantiated by what teachers have long observed in the classroom: Students at different starting points often grow at different rates, and students who are behind need to grow more to reach proficiency.

Typical Growth and Stretch Growth® measures are provided as recommended targets for each student immediately upon completion of their baseline Diagnostic, giving educators a picture of the growth needed to move students forward and to plan programs, resources, and instruction accordingly.

The vertical scale is an important technical feature of *i-Ready Diagnostic* assessments. The Diagnostic uses a vertical scale that allows for comparing growth within and across years. There is one scale that spans all the grade levels covered on the assessment, and this allows educators to understand how their students grow each year across grades and the progression of content.

The growth model in combination with the vertical scale promotes high standards for all students by providing every student with a path toward proficiency.

Overall Diagnostic Growth

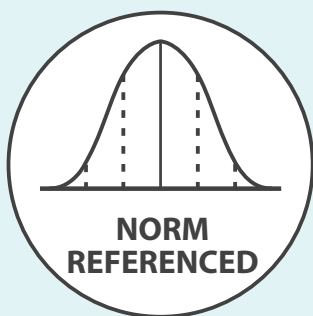


*This Diagnostic is considered the baseline and is used to establish Growth Measures for this student.

Multiple Supported Score Interpretations

i-Ready Diagnostic scores allow for both criterion and normative score interpretations. Criterion- and norm-referenced scores provide important—but different—information to educators. Criterion-referenced scores describe a student's performance based on proficiency in a specific set of skills and concepts. These scores measure what the student knows and doesn't know at the time of assessment. Norm-referenced scores describe a student's performance in comparison to the performance of grade-level peers.

Growth and Attainment of Learning, Relative to Others



Growth and Attainment of Learning, Relative to Grade-Level Standards



The psychometric traits of the *i-Ready Diagnostic* permit multiple interpretations from one score. With one score, educators can understand where students are in relation to grade-level standards and in relation to their peers learning similar material. These interpretations allow for more targeted instruction and help schools understand where resources can be directed to maximize learning.

Robust Research

In order for test users to have confidence in the technical integrity and credibility of an assessment, the assessment developers have a responsibility to conduct ongoing research to support and provide evidence of the technical robustness of the test. Curriculum Associates has made a commitment to developing a body of evidence that supports the uses and interpretations of *i-Ready Diagnostic* assessments. Some of that research includes:

- **Correlation Studies between the *i-Ready Diagnostic* and State Tests:** These studies determine the strength of the relationship between the *i-Ready Diagnostic* for Mathematics and for Reading and state summative assessments.
- **Alignment Studies:** These studies align important state content with the content on the *i-Ready Diagnostic*. By aligning our content, states are able to see the strong relationship between assessments.
- **Research to Support Projection Models for Proficiency:** This research validates the cut scores and crosswalks used to make projections from *i-Ready* scores to proficiency on state assessments.
- Many other studies understand and validate the uses of the *i-Ready Diagnostic*, such as algebra readiness, intervention, and growth monitoring.



Research Spotlight

i-Ready Stretch Growth as a Path toward Proficiency

[This research](#) report provides validity evidence for *i-Ready's* Stretch Growth target as a growth goal that is ambitious, is attainable, and puts Grades K–8 students on a path toward proficiency.

Extensive External Validation

Curriculum Associates has been reviewed and validated by several external experts on assessment. These reviews confirm the rigor, integrity, and credibility of their assessments.

Expert Reviews

The *i-Ready Diagnostic* has been reviewed by external entities that have validated several important aspects of the assessment. In fact, the *i-Ready Diagnostic* was reviewed in the *Twentieth Mental Measurements Yearbook* (MMY) published by the Buros Center for Testing, an independent, nonprofit organization with a mission to improve the science and practice of testing and assessment. According to the MMY review:



























































































“The i-Ready K-12 Diagnostic and K-8 [Personalized] Instruction is well designed and executed. The heart of the program—the pool of test items—is superb.”

Additionally, *i-Ready* received high ratings in reading and mathematics from the National Center on Intensive Intervention (NCII) in all three categories NCII reviews: Academic Screening, Academic Progress Monitoring, and Academic Intervention. NCII is a nationally recognized technical assistance center that is managed by the American Institutes for Research that reviews available educational tools on the market. *i-Ready's* high ratings on Screening, Progress Monitoring, and Intervention signify that *i-Ready* can be used to identify students who may be at risk of poor academic outcomes, monitor students' academic progress, and serve as an academic intervention program that addresses students' specific needs.

i-Ready received “full bubbles” (i.e., convincing evidence) in nearly all of NCII's categories for most grades and subjects across all three of our submissions (i.e., Academic Screening, Academic Progress Monitoring, and Academic Intervention). Together, these NCII ratings support the use of *i-Ready's* system of assessment and instruction as a solution for serving all students with high-quality screening, progress monitoring, and instruction, including students who may be at academic risk and in need of intensive intervention. This is evidence of the technical rigor of the assessments and the uses of the resulting data.

Academic Screening Tools Chart

An Overview of *i-Ready Diagnostic*'s Results

Grade	Classification Accuracy			Reliability	Validity	Sample Representativeness	Bias Analysis Conducted
	Fall	Winter	Spring				
i-Ready Diagnostic for Reading							
K						National with Cross-Validation	Yes
1							
2							
3							
4							
5							
6							
7							
8							
i-Ready Diagnostic for Mathematics							
K						National with Cross-Validation	Yes
1							
2							
3							
4							
5							
6							
7							
8							

i-Ready received full bubbles in nearly all categories evaluated by NCII.

Academic Progress Monitoring Tools Chart

An Overview of *i-Ready Diagnostic* and Growth Monitoring's Results

Grade	Reliability	Validity	Bias Analysis Conducted	Sensitivity		Alternate Forms	Decision Rules	
				Reliability of the Slope	Validity of the Slope		Setting and Revising Goals	Changing Instruction
i-Ready Diagnostic and Growth Monitoring for Reading								
K	●	●	Yes	—	—	●	—	—
1	●	●		—	—	●	—	—
2	●	●		—	—	●	—	—
3	●	●		—	—	●	—	—
4	●	●		—	—	●	—	—
5	●	●		—	—	●	—	—
6	●	●		—	—	●	—	—
7	●	●		—	—	●	—	—
8	●	●		—	—	●	—	—
i-Ready Diagnostic and Growth Monitoring for Mathematics								
3	●	●	Yes	—	—	●	—	—
4	●	●		—	—	●	—	—
5	●	●		—	—	●	—	—
6	●	●		—	—	●	—	—
7	●	●		—	—	●	—	—
8	●	●		—	—	●	—	—

These types of independent reviews confirm the prowess and credibility of *i-Ready Diagnostic* assessments.

State Approvals

The *i-Ready Diagnostic* has been approved or recommended for use in states throughout the nation. The assessment is used by students and educators to address a range of needs—more than 13 million students across the US use Curriculum Associates products. Currently, we work with more than 900,000 educators across the nation.

i-Ready is also supported by and heavily used in many of the nation's largest urban districts to support student learning and growth. The Council of the Great City Schools brings together 78 of the nation's largest urban public school systems in a coalition dedicated to the improvement of education for children in inner cities. The Council and its member school districts work to help students meet the highest standards and become successful and productive members of society.

Testimonials and Awards

Finally, many users of *i-Ready*, including schools, districts, and states, have concluded that *i-Ready* is a superb interim assessment that allows them to identify student needs, connects them to appropriate and timely resources, and ultimately enhances instruction. This feedback is the heart of what *i-Ready* aims to do: provide educators with opportunities to make data-driven decisions for their students and to optimize each student's educational growth.

Curriculum Associates has been nationally recognized for our commitment to excellence. The following selection of industry and business awards honor our world-class learning programs, focus on service, and founding values to operate as a conscious, mission-driven company.

Program Awards: *i-Ready*

i-Ready: Winner, Primary Education (2023)

Tech & Learning Awards

i-Ready: Finalist, Best Personalized Learning Solution, (2023)

CODiE Awards

i-Ready: Winner, Classroom Assessment Category (2023)

SmartBrief EdTech Awards

i-Ready: Platinum Winner, Formative Assessment Category (2022)

THE Journal's New Product Awards

i-Ready: Winner, Best Differentiation and Personalized Learning Solution (2022)

American Consortium for Equity in Education

i-Ready: Winner, Cool Tool: Testing & Assessment (2022)

EdTech Digest Awards

i-Ready: Finalist, Best Assessment App or Tool (2021)

Tech Edvocate Awards

i-Ready: Finalist, Games for Learning (2021)

EdTech Digest Awards

i-Ready: Gold Winner, Best Formative Assessment (2021)

THE Journal's New Product Awards

i-Ready: Finalist, Best Formative Assessment Solution (2021, 2020)

CODiE Awards

i-Ready: Winner, Best Remote & Blended Learning Tools (2021)

Tech & Learning Awards

i-Ready: Platinum, Adaptive/Personalized Learning Tool (2020)

THE Journal's New Product Awards

i-Ready: Winner, Award of Excellence (2023, 2022, 2021, 2020, 2019, 2017, 2015, 2013)

Tech & Learning Awards

i-Ready: Winner, Best Student Personalization Solution (2020)

EdTech Breakthrough Awards

Cloud Machine (*i-Ready* Learning Game): Winner, Academics' Choice Award (2020)

Academics' Choice Awards

Cloud Machine (*i-Ready* Learning Game): Bronze Winner, Serious Play Award (2020)

International Serious Play Awards

i-Ready: Research-Based Design Product Certification (2020)

Digital Promise Awards

i-Ready: Finalist, Cool Tool: Adaptive Technology Solution (2020, 2019, 2016)

EdTech Digest Awards

i-Ready: Finalist, Personalized Learning Solution (2021)

EdTech Digest Awards

i-Ready: Best of Show, ISTE Conference (2020, 2019)

Tech & Learning Awards

i-Ready: Winner, Best Use of Product in a School Setting (2019)

Tech & Learning Awards

i-Ready: Best of Show, TCEA Conference (2019)

Tech & Learning Awards

i-Ready: Finalist, Best Assessment App or Tool (2019)

The Tech Edvocate Awards

i-Ready: Finalist, Best Mathematics Instructional Solution (2018)

CODiE Awards

i-Ready: Finalist, Best Personalized/Adaptive Learning App or Tool (2020, 2018)

Conclusion

By any measure, the *i-Ready Diagnostic* is a credible assessment that produces valid and reliable score interpretations for students. Curriculum Associates is committed to providing an assessment that is of the highest quality and value to educators.

References

- American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (2014). *The standards for educational and psychological testing*. American Psychological Association.
- Perie, M., Marion, S., & Gong, B. (2009). Moving toward a comprehensive assessment system: A framework for considering interim assessments. *Educational Measurement: Issues and Practice*, 28(3), 5–13.

“In a district with 35,000 students and 2,000+ teachers, the implementation of *i-Ready* has proven to be the one consistent instructional resource in our classrooms.

Teachers interact with the reports and lessons to enhance core instruction, while students are eager to change up their learning structure. With that, we are witnessing a steady increase in our students’ academic levels, and we couldn’t be more excited!”

**—Angela Pilcher, Math Curriculum Specialist,
Stockton Unified School District**





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i-Ready experience, follow us on social media!**



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