

# The Relationship between *i-Ready Diagnostic* and the 2022 Smarter Balanced Assessment (SBA)

Curriculum Associates Research Brief | December 2022

## Research Overview

*i-Ready Diagnostic* and the 2022 SBA are highly correlated—with an average spring correlation of **.83** for English Language Arts/Literacy (ELA) and **.88** for Mathematics.

## About the Students Included in the Study

Curriculum Associates conducted a large-scale study on the relationship between the *i-Ready Diagnostic* and the 2022 SBA for Grades 3–8 in ELA and Mathematics, the primary grades in which *i-Ready* is used in Smarter Balanced states for which there is a state summative assessment in place. Students came from a total of 49 school districts, four of which are charter agencies (see Table 1). The school districts were selected from four states in the Smarter Balanced Assessment Consortium – California, Delaware, Oregon, and Washington – and represent a wide variety of sizes, urbanicity, and socioeconomic levels (using National School Lunch Program as a proxy). See the appendix for more information on the sample.

**Table 1. Demographic Information for Smarter Balanced Districts in Study**

District	Schools Participating	Location	Total Enrollment	% National School Lunch Program	% English Language Learners <sup>1</sup>
1	69	City (59), Suburb (9), Town (1)	45,000–49,999	65%	15%
2	46	Suburb (45), Rural (1)	25,000–29,999	25%	10%
3	47	City (45), Suburb (2)	15,000–19,999	60%	10%
4	34	City (29), Rural (4), Suburb (1)	15,000–19,999	70%	15%
5	36	City (22), Suburb (14)	15,000–19,999	55%	20%
6	26	Suburb (20), City (5), Rural (1)	15,000–19,999	75%	25%
7	32	City (27), Suburb (5)	15,000–19,999	45%	20%
8	26	Suburb (26)	15,000–19,999	10%	10%
9	28	Suburb (25), City (3)	15,000–19,999	50%	15%
10	24	Suburb (24)	10,000–14,999	75%	40%
11	17	Suburb (17)	10,000–14,999	65%	15%
12	18	Suburb (17), Rural (1)	10,000–14,999	35%	10%
13	15	Suburb (13), City (2)	10,000–14,999	30%	15%
14	21	Suburb (16), City (4), Rural (1)	10,000–14,999	*	20%
15	18	Suburb (9), Rural (7), Town (2)	10,000–14,999	90%	40%
16	21	Suburb (21)	10,000–14,999	50%	25%
17	23	Suburb (23)	10,000–14,999	30%	20%
18	22	Suburb (22)	10,000–14,999	60%	20%
19	19	City (12), Rural (6), Suburb (1)	10,000–14,999	70%	15%
20	20	City (14), Suburb (6)	10,000–14,999	45%	20%
21	20	Suburb (18), City (2)	10,000–14,999	*	15%
22	17	Town (9), Rural (6), Suburb (2)	9,000–9,499	65%	15%
23	16	Suburb (13), City (2), Rural (1)	8,500–8,999	10%	5%
24	15	Suburb (15)	7,500–7,999	90%	35%

District	Schools Participating	Location	Total Enrollment	% National School Lunch Program	% English Language Learners <sup>1</sup>
25	12	Suburb (12)	6,500–6,999	60%	5%
26	12	Suburb (12)	5,500–5,999	75%	15%
27	11	Suburb (11)	5,500–5,999	90%	60%
28	14	Suburb (11), Rural (3)	5,500–5,999	20%	<5%
29	6	Suburb (5), Rural (1)	4,500–4,999	10%	5%
30	12	City (10), Suburb (2)	4,500–4,999	50%	25%
31	12	Suburb (12)	4,000–4,499	70%	40%
32	9	Suburb (9)	4,000–4,499	*	5%
33	7	Town (6), Rural (1)	4,000–4,499	75%	35%
34	8	Suburb (6), City (2)	4,000–4,499	55%	25%
35	8	Suburb (8)	3,500–3,999	20%	5%
36	7	Suburb (5), City (2)	3,000–3,499	95%	25%
37	7	Suburb (5), Rural (2)	3,000–3,499	30%	10%
38	7	City (6), Suburb (1)	3,000–3,499	60%	10%
39	6	Town (6)	2,500–2,999	80%	35%
40	5	Suburb (4), Rural (1)	2,500–2,999	70%	15%
41	6	City (6)	2,500–2,999	40%	15%
42	4	Town (3), Rural (1)	2,500–2,999	90%	55%
43	5	City (5)	1,500–1,999	95%	25%
44	3	Suburb (3)	1,500–1,999	30%	5%
45	4	Suburb (4)	1,500–1,999	75%	40%
46	2	Suburb (2)	1,500–1,999	15%	5%
47	3	City (2), Suburb (1)	1,000–1,499	75%	20%
48	2	Suburb (2)	1,000–1,499	5%	<5%
49	1	Rural (1)	100–199	95%	75%
<b>Average of Participating Districts<sup>2</sup></b>				54%	17%
<b>Average across Participating States in the Consortium<sup>2</sup></b>				55%	17%

Note: Demographic data are available at the school and district level and may not precisely describe the study sample. District-specific statistics are provided as ranges or rounded to the nearest five percent in order to ensure the anonymity of participating districts.

<sup>1</sup>Data on English language learners is only available at the district level.

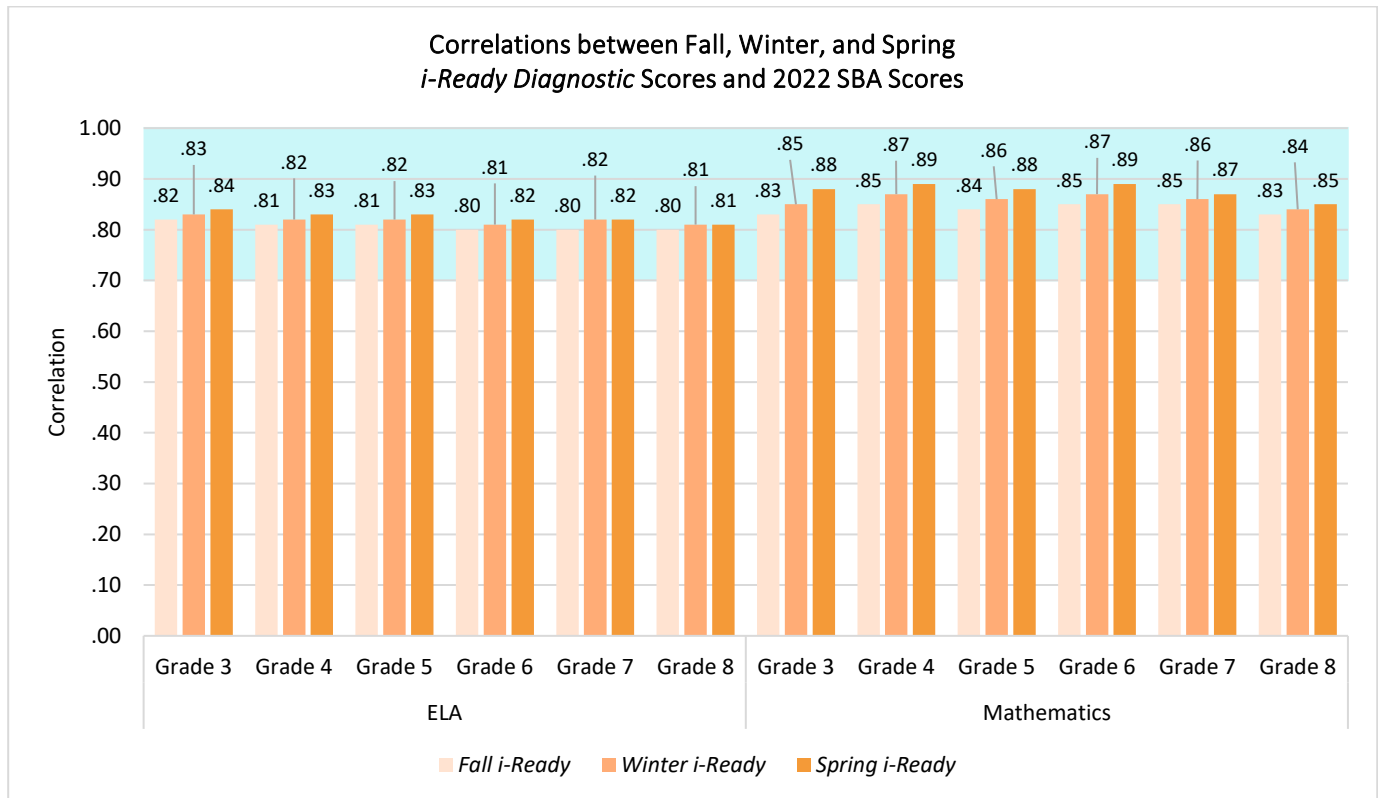
<sup>2</sup>Weighted averages.

Data from U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), “Local Education Agency (School District) Universe Survey”, 2020–2021 v.1a. (obtained from <https://nces.ed.gov/ccd/pubagency.asp>), represent 2020–2021 data, which was the most recent full dataset available from NCES at the time of the study. An asterisk (\*) signifies that NCES has recorded the data as missing, not available, or not reported data items.

## Correlation Results

Across all grades and in both subjects, results provide evidence for the strong correlation between *i-Ready Diagnostic* and the SBA (see Figure 1). Specifically, spring correlations for ELA ranged from .81 for Grade 8 to .84 for Grade 3, and spring correlations for Mathematics ranged from .85 for Grade 8 to .89 for Grades 4 and 6. These correlations, **all surpassing the .70 standard generally considered to be strong in education research**, provide evidence of a substantial relationship between *i-Ready Diagnostic* and the SBA.

Figure 1



## Why Correlations Matter

Correlations are one of the most commonly used and widely accepted forms of validity evidence. 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 high correlation between two assessments provides evidence that the two assessments are measuring related constructs.

## Appendix

The sample included more than 275,000 students, with between 32,740 and 39,838 students per grade for ELA for the spring *i-Ready* assessment and between 33,987 and 42,914 students per grade for Mathematics for the spring *i-Ready* assessment (see Table 2). These students took both the *i-Ready Diagnostic* and the SBA during the 2021–2022 school year. For the purposes of this study, *i-Ready Diagnostic* scores were included only if the student indicated that the test was taken completely in school.

**Table 2. Sample Sizes for Correlations**

	ELA			Mathematics		
	Fall	Winter	Spring	Fall	Winter	Spring
<b>Grade 3</b>	38,532	38,647	39,034	40,620	40,587	41,854
<b>Grade 4</b>	39,317	39,322	39,636	41,652	41,259	42,422
<b>Grade 5</b>	39,785	39,455	39,838	42,588	41,976	42,914
<b>Grade 6</b>	41,273	39,302	39,743	40,925	38,773	40,038
<b>Grade 7</b>	37,377	35,354	33,301	37,099	35,313	34,515
<b>Grade 8</b>	38,237	36,242	32,740	37,950	35,831	33,987

Table 3 shows the percentage of students in each race/ethnicity group from the study samples. In both the ELA and Mathematics samples, we have strong representation from students of different racial/ethnic groups.

**Table 3. Race/Ethnicity Information for Sample of Smarter Balanced Students in this Study**

	American Indian or Alaska Native	Asian	Black	Hawaiian or Pacific Islander	Hispanic	Two or More Races	White
<b>ELA</b>	.3%	12.3%	5.4%	.6%	51.5%	5.9%	24.1%
<b>Mathematics</b>	.3%	11.7%	5.5%	.6%	52.0%	5.8%	24.1%

Note: Two districts containing about 5% of students in the sample did not provide complete race/ethnicity information for their students and therefore are not included in this table.