

Research Brief

Validity of the Independent Reading Level Assessment (IRLA)

American Reading Company's Independent Reading Level Assessment® (IRLA) is a standards-based formative assessment framework that is used on a regular basis throughout the year to measure the extent to which students independently demonstrate reading proficiency.

Researchers have conducted a series of validity studies across the United States to examine the relationship between the IRLA and summative state assessments, and several commonly used interim assessments. This research brief begins with an overview of the IRLA and an explanation of why it is important to examine the validity of educational assessments. Studies examining the correlation between the IRLA and state tests are described next, followed by studies that examine the relationship between the IRLA and several interim assessments.

Abstract

The 19 validity studies described in this research brief show strong positive correlations between the IRLA and criterion measures for K–8 students. The subset of studies that examined correlations over multiple school years showed that the correlations are stable over time. Correlation coefficients consistently exceed .70, the threshold for what is considered a strong correlation. These strong, positive, and statistically significant correlations provide evidence that when students score high on the IRLA, we can expect students to also score high on the other reading assessments. In other words, IRLA scores are a good indicator of how students will perform on other reading assessments.

Independent Reading Level Assessment (IRLA)

The IRLA outlines a research-based, transparent progression of skills mapped to national and state standards. Designed to work for every student at every reading level, the IRLA delivers specific and actionable data that tell the teacher where a student is, why, and the sequence of skills and behaviors needed to learn next to accelerate reading growth.

IRLA scores show students' relative placement along a continuum of grade-level proficiency. A risk status is used to identify the intensity of student need. Students who have demonstrated reading proficiency at or above their grade level are considered "proficient" and are not likely to be at risk for academic difficulties. Students who need to make more than a year of growth in one year's time are assigned an "at risk" designation that alerts teachers that the student may need additional supports to make sufficient accelerated progress. Students reading significantly below grade level are assigned "emergency" status. These students need multiple years of growth per year to gain grade-level proficiency and require the most intensive supports to make accelerated progress.

Validity

Validity is the most fundamental consideration in evaluating an assessment. Validity is the degree to which evidence supports interpretations of test scores for a given purpose.¹ The process of validation involves accumulating relevant evidence over time to provide a sound basis for the proposed score interpretations.

A primary use of the IRLA is to identify students who have not yet achieved grade-level proficiency and are at risk for academic difficulties and to monitor their reading progress. Thus, one particularly relevant form of validity evidence is the extent to which performance on the IRLA correlates with performance on other reading assessments, which are called criterion measures.

Correlation coefficients can range from -1.0 to 1.0 , with values close to 1.0 indicating a strong relationship. Positive correlations demonstrate that when students score high on one assessment, they also tend to score high on the other, and similarly, when students score low on one assessment, they also tend to score low on the other. A strong positive correlation between two assessments provides evidence that the two assessments are measuring similar constructs. When an assessment is strongly correlated with several different criterion measures, there is greater confidence that results can be generalized to other measures of student proficiency.

¹ American Educational Research Association, American Psychological Association, and National Council on Measurement in Education (Eds.). (2014). *Standards for educational and psychological testing*. American Educational Research Association.

Summative State Assessments

Each state administers a summative assessment to students in Grades 3–8 and once in high school annually under the provisions of the Every Student Succeeds Act (ESSA)². ARC researchers utilized data provided by school districts to examine the relationship between students' scores on the IRLA and scores on the state test.*

Wyoming's Test of Proficiency and Progress (WY-TOPP)

American Reading Company (ARC) researchers examined the relationship between the IRLA and Wyoming's state test (WY-TOPP) in a small Wyoming school district that has been using ARC Core since the 2018–2019 school year. The study included students in Grades 3–6 in 2021–2022 and 2022–2023. This district's population includes 83% White students, 9% Hispanic students, and 8% students of other race/ethnicity. District-wide, 14% are classified as Students with Disabilities and 9% are classified as Low Income. Correlations between students' scores on the IRLA and WY-TOPP ELA test in both years were strong and statistically significant (see Table 1).

Table 1. IRLA–WY-TOPP Correlation Coefficients

	2022 Gr. 3–6		2023 Gr. 3–6	
	n	r	n	r
IRLA–Wyoming State Summative Assessment (WY-TOPP)	106	.758*	105	.764*

* $p < .001$

Smarter Balanced Assessment (SBA): Connecticut

ARC researchers examined data from a midsize Connecticut school district to determine the relationship between the IRLA and SBA. In the 2020–2021 school year, data from 621 students in Grades 3–5 were analyzed, and in 2021–2022, data from 1501 students in Grades 3–8 were analyzed. District enrollment includes 31% English-Learners/Multilingual Learners, 20% Students with Disabilities, and 73% Eligible for Free or Reduced-Price Meals. Correlations between students' IRLA and SBA scores in both years were strong and statistically significant (see Table 2).

² Every Student Succeeds Act, 20 U.S.C. § 6301 (2015).

* All studies conducted by ARC researchers utilized data provided by school districts. All assessments were administered independently by school district personnel using standard protocols.

Table 2. IRLA–SBAC Correlation Coefficients

	2021 Gr. 3–5		2022 Gr. 3–8	
	n	r	n	r
IRLA–Smarter Balanced Assessment (SBA)	621	.747*	1501	.760*

* $p < .001$

Smarter Balanced Assessment (SBA): Delaware Study 1

ARC researchers conducted a multi-year study in a midsize district in Delaware. The school district serves a population of students that is 67% White; 17% of students are classified as Low-Income. The number of students in the study grew each year as the implementation shifted from Grades K–5 to Grades K–8. Correlations between IRLA scores and Smarter Balanced ELA scores were strong and statistically significant in all three years (see Table 3). The study did not examine scores from the 2019–2020 school year because SBA was not administered that year due to the pandemic.

Table 3. IRLA–SBA Correlation Coefficients

	2019 Gr. 3–5		2021 Gr. 3–8		2022 Gr. 3–8	
	n	r	n	r	n	r
IRLA–Smarter Balanced Assessment (SBA)	1099	.737*	1446	.723*	2273	.702*

* $p < .001$

Smarter Balanced Assessment (SBA): Delaware Study 2

In 2021–22, ARC researchers studied a midsize school district in Delaware that serves a population of students that is 49% nonwhite; 26% of students are classified as Low-Income. The correlation between IRLA and Smarter Balanced ELA scores was strong and statistically significant (see Table 4). 2021–2022 is this district’s third year implementing ARC Core.

Table 4. IRLA–SBA Correlation Coefficient

	2022 Gr. 3–5	
	n	r
IRLA–Smarter Balanced Assessment (SBA)	1854	.698*

* $p < .001$

Smarter Balanced Assessment (SBA): Washington Study 1

A large school district in Washington began implementation of ARC Core in the 2021–2022 school year. ARC researchers examined the relationship between scores on the IRLA and Smarter Balanced ELA test and found a correlation approaching the .70 threshold for what is considered a strong correlation (see Table 5). This study included 3,684 students in Grades 3–5, of whom 82% are nonwhite, 40% are English-Language Learners, and 14% are classified as Students with Disabilities.

Table 5. IRLA–SBA Correlation Coefficient

	2022 Gr. 3–5	
	n	r
IRLA–Smarter Balanced Assessment (SBA)	3691	.693*

* $p < .001$

Smarter Balanced Assessment (SBA): Washington Study 2

ARC researchers examined IRLA and SBA scores for a midsize district in Washington over two years. Washington State postponed the Spring 2021 SBA until the fall of 2021³. Therefore, SBA scores examined from Fall 2021 are reflective of the grade students were in during the 2020–2021 school year. The 2021–2022 SBA scores were administered on a typical schedule, in spring of 2022.

This district’s enrollment includes 49% Hispanic/Latino students and 45% white students, 23% English-Language Learners, and 63% of students are classified as Low-Income. Correlations between students’ SBA and IRLA scores in both years were strong and statistically significant (see Table 6).

Table 6. IRLA–SBAC Correlation Coefficients

	2021 (Fall) Gr. 4–8		2022 (Spring) Gr. 3–8	
	n	r	n	r
IRLA–Smarter Balanced Assessment (SBA)	1072	.734*	1439	.749*

* $p < .001$

³ Washington Office of Superintendent of Public Instruction (OSPI), [August 2021 Update: News from Assessment and Student Information](#).

Oregon Assessment of Knowledge and Skills (OAKS)

A 2016 study conducted by researchers at the University of Portland and Northwest Evaluation Association (NWEA) and published in *The Journal of At-Risk Issues*⁴ examined the relationship between scores on the IRLA and Oregon’s statewide assessment, the Oregon Assessment of Knowledge and Skills (OAKS). The study examined data from students in Grades 3–5 in one Oregon school district. Participants included 2,303 students attending 11 elementary schools. The public school district serves almost 11,000 ethnically and linguistically diverse students with nearly 75% qualifying for free/reduced price lunch.

The study found strong statistically significant correlations between the IRLA and OAKS scores at each grade level and all grades combined (see Table 7).

Table 7. IRLA–OAKS Correlation Coefficients

Grade	n	r
3	803	.713*
4	720	.775*
5	780	.751*
All 3–5	2303	.766*

* $p < .001$

⁴ Ralston, N.C., Waggoner, J. M., Tarawasa, B., & Jackson, A. (2016). Concurrent validity of the Independent Reading Level Assessment framework and a state assessment. *Journal of At-Risk Issues*, 19(2), 1–8.

Interim Assessments

Measures of Academic Progress (MAP) Growth

The Measures of Academic Progress (MAP) tests are published by the Northwest Evaluation Association (NWEA), a division of Houghton Mifflin Harcourt. The MAP Growth reading assessment is a computer-adaptive test that includes items across the grade-level spectrum for the purpose of pinpointing a student's reading skills relative to grade-level expectations.⁵

Washington

MAP and IRLA data were examined by ARC researchers in a midsize district in Washington State at the beginning and end of the 2021–2022 school year. This district's enrollment includes 49% Hispanic/Latino students and 45% white students, with 23% English-Language Learners and 63% of students classified as Low-Income. Correlations between students' MAP and IRLA scores in Grades 6 through 8 at both time points were strong and statistically significant (see Table 8).

Table 8. IRLA–MAP Correlation Coefficients

	Fall 2021		Spring 2022	
	n	r	n	r
Grade 6	39	.848*	123	.747*
Grade 7	216	.789*	229	.830*
Grade 8	185	.760*	263	.724*

* $p < .001$

Illinois

ARC researchers examined MAP and IRLA data from Grades K–5 in a midsize Illinois school district. This racially diverse district serves over 3,000 students, comprised of 41% White, 38% Hispanic, 9% Black, 7% Asian, 5% Two or More races, and less than 1% other race/ethnicity. Additionally, the district population includes 41% of students classified as Low Income, 21% students with IEPs, and 27% English Learners.

MAP and IRLA scores from five testing windows across the first two years of ARC Core implementation in Grades K–5 were examined. The correlations between student scores on the two measures were strong and statistically significant (see Table 9).

⁵ NWEA. (2019). MAP® Growth™ technical report. Portland, OR.

Table 9. IRLA–MAP Growth Reading Correlation Coefficients

	n	<i>r</i>
Fall 2021	1584	.879*
Winter 2022	1683	.888*
Spring 2022	1695	.884*
Fall 2022	1661	.900*
Winter 2023	1709	.891*

* $p < .001$

Nebraska

A 2022 study conducted by ARC researchers examined data from K–8 students in one Nebraska school district across two academic years. The study included scores from roughly 400 students. The public school district serves approximately 600 students with nearly 45% qualifying for Free/Reduced Lunch.

Scores from five testing windows were correlated: Fall 2020, Winter 2020, Spring 2021, Fall 2021, and Winter 2021. The study found strong statistically significant correlations between students' scores on the IRLA and MAP reading test across each of the five testing windows (see Table 10).

Table 10. IRLA–MAP Growth Reading Correlation Coefficients

	n	<i>r</i>
Fall 2020	365	.804*
Winter 2020	336	.781*
Spring 2021	402	.832*
Fall 2021	373	.891*
Winter 2021	396	.878*

* $p < .001$

Minnesota

A 2014 study conducted by Measurement Incorporated⁶ examined data from K–5 students in one Minnesota elementary school across two academic years. The school serves a population of ethnically and linguistically diverse students with nearly 75% qualifying for Free/Reduced-Price meals.

⁶ Griswold, A., & Bunch, M. (2014). A study of the Independent Reading Level Assessment framework. Measurement Incorporated. Durham, NC.

Teachers administered the IRLA and MAP reading assessments during five testing windows: Fall 2012, Winter 2013, Spring 2013, Fall 2013, and Winter 2014. The study found very strong correlations between students' scores on the IRLA and MAP across the five assessment intervals (see Table 11).

Table 11. IRLA–MAP Growth Reading Correlation Coefficients

	n	r
Fall 2012	522	.88*
Winter 2013	522	.88*
Spring 2013	522	.88*
Fall 2013	736	.88*
Winter 2014	736	.90*

* $p < .001$

i-Ready Diagnostic Reading

The i-Ready Diagnostic tests are published by Curriculum Associates. The i-Ready Diagnostic Reading assessment is a computer-adaptive assessment that measures a series of early reading skills codifying students' performance and progress toward reaching grade level.⁷

Michigan

Grade K–8 i-Ready and IRLA data from a midsize Michigan district was analyzed by ARC researchers in 2022–2023. The district serves a K–12 student population of 2,975 students, including 78% classified as Economically Disadvantaged, 50% White, 39% Black, and 11% other race/ethnicity. English Learners make up 10% of the student body. The correlation coefficients between i-Ready and IRLA are strong at the beginning, middle, and end of this Year 1 ARC Core implementation (see Table 12).

Table 12. IRLA–i-Ready Correlation Coefficients

	Fall 2022		Winter 2023		Spring 2023	
	n	r	n	r	n	r
IRLA–i-Ready	1246	.856*	1330	.865*	1361	.847*

* $p < .001$

⁷ i-Ready (n.d.). Retrieved June 10, 2022, from <https://www.curriculumassociates.com/programs/i-ready-assessment/diagnostic>.

Connecticut

ARC researchers examined i-Ready and IRLA data from a midsize district in Connecticut across their first two years of ARC Core implementation. This district serves about 3,200 students in Grades PreK–12, 72% of whom are Hispanic and 53% of whom have a home language other than English. In the first year of the study, data from Grades K–5 were analyzed, and in the second year, data from Grades K–8 were included. Despite fluctuations in the number of students who were administered the IRLA at all six points in time, correlation coefficients were strong and statistically significant (see Table 13).

Table 13. IRLA–i-Ready Correlation Coefficients

	Fall		Winter		Spring	
	n	r	n	r	n	r
2020–2021 (Gr. K–5)	228	.859*	1257	.804*	798	.875*
2021–2022 (Gr. K–8)	1661	.879*	2209	.883*	2161	.882*

* $p < .001$

Oregon

As part of a study of a rolling pilot implementation of the IRLA in one midsize Oregon school district, ARC researchers examined the relationship between scores on the IRLA and i-Ready reading assessments over two years. In 2021–2022, the study examined data from roughly 300 K–2 students whose classes participated in the pilot. In 2022–2023, the study examined data from all K–2 students and students from Grades 3–5 whose classes participated in the pilot, just under 2000 students. The district’s student population is 77% White, 13% Hispanic, and 10% other race/ethnicity. District-wide, more than 95% of students are eligible for Free/Reduced Price Lunch, 21 languages are spoken, and 14% are classified as Students with Disabilities.

Scores were correlated at three times—fall, winter, and spring—each year. Due to the nature of the pilot, fewer students were administered both assessments during the spring 2022 testing window. The correlations between the IRLA and i-Ready were strong and statistically significant for all six time points (see Table 14).

Table 14. IRLA–i-Ready Correlation Coefficients

	Fall		Winter		Spring	
	n	r	n	r	n	r
2021–2022 (Gr. K–2)	237	.812*	258	.845*	95	.786*
2022–2023 (Gr. K–5)	1355	.833*	1925	.855*	1971	.862*

* $p < .001$

New York

As part of a study of a first-year ARC Core implementation in Grades K–2 in a midsize New York school district, ARC researchers examined the correlations between the IRLA and i-Ready reading assessment. The study included scores from roughly 650 students attending six elementary schools with about 20% classified as economically disadvantaged. The correlations between scores on IRLA and i-Ready were strong and statistically significant for all three time points (see Table 15).

Table 15. IRLA–i-Ready Correlation Coefficients

	Fall 2021		Winter 2022		Spring 2022	
	n	r	n	r	n	r
IRLA–i-Ready	678	.850*	651	.877*	904	.884*

* $p < .001$

Washington

A large school district in Washington began implementation of ARC Core in the 2021–2022 school year. ARC researchers found a strong correlation between scores on the IRLA and i-Ready reading assessment at three points across the school year (see Table 16). This study included students in Grades K–5, of whom 82% are nonwhite, 40% are English-Language Learners, and 14% are classified as Students with Disabilities.

Table 16. IRLA–i-Ready Correlation Coefficients

	Fall 2021		Winter 2022		Spring 2022	
	n	r	n	r	n	r
IRLA–i-Ready	4216	.856*	6843	.862*	7209	.863*

* $p < .001$

Star Reading

The Star assessments are published by Renaissance. Star Reading is a computer-adaptive assessment that measures reading skills as students progress from Grades K–12.⁸

Rhode Island: Study 1

As part of a study in a large, urban Rhode Island school district implementing ARC Core in Grades K–8, ARC researchers examined the relationship between IRLA scores and Star Reading scaled scores. The study included scores from approximately 9,300 students (68% Hispanic, 6% White, 26% other race/ethnicity; 96% classified as Economically Disadvantaged). The study found strong and statistically significant correlations during all three testing windows: fall, winter, and spring of the 2021–2022 school year (see Table 17).

Table 17. IRLA–Star Correlation Coefficients

	Fall 2021		Winter 2022		Spring 2022	
	n	r	n	r	n	r
IRLA–Star	9316	.820*	5293	.842*	9347	.783*

* $p < .001$

Rhode Island: Study 2

As part of a study in a midsize Rhode Island school district, ARC researchers examined the correlation between IRLA scores and Star Reading scaled scores at three time points during the 2021–2022 school year. The study included scores from 1,100 students (51% Hispanic, 18% White, 31% other race/ethnicity; 98% classified as Economically Disadvantaged) and found strong and statistically significant correlations (see Table 18).

Table 18. IRLA–Star Correlation Coefficients

	Fall 2021		Winter 2022		Spring 2022	
	n	r	n	r	n	r
IRLA–Star	998	.837*	1183	.814*	1277	.751**

* $p < .001$

⁸ Renaissance Star Reading (n.d.). Retrieved January 19, 2023, from <https://www.renaissance.com/products/star-reading/>.

Dynamic Indicators of Basic Early Literacy Skills (DIBELS): mCLASS, DIBELS 8th Edition

DIBELS 8th Edition, published by Amplify, is a set of measures used to assess the acquisition of literacy skills. Five of the six subtests are administered to students individually; the sixth subtest is group-administered.⁹

Oregon

As part of a study of a rolling pilot implementation of the IRLA in one midsize Oregon school district, ARC researchers examined the relationship between scores on the IRLA and DIBELS 8th Edition over two years. In 2021–2022, the study examined data from roughly 300 K–2 students whose classes participated in the pilot. In 2022–2023, the study examined data from all K–2 students and added students from Grades 3–5 whose classes participated in the pilot, just under 2000 students. The district’s demographics include 77% White, 13% Hispanic, and 10% other race/ethnicity. District-wide, more than 95% of students are eligible for Free/Reduced Price Lunch, 21 languages are spoken, and 14% of students receive Special Education services.

Scores were correlated at three times—fall, winter, and spring—each year. Due to the nature of the pilot, fewer students were administered both assessments during the Spring 2022 testing window. The study found strong IRLA–DIBELS correlations over .70 in 2021–22 and correlation coefficients that approach or exceed that threshold in 2022–23. Correlations at all nine time points were statistically significant (see Table 19).

Table 19. IRLA–DIBELS Correlation Coefficients

	Fall		Winter		Spring	
	n	r	n	r	n	r
2021–2022 (Gr. K–2)	298	.731*	260	.773*	96	.826*
2022–2023 (Gr. K–2)	847	.712*	1170	.753*	1194	.678*
2022–2023 (Gr. 3–5)	631	.662*	726	.695*	716	.706*

* $p < .001$

⁹ DIBELS (n.d.). Retrieved June 10, 2022, from <https://dibels.uoregon.edu/about-dibels>.



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