



**STUDENT ASSESSMENTS
AND ASSOCIATED GROWTH MODELS FOR
TEACHER AND PRINCIPAL EVALUATION**

FORM C

PUBLICLY AVAILABLE SERVICES SUMMARY

This form will be posted on the New York State Education Department’s Web site and distributed through other means for all applications that are approved in conjunction with this RFQ to allow districts and BOCES to understand proposed offerings in advance of directly contacting Assessment Providers regarding potential further procurements.

Assessment Provider Information	
Name of Assessment Provider:	Curriculum Associates, LLC
Assessment Provider Contact Information:	Don Masters, Regional Vice President of Sales 315-350-4988 dmasters@cainc.com
Name of Assessment:	<i>i-Ready</i> ® Diagnostic for Mathematics <i>i-Ready</i> ® Diagnostic for Reading
Nature of Assessment:	<input checked="" type="checkbox"/> ASSESSMENT FOR USE WITH STUDENT LEARNING OBJECTIVES WITH A TARGET SETTING MODEL; OR <input type="checkbox"/> SUPPLEMENTAL ASSESSMENT WITH AN ASSOCIATED GROWTH MODEL: <input type="checkbox"/> GAIN SCORE MODEL <input type="checkbox"/> GROWTH-TO-PROFICIENCY MODEL <input type="checkbox"/> STUDENT GROWTH PERCENTILES <input type="checkbox"/> PROJECTION MODELS <input type="checkbox"/> VALUE-ADDED MODELS <input type="checkbox"/> OTHER:
What are the grade(s) for which the assessment can be used to generate a 0-20 APPR score?	K-12
What are the subject area(s) for which the assessment can be used to generate a 0-20 APPR score?	ELA and mathematics
What are the technology requirements associated with the assessment?	<i>i-Ready</i> runs on most standard PC- and Mac-based systems, using common browsers and standard configurations. System requirements can be found at: www.i-Ready.com/support
Is the assessment available, either for free or through purchase, to other districts or BOCES in New York State?	<input checked="" type="checkbox"/> YES <input type="checkbox"/> No

Please provide an overview of the assessment for districts and BOCES. Please include:

- A description of the assessment;
- A description of how the assessment is administered;
- A description of how scores are reported (include links to sample reports as appropriate);
- A description of how the Assessment Provider supports implementation of the assessment, including any technical assistance. (3 pages max)

Previously approved by the NYSED for use as a measure of teacher and principal effectiveness for grades K–12 under Education Law §3012-c, *i-Ready Diagnostic* for reading and math is an effective, research-based, web-based diagnostic assessment for students in grades K–12.

Using a computer with internet access and a headset, students take the online diagnostic that assesses down to the sub-skill level in reading and math. *i-Ready's* sophisticated computer-adaptive algorithms ensure learners are assessed efficiently across a number of knowledge domains. The questioning format adapts as students respond to each question—getting more or less challenging as needed—to complete the diagnosis and identify each child's performance level. The adaptive nature of the assessments meets students at their own skill level, so they experience success as well as challenge while *i-Ready* accurately measures their mastery of New York State Learning Standards.

i-Ready includes a powerful management and reporting suite for delivery of essential performance information at the district, school, class, and student levels. Actionable, real-time reports guide educators in identifying the instructional needs and abilities of individual students and instructional groups, and include explicit next steps for remediating areas of academic weakness. For a narrated program tour, go to www.i-ready.com/tour. For sample reports, go to www.curriculumassociates.com/products/iready/i-ready-reports.aspx.

i-Ready Diagnostic is aligned to the New York Learning Standards for reading and math. In an independent study conducted by the Educational Research Institute of America, *i-Ready* was found to have strong correlations to the 2013 and 2014 New York State Assessments. In 2013, correlations ranged from .77-.85 across grades and subjects. In 2014, the correlation for ELA across grades 3-8 was .82 and in mathematics across grades 3-8 was .81. In addition, *i-Ready* successfully predicted proficiency on the assessment for 85 percent of students. Plus, *i-Ready* accurately identified individual student needs on the standards to drive targeted instruction—both student and teacher-led.

Scoring and Reporting. The primary function and purpose of *i-Ready Diagnostic* is to make appropriate instructional recommendations and placement decisions for students performing at different levels within the K–12 grade span. A grade-level-ready student has demonstrated sufficient skills at the beginning of the school year that he or she is considered ready for curriculum at the chronological grade. To determine scale score thresholds for the performance standard for each grade level, a separate performance standard-setting meeting was held for each subject.

One of the greatest advantages of using the *i-Ready* system over traditional paper-based assessments is the fact that test results are instantly available to administrators once students have completed the test. *i-Ready* provides numerous reporting views that make the viewing, sorting, and analysis of data straightforward and fast—and reports are focused on accuracy and ease of access to a range of meaningful data. Access is secure via unique user logins and an intuitive interface, interpretation of results is streamlined for educators of all backgrounds and experience levels, and there is an emphasis on the data that is most likely to inform effective instructional decision making.

The program is web-based, so all reporting is instantaneous and available at anytime, anywhere the authorized user has Internet access. Users receive unique logins that enable a customized view of the data. For instance, each teacher has access only to his or her class(es), while a superintendent has access to all schools, classes, and individual students in his or her district. Data are also available for individual domains and by teacher, so overall gains over time may be tracked. All reports may be printed or downloaded in PDF; many data may also be exported as CSV files.

Overall Instructional Strategies. The diagnostic information is readily aggregated, manipulated, downloaded, and printed to inform strategies and effective planning at the class, grade, school, custom reporting group, district, or domain-specific level.

Recommendations. Results from the diagnostic group students with similar skills and deficits, helping teachers more effectively target small- and large-group instruction or intervention.

New York HEDI Report. This district-level report (see sample in Appendix A) shows teacher performance in summary and detail form, based on the four levels of teaching effectiveness using district-wide targets—Highly Effective, Effective, Developing, and Ineffective.

Instructional Modules. Math and ELA instructional modules within *i-Ready Instruction* are available as an optional add-on to *i-Ready Diagnostic*. The instructional component adapts to the student’s performance level to deliver differentiated instruction. Student Response to Instruction Reports are then immediately available to the teacher to inform instruction.

Implementation Plan Overview. Curriculum Associates employs a straight-forward account set-up process to get school districts and BOCES up and running quickly with *i-Ready*. We support LEA and school staffs in assessment administration and analysis of results:

1. We assign a primary point of contact (Account Manager) to the LEA.
2. The LEA works with the Account Manager to set up the site accounts prior to training and professional development.
3. We hold a deployment meeting to determine the LEA’s specific needs and set the training schedule.
4. We offer professional development via customized onsite sessions, on topics such as understanding and administering *i-Ready* assessments, accessing and analyzing student results, and using *i-Ready* data to make informed instructional decisions.
5. We offer administrator training on topics that include implementing *i-Ready* and effectively using the assessment as a measure of student growth for purposes of teacher and principal evaluation.

Our in-house Technical Support and Customer Services teams are available throughout the implementation to assist users with any ongoing needs. *i-Ready* users may call, email, or chat with Curriculum Associates’ support team: **800-225-0248**, www.i-Ready.com, or i-Readysupport@cainc.com. Phone support is available Monday through Thursday from 8:30 AM through 7:00 PM Eastern and Friday from 8:30 AM through 5:00 PM (excluding holidays). After-hours support is available via email.

Please provide an overview of the student-level growth model or target setting model for SLOs for districts and BOCES, along with how student-level growth scores are aggregated to the create teacher-level scores, and how those teacher-level scores are converted to New York State’s 0-20 metric.

For the 2015–2016 school year, Curriculum Associates is proposing a Growth to Proficiency Model of target setting for SLOs. There are two criteria for students to reach in the Growth to Proficiency Model being proposed. If the students meet either criterion, then they are considered to have met the growth requirement. The first criterion is whether a student has a gain score that is within one-half of the mean standard error of gain of the growth target. The default targets for growth are the same as those annual targets noted for the supplemental model for growth.

To get the adjusted targets, just subtract eight scale points, which is one-half the mean standard error of growth from the annual target, to get the following:

Reading/ELA		
Grade	Annual Target	Adjusted Target
Grade K	46	38
Grade 1	46	38
Grade 2	39	31
Grade 3	30	22
Grade 4	19	11
Grade 5	19	11
Grade 6	15	7
Grade 7	15	7
Grade 8	15	7
Grade 9	12	4
Grade 10	12	4
Grade 11	12	4
Grade 12	12	4

Math		
Grade	Annual Target	Adjusted Target
Grade K	32	24
Grade 1	32	24
Grade 2	30	22
Grade 3	28	20
Grade 4	22	14
Grade 5	22	14
Grade 6	13	5
Grade 7	13	5
Grade 8	13	5
Grade 9	13	5
Grade 10	13	5
Grade 11	13	5
Grade 12	13	5

The annual targets shown above may be used, or they may be adjusted based on how students perform on their first assessment using the following multipliers:

Multipliers for Prior Academic History, Mathematics and ELA					
Subject	Grade Band	2/2+ Below	1 Below	Early	Mid
Math	K-5	110%	100%	90%	70%
	6-12	120%	80%	80%	80%
ELA	K-5	130%	100%	80%	70%
	6-12	130%	80%	80%	80%

Curriculum Associates conducted a linking study with the New York State summative assessment at the end of the 2013-2014 school year. The standard setting committee picked ranges of values for the mid-level cut that were very similar to the optimal cut to determine whether students were more likely or less likely to score at Levels 3 or 4 on the New York assessment. These optimal points are where the mid-level cut scores are set. Therefore, students who score at this level are likely considered to be proficient, and can be considered as having met the criteria of growing to proficiency. For students who do not meet this cut score, the recommendation is to use a simple gain score – the difference between the student’s last test score and first test score.

Target setting should also consider the amount of instructional time between the first and last diagnostic. Specifically, the above targets are based on 30 weeks between the first and last assessment. However, if significantly less time is expected between the first and last assessment, a lower target might be set to take into account proration of the target over the anticipated number of weeks (i.e., a target might be 80 percent of the 1.0 year target if only 24 weeks are planned between the first and last test).

Only one target can be set by subject and grade in an *i-Ready* account; however, for the purposes of SLO target setting for individual students, a teacher could develop a target for each student and track whether the student made the gain outside of the system. Here is an example of how SLO growth targets could show up for different students:

Name	Original Target	Multiplier 1	Multiplier 2	Target	Adjusted Target
Anna	22	1	.83 (25/30 weeks)	18.26	10
Beatrix	22	1.1	.83	20.086	12
Connor	22	1.1	.83	20.086	12
DeAndre	22	1	.83	18.26	10
Elaine	22	1	.83	18.26	10
Frederick	22	1.1	.83	20.086	12
George	22	1.1	.83	20.086	12
Hector	22	1	.83	18.26	10
Isabella	22	1.1	.83	20.086	12
Juanita	22	1.1	.83	20.086	12

In this case, the administrator decided that the target should be reduced to 83 percent of the target, because the time between the first and last assessments was significantly less than the requisite 30 weeks. Also, in the case of six students—Beatrix, Connor, Frederick, George, Isabella, and Juanita—the teacher wanted to set a more aggressive growth target (110 percent of the 1.0 years), because those children are starting the year well below grade level.

Finally, to reduce the number of incorrect designations of students who have not demonstrated enough growth because of random, the target is reduced by one-half the mean standard error of the gain—eight scale points—and then rounded.

Therefore, if the student has a gain—a difference between the last test and first test larger than or equal to the adjusted target—they are considered having met the cut.

For students who do not meet the gain score requirement, we recommend reviewing all of their *i-Ready Diagnostic* scores, and if any of the overall diagnostic scores were at or above the mid on-level cut score throughout the year, then they should also be considered as having met the cut, since they have demonstrated a high likelihood of proficiency.* These cut scores are as follows:

Reading/ELA	
Grade	Mid-Cut
K	396
1	458
2	516
3	548
4	579
5	609
6	616
7	632
8	642

Math	
Grade	Mid-Cut
K	376
1	416
2	446
3	467
4	484
5	498
6	514
7	531
8	541

*In 2013, Curriculum Associates conducted a linking study with the New York State summative assessment, and in 2014, Curriculum Associates conducted a contrasting groups standard setting. The Achievement level descriptor for the mid on-level placement is as follows: *“Students in this level have met the minimum requirements for the expectations in this grade level to be considered proficient for their grade. These students will most likely benefit from instruction in some of the more advanced on-grade level topics.”*

To determine how these numbers can be changed into a 20-point scale for HEDI, please refer to the crosswalk below.

% Students Meeting Cut	Points	Rating
0-4%	0	Ineffective
5-8%	1	
9-12%	2	
13-16%	3	
17-20%	4	
21-24%	5	
25-28%	6	
29-33%	7	
34-38%	8	
39-43%	9	
44-48%	10	
49-54%	11	
55-59%	12	Developing
60-66%	13	
67-74%	14	Effective
75-79%	15	
80-84%	16	
85-89%	17	Highly Effective
90-92%	18	
93-96%	19	
97-100%	20	

The similarity between the optimized cut scores proposed by the standard-setting committees and the optimal cut score for ensuring classification of proficiency was very similar; and the mid on-level cut score is the current best predictor we have for determining whether a student is likely or unlikely to be proficient on the end of year New York assessment. Therefore, as an alternative measure of proficiency, the mid on-level cut score threshold is used.

New York State Next Generation Assessment Priorities

Please provide detail on how the proposed supplemental assessment I or assessment to be used with SLOs addresses each of the Next Generation Assessment Priorities below.

Characteristics of Good ELA and Math Assessments (only applicable to ELA and math assessments):

The adaptive *i-Ready Diagnostic* leverages advanced technology to provide a deep, customized evaluation of every student and to track student growth consistently and continuously over the child’s entire K–12 career. *i-Ready* also provides valid and reliable growth metrics across a district and school environment to optimize administrative decision-making for long-term performance improvements.

Educators frequently choose adaptive assessments for the instruments’ high precision and efficiency, allowing them to pinpoint student needs more accurately and in less time than with traditional fixed-form assessments.

	<p>By dynamically selecting test items based on student response patterns, <i>i-Ready's</i> adaptive assessment is able to derive large amounts of information from a limited number of test items and can adapt to students with low and high abilities to obtain a more precise measurement of student performance.</p> <p>For administrators, an adaptive assessment has proven to be the most precise measure of student growth (<i>Growth, Precision, and CAT: An Examination of Gain Score Conditional SEM</i> by Tony D. Thompson, Research Report, December 2008). This real-time visibility enables immediate, effective course corrections.</p> <p>Administrators using <i>i-Ready</i> receive real-time, comprehensive insight into:</p> <ul style="list-style-type: none"> • Percent of students performing below, on, and above grade level • Percent of students on track to meet annual growth expectations • Details by school, grade, class, and student <p><i>i-Ready</i> for Reading/ELA</p> <p>Foundational Skills. <i>i-Ready Diagnostic</i> assesses the foundational skills of phonological awareness, phonics, and high-frequency words:</p> <ul style="list-style-type: none"> • <u>Phonological Awareness.</u> In <i>i-Ready Diagnostic</i>, test items use both audio and visual support to assess children's ability to distinguish and manipulate the sounds in spoken language. The stems, which comprise questions or directions, are read aloud to children, as are the individual answer choices. Children can use an audio icon to hear items and answer choices repeated. Many items are supported by art. Most items focus on segmenting and blending, because these skills are the most important building blocks for phonics instruction. Children are asked to segment and blend syllables, onset and rime, and individual phonemes. Other items assess children's ability to manipulate phonemes by deleting, adding, or substituting sounds in spoken words. • <u>Phonics.</u> <i>i-Ready Diagnostic</i> assesses children's ability to recognize sound-spelling correspondences. Test items use both audio and visual support. Some items—which comprise questions or directions—are read aloud, and children are asked to choose among written answer choices. Other items are written, and children are asked to choose among answer choices that are read aloud. As with phonological awareness, children can use an audio icon to hear items and answer choices repeated. Many items are supported by art. Items focus on a range of high-utility skills,
--	--

	<p>including: letter recognition; one-to-one letter-sound correspondences; CVC and CCVC words—as well as other one-syllable words; consonant digraphs; final e conventions; r-controlled vowels; inflectional endings; vowel teams (digraphs and diphthongs); two-syllable words; three-, four-, and five-syllable words; and words with prefixes/suffixes.</p> <ul style="list-style-type: none"> • High-Frequency Words. Words assessed and taught in <i>i-Ready Diagnostic & Instruction</i> are drawn from the Dolch Basic Word List (Dolch, 1941) and the Fry Instant Word List (Fry, 1999). Test items in <i>i-Ready Diagnostic</i> assess children’s ability to recognize high-frequency words. Some stems—which comprise questions or directions—are read aloud, and children are asked to choose among written answer choices. Other stems are written, and children are asked to choose among answer choices that are read aloud. Children can use an audio icon to hear items and answer choices repeated. <p>Vocabulary. Test items in <i>i-Ready Diagnostic</i> assess students’ knowledge of both Tier 2 words (academic or literary words) and Tier 3 words (domain-specific or content-area words). Panels of teachers and reading specialists selected the words to be assessed, using research-based lists that included:</p> <ul style="list-style-type: none"> • <i>Words Worth Teaching</i> (Biemiller, 2010) • <i>The Living Word Vocabulary</i> (Dale & O’Rourke, 1981) • <i>The Educator’s Word Frequency Guide</i> (Zeno, 1995) • <i>The Academic Word List</i> (Coxhead, 2000) <p>The panels made these selections to reflect the types of words children learn in various disciplines at different grade levels and in various stages of their lives. Test items assess knowledge of these words in context, and those aimed at early readers include visual support. Because oral vocabulary is a critical part of reading development, test items at Kindergarten through grade 2 are supported by audio.</p> <p>Comprehension. Students’ abilities to understand both literary text and informational text are evaluated in <i>i-Ready Diagnostic</i>. The focus in Kindergarten is on listening comprehension. At this grade, comprehension items are supported by both audio and art. Reading comprehension is the focus at grade 1 and above. Students are presented with a passage, and interactive, multiple-choice items are shown next to the passage.</p> <p>When a passage has more than one page, students may page back and forth through it while still viewing the item. This format and process encourages students to find textual support for their selected answer.</p>
--	--

	<p><i>i-Ready for Mathematics</i></p> <p>The Common Core State Standards organize mathematical content within grades by domains—big ideas that connect topics across grades. A major goal of this grouping is to build understanding of mathematical concepts within each domain and how they progress across grades. <i>i-Ready Diagnostic</i> further organizes the Common Core Domains into four major groups: Number and Operations, Algebra and Algebraic Thinking, Measurement and Data, and Geometry.</p> <p>Number and Operations. In <i>i-Ready Diagnostic</i>, the items aligned to the Number and Operations in grades K–2 allow students to demonstrate proficiency in the skills associated with counting, whole numbers, the algorithms of the operations, and understanding of place value.</p> <p>In these grades, in the least difficult items, virtual manipulatives are used to help students show conceptual understanding of place value and the algorithms for adding and subtracting. For example, students can utilize a virtual base-ten block tool to help with regrouping for solving subtraction items.</p> <p>In grades 3–5, the items aligned to the Number and Operations domain allow students to demonstrate a deeper understanding of the concepts they learned in the primary grades, while also demonstrating their understanding of how these concepts expand into other sets of numbers, such as fractions and decimals. In this domain, there are technology-enhanced items where students are able to show conceptual understanding of fractions by plotting the fractions on a number line tool.</p> <p>In grades 6–8, the items aligned to the Number and Operations domain allow students to demonstrate their understanding of how the concepts they learned earlier in this domain extend to integers and real numbers. They also demonstrate their facility with converting among different representations of numbers.</p> <p>Algebra and Algebraic Thinking. In <i>i-Ready Diagnostic</i>, the grades K–2 items aligned to Algebra and Algebraic Thinking allow students to demonstrate their ability to represent problem situations with number sentences. As in Number and Operations, in these earlier grades, students use virtual manipulatives to represent these problem situations. For example, a 10-frame with counters can be used to represent what is meant by the equation $5 + 2 = 7$, and how that may be manipulated to show understanding that $7 - 2 = 5$.</p> <p>In grades 3–5, the items aligned to Algebra and Algebraic Thinking expand to include students’ capabilities of modeling problems using</p>
--	---

	<p>equations.</p> <p>These items allow students to demonstrate their understanding by asking them to select the equation that best models a mathematical or real-world problem.</p> <p>In grades 6–8, the items aligned to Algebra and Algebraic Thinking expand on students’ understanding of modeling problems to using different representations to solve the problems, including expressions and equations and functions. In these grades, students may represent situations by graphing a line that represents a situation on a coordinate graphing tool.</p> <p>In grades 9-12, the <i>i-Ready</i> Algebra domain expands to include the high school Common Core domains of Algebra, Functions, and Numbers and Quantity. In these domains, students extend work with algebraic relationships to polynomial, exponential, logarithmic, and other advanced functions; complex number systems, and vectors. They use equations and inequalities to model real-world and mathematical situations and to solve non-routine problems.</p> <p>Measurement and Data. In <i>i-Ready Diagnostic</i>, the items aligned to Measurement and Data allow students to observe, collect, display, organize, and interpret measures and data. In grades K–2, the items focus on measuring using virtual tools such as a ruler, and interpreting data displayed in simple graphs such as picture and bar graphs.</p> <p>In grades 3–5, the items aligned to Measurement and Data provide opportunities for students to demonstrate their extended understanding of more complex measurements and data sets. The items aligned to this domain in these grades also emphasize conceptual understanding of geometric measurement. For example, there is a tool that allows students to fill a rectangular prism with unit cubes to demonstrate an understanding of volume.</p> <p>In grades 6–8, the items no longer have any focus on geometric measurement, concentrating solely on the concepts of statistics and probability. Items ensure that students are given the opportunity to demonstrate their conceptual understanding of more complex data sets. Technology-enhanced items allow students to demonstrate their understanding of bivariate data by graphing linear functions that closely represent a data set.</p> <p>Geometry. In <i>i-Ready Diagnostic</i>, the items aligned to Geometry allow students to demonstrate proficiency in identifying, analyzing, and reasoning with shapes and figures. In grades K–2, the items are concentrated on two areas—students are provided the opportunity to demonstrate proficiency with the attributes of different shapes, and they are able to show connections to a conceptual understanding of fractions as part of a whole.</p>
--	--

	<p>Technology-enhanced items allow students to sort or identify shapes that have similar attributes.</p> <p>In grades 3–5, the items aligned to Geometry expand on students’ understanding of figures and begin to assess student understanding of the attributes in hierarchies. These items also ask students to demonstrate a conceptual understanding of two-dimensional figures in space. Some of the technology-enhanced items have students plot shapes in the first quadrant of a coordinate grid. Other items may have them fill in a two-dimensional space with unit squares to help demonstrate proficiency with a conceptual understanding of area. In grades 6–8, there is somewhat of a shift in the domain. In grades K–5, the only geometric measurement concepts covered in the Geometry domain are those that deal with conceptual understanding of area. However, in grades 6–8, with the Measurement and Data domain focusing on Statistics and Probability, all of the geometric measurement concepts fall under the Geometry domain. These include area of composite figures, surface area, and volume.</p> <p>In grades 9-12, the Geometry domain expands to include both Geometry and Statistics and Probability from the high school Common Core domains. In these domains, students apply and prove theorems involving lines, angles, and figures to extend their understanding of geometric properties. They also employ logic and data to make informed decisions about real world situations. In addition to these concepts, higher-level geometric concepts are also assessed in <i>i-Ready</i> in grades 6–8.</p> <p>These concepts include relating transformations to congruence and similarity, and analyzing proofs of the Pythagorean Theorem and its converse. Some of <i>i-Ready Diagnostic’s</i> technology-enhanced items in this domain at these grade levels use a virtual protractor to allow students to demonstrate proficiency with rotations.</p>
<p>Assessments Woven Tightly Into the Curriculum:</p>	<p><i>i-Ready</i> may be administered seamlessly in conjunction with regular classroom instruction, as the assessment is given entirely online and the program automatically scores, analyzes, and reports student results in real-time. As each student works individually and at his or her own pace on the adaptive test, educators may administer <i>i-Ready</i> in small groups or to the whole class, for maximum flexibility.</p> <p>To support the day-to-day academic goals of the teacher, <i>i-Ready’s</i> comprehensive reports provide explicit next steps for instruction and point-of-use lesson plan PDFs. Based on each student’s and instructional group’s identified needs, <i>i-Ready Diagnostic</i> reports also provide direct connection to optional online lessons via <i>i-Ready Instruction</i> (cost option) and recommendations for specific lessons in</p>

	<p>other Curriculum Associates’ programs (such as <i>Ready</i>®).</p> <p>In these ways, <i>i-Ready</i> embodies the philosophy that learning is a continuous cycle of assessment linked to instruction.</p>
<p>Performance Assessment:</p>	<p>The <i>i-Ready Diagnostic</i> test bank includes thousands of multiple-choice and technology-enhanced assessment items, field tested with more than one million students to ensure they are accurate, valid, and reliable measures of the intended skills being assessed.</p> <p>The RFQ defines a performance assessment as one in which students are required to perform a task, including problem solving. <i>i-Ready</i> items emphasize conceptual understanding and procedural fluency, and many entail word problems/problem solving. For example, <i>i-Ready Diagnostic</i> contains mathematics items where students must bisect angles using a virtual compass and straight-edge or fill-in rectangular prisms with unit cubes to determine volume. The reading assessment contains items where students must pull out evidence from passages to support themes, rather than to just choose them from a limited number as in a selected response items.</p> <p>To reflect real-world use of mathematics as well as the Common Core, students have access to onscreen, interactive tools—including a calculator, spreadsheet tool, protractor, compass, straight-edge, and ruler—that may be needed as they answer items.</p>
<p>Efficient Time-Saving Assessments:</p>	<p><i>i-Ready’s</i> computer-adaptive format maximizes the yield of actionable data, while optimizing administration efficiency. The assessment enables educators to pinpoint student needs more accurately and in less time than with traditional fixed-form assessments. By dynamically selecting test items based on student response patterns, <i>i-Ready</i> is able to derive large amounts of information from a limited number of test items and can adapt to students with low and high ability to obtain a more precise measurement of student performance. When a student fails more difficult items, additional items assessing less difficult skills are presented to help to drive more precise targeting of instruction.</p> <p>Students receive 54–72 items per subject, and typically take 30–60 minutes per subject to complete the diagnostic. Testing may be completed in multiple shorter sessions. Average duration varies by subject and grade level, with grades K–3 tending toward the shorter end of the range. Additionally, variability exists in every grade given different student performance levels.</p>
<p>Technology:</p>	<p><i>i-Ready Diagnostic</i> is a fully web-based, vendor-hosted, Software-as-a-Service application. This offers numerous benefits to the Board of Regents, NYSED, and New York educators.</p>

	<p>All program maintenance, updates, and upgrades are included in the highly cost-effective license fee, and we push them automatically to all end users for immediate implementation upon release—with no need for local installation or support.</p> <p>Student responses are automatically and immediately scored by the program’s sophisticated analytics engine, which presents data reports in real time.</p> <p>Authorized users have secure access to the system 24/7 (with the exception of system maintenance, scheduled during low usage periods), from any compatible, internet-enabled device. The web-based platform gives our development team the flexibility to rollout new features and enhancements multiple times each year, at no additional cost to active clients.</p> <p>By virtue of being an online assessment employing computer-adaptive algorithms and technology-enhanced items, <i>i-Ready Diagnostic</i> helps to prepare and familiarize students with needed 21st-Century skills.</p>															
<p>Degree to which the growth model must differentiate across New York State’s four levels of teacher effectiveness (only applicable to supplemental assessments):</p>	<p>Our proposed growth model differentiates educators across the State’s four levels of teacher effectiveness—<i>Highly Effective, Effective, Developing, and Ineffective</i>—very similarly to the distribution for New York’s 2013-2014 distribution of teacher effectiveness scores. For all schools in <i>i-Ready’s</i> New York K–8 population for 2014–2015, these categories are distributed as follows:</p> <table border="1" data-bbox="678 1255 1321 1392"> <thead> <tr> <th>Subject</th> <th>H</th> <th>E</th> <th>D</th> <th>I</th> </tr> </thead> <tbody> <tr> <td>ELA</td> <td>13%</td> <td>37%</td> <td>30%</td> <td>20%</td> </tr> <tr> <td>Math</td> <td>21%</td> <td>40%</td> <td>21%</td> <td>17%</td> </tr> </tbody> </table> <p>*Numbers may not add to 100% due to rounding errors.</p>	Subject	H	E	D	I	ELA	13%	37%	30%	20%	Math	21%	40%	21%	17%
Subject	H	E	D	I												
ELA	13%	37%	30%	20%												
Math	21%	40%	21%	17%												



**STUDENT ASSESSMENTS FOR
TEACHER AND PRINCIPAL EVALUATION**

FORM H

**APPLICANT CERTIFICATION FORM –ASSESSMENTS FOR USE WITH STUDENT
LEARNING OBJECTIVES**

Please read each of the items below and check the corresponding box to ensure the fulfillment of the technical criteria.

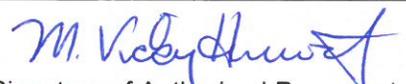
PLEASE SUBMIT ONE “FORM H” FOR EACH APPLICANT. CO-APPLICANTS SHOULD SUBMIT SEPARATE FORMS.

The Applicant makes the following assurances:

Assurance	Check each box:
The assessment is rigorous, meaning that it is aligned to the New York State learning standards or, in instances where there are no such learning standards that apply to a subject/grade level, alignment to research-based learning standards.	<input checked="" type="checkbox"/>
To the extent practicable, the assessment must be valid and reliable as defined by the Standards of Educational and Psychological Testing.	<input checked="" type="checkbox"/>
The assessment can be used to measure one year’s expected growth for individual students.	<input checked="" type="checkbox"/>
For K–2 assessments, the assessment is not a “Traditional Standardized Assessment” as defined in Section 1.3 of this RFQ.	<input checked="" type="checkbox"/>
For assessments previously used under Education Law §3012-c, the assessment results in differentiated student-level performance. If the assessment has not produced differentiated results in prior school years, the applicant assures that the lack of differentiation is justified by equivalently consistent student results based on other measures of student achievement.	<input checked="" type="checkbox"/>
For assessments not previously used in teacher/principal evaluation, the applicant has a plan for collecting evidence of differentiated student results such that the evidence will be available by the end of each school year.	<input checked="" type="checkbox"/>
At the end of each school year, the applicant will collect evidence demonstrating that the assessment has produced differentiated student-level results and will provide such evidence to the Department upon request. ⁴	<input checked="" type="checkbox"/>

⁴ Please note, pursuant to Section 2.3 of this RFQ, an assessment may be removed from the approved list if such assessment does not comply with one or more of the criteria for approval set forth in this RFQ

To be completed by the Copyright Owner/Assessment Representative of the assessment being proposed and, where necessary, the co-applicant LEA:

Curriculum Associates, LLC 1. Name of Organization (PLEASE PRINT/TYPE)	 4. Signature of Authorized Representative (PLEASE USE BLUE INK)
M. Vicky Hurwitz 2. Name of Authorized Representative (PLEASE PRINT/TYPE)	10/9/15 5. Date Signed
Vice President, Strategic Planning 3. Title of Authorized Representative (PLEASE PRINT/TYPE)	

1. Name of LEA (PLEASE PRINT/TYPE)	4. Signature of School Representative (PLEASE USE BLUE INK)
2. School Representative's Name (PLEASE PRINT/TYPE)	5. Date Signed
3. Title of School Representative (PLEASE PRINT/TYPE)	

Appendix A: New York State Learning Standards

The New York State Learning Standards are adopted by the New York State Board of Regents for educational purposes including assessment, curriculum, and professional development.

For the purposes of this RFQ, Applicants must demonstrate that the assessment is aligned with the New York learning standards below for the content area and grade level the assessment is designed to measure

In instances in which there are no such standards that apply to the content area / grade level, evidence of alignment must be provided to research-based learning standards.

Content Areas in which New York State Has Learning Standards:

Arts

<http://www.p12.nysed.gov/ciai/arts/artsls.html>

Career Development and Occupational Studies (CDOS)

<http://www.p12.nysed.gov/cte/cdlearn/>

English Language Arts (Note: only the 2010 standards are admissible)

<http://www.p12.nysed.gov/ciai/ela/elarg.html>

Health (The Learning Standards for Physical Education, Health, and Family Consumer Science)

<http://www.p12.nysed.gov/sss/schoolhealth/schoolhealtheducation/>

Languages other than English (LOTE; Note: Must specify alignment to either Checkpoint A, Checkpoint B, or Checkpoint C)

<http://www.p12.nysed.gov/ciai/lotte/lotels.html>

Mathematics (Note: only the 2011 standards are admissible)

<http://www.p12.nysed.gov/ciai/mst/math/standards/>

Science (Note: Alignment to content described in Resource Guides is admissible)

<http://www.p12.nysed.gov/ciai/mst/math/standards/>

Social Studies

<http://www.p12.nysed.gov/ciai/socst/ssrg.html>

Appendix B: Definitions of Growth Models⁵

Gain Score Model

The Gain Score model is the model that is most aligned with what people commonly associate with the idea of growth. The gain score model quantifies changes in student scores on a particular assessment. For example, if a test produces scores on a 100 point scale, and a student received a score of 70 at time 1, and 80 at time 2, then the gain score would be 10 points. That is gain is conceptualized as:

$$Gain = X_2 - X_1 \quad (1)$$

where X_2 represents that score at time 2, and X_1 represents the score at time 1. The underlying assumption, of course, is that the scores are on the same scale, to make the difference meaningful. This would imply either that the scores are obtained on a single assessment/parallel forms, where the scores are comparable, or there is a vertical scale underlying the scores that are being subtracted.

Growth-to-Proficiency Model

The Growth to Proficiency Model defines growth in terms of progress toward proficiency. The growth to proficiency model typically only measures growth for students below proficiency (or any other defined target). The amount of gain required for a student to reach proficiency is calculated, and a target amount of gain for a student to exhibit each year to be on track to proficiency is calculated. A student is said to have exhibit growth if they reach or exceed the target set for them. There are many different ways to operationalize this model, and this model does not inherently require a vertical scale. To aggregate these measures to a teacher level, the percent of students that meet their gain target is typically used.

Student Growth Percentiles

The Student Growth Percentile (SGP) is one of the most complex models for computing “growth.” This model does not assume a vertical scale. The statistical details of the model can be found in Betebenner (2009). As noted by Goldschmidt et al. (2012) the SGP does *not* measure absolute growth in performance. Instead, it is a conditional status model, rather than a growth measure.

In computing SGPs, a student’s performance on a test is compared to hypothetical students’ performance on the test who are predicted to have scored similarly to that student in the past (commonly referred to as “academic peers,” but it is important to note the model *estimates* this student group rather than using an observed student group). A percentile rank is assigned to the student to indicate where in the distribution of scores of his “academic peers” his/her score falls. For example, a student with a SGP of 60 performed better than 60% of his/her hypothetical peers predicted to have similar test score histories. Many students may receive an SGP of 60, but that does not mean that the change in the performance of those students is the same. Some of them may have shown more “growth” than others. Because this model does not measure growth in the sense that is most commonly understood, these results can be confusing. Therefore, it is important for stakeholders to understand the proper interpretation of the measure, and how to use it. As with other models, there are variants to this model (e.g. New

⁵ See also Castellano and Ho (2013) for more complete descriptions of growth models.

York City Residual Gain Model) which are not discussed in detail in this document, since the models are specific to the jurisdictions, and many of the issues that apply to the overarching model (the SGP) remain.

Projection Models

The projection model (also called a residual gain or conditional status model) uses a linear regression model created from a previous group of students to make a prediction about how a student will do based on his/her previous test scores. That is, for each student, a predicted posttest score (e.g., this year's summative posttest score) is computed based on a regression equation from a prior year and the students' pretest (e.g., last year's summative test score). This predicted score is the "projection" of how the student is expected to do this year. A residual score is calculated for each student by subtracting their projected score from their actual posttest score. These residual scores represent "growth." Students whose actual posttest scores are larger than their projected posttest scores demonstrate positive growth.

Value-Added Models

Value-added models are typically used for measuring teacher or school effectiveness, rather than individual student growth. Student achievement data (via test scores) are used as inputs into the model to determine the effect that the teacher (or school) has had on the student. One of the great differentiating factors of value-added models compared to other student growth models is the ability to include student-level covariates, or background variables. By including these variables in the models, we attempt to "level the playing field" for making comparisons among teachers and their effects on student learning.

There is no one value-added model; rather it is a class of models, whose goals are to determine what impact a teacher has on student performance after controlling for student background experience, typically including prior academic achievement. The models are typically hierarchical linear models, with models for the student-level, classroom-level, and teacher level (the model can be extended to school-level as well, of course).

To compute a value-added score, the expected growth (based on previous achievement and background variables) is computed for each student in a classroom. The actual "growth" of the student is compared to the expected growth, and the difference between the two is the "achievement beyond expectation"; this can be a positive or a negative value. The average value of these differences is computed for a teacher. This is the value-added score for the teacher. It can be conceptualized as the average residual of the students' growth. Value-added models are currently popular, and are being used in North Carolina, Ohio, Pennsylvania, and Tennessee, among other states.

References

- Castellano, K. E., & Ho, A. D. (2013a). *A practitioner's guide to growth models*. Washington, DC: Council of Chief State School Officers (<https://wwwcreatespace.com/4167243>).
- Lee, W. (2010). Classification Consistency and Accuracy for Complex Assessments Using Item Response Theory. *Journal Of Educational Measurement*, 47(1), 1-17.
- Livingston, S. A., & Lewis, C. (1995). Estimating the Consistency and Accuracy of Classifications Based on Test Scores. *Journal Of Educational Measurement*, 32(2), 179-97.