

The Relationship between *i-Ready Diagnostic* and the 2021 Smarter Balanced Assessment (SBA)

Curriculum Associates Research Brief | November 2022

Research Overview

i-Ready Diagnostic and the 2021 SBA are highly correlated—with an average spring correlation of **.83** for English Language Arts (ELA) and **.84** 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 2021 SBA for Grades 3–8 in ELA and Mathematics, the primary grades in which *i-Ready* is used in Hawai'i for which there is a state summative assessment in place. Data were collected from the Hawai'i State Department of Education and represent all students in Hawai'i who took both the *i-Ready Diagnostic* and SBA during the 2020–2021 school year. See the appendix for more information on the sample.

Table 1. Demographic Information for Hawai'i Districts in Study

District	Schools Participating	Location	Total Enrollment	% National School Lunch Program	% English Learners ¹
1	183	Suburb (76), City (48), Town (40), Rural (19)	100,000+	48%	9%
Average of Participating Districts²				48%	9%
Average across All Districts in the State³				46%	9%

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.

¹Data on English Learners is only available at the district level.

²Weighted average across schools participating in this study.

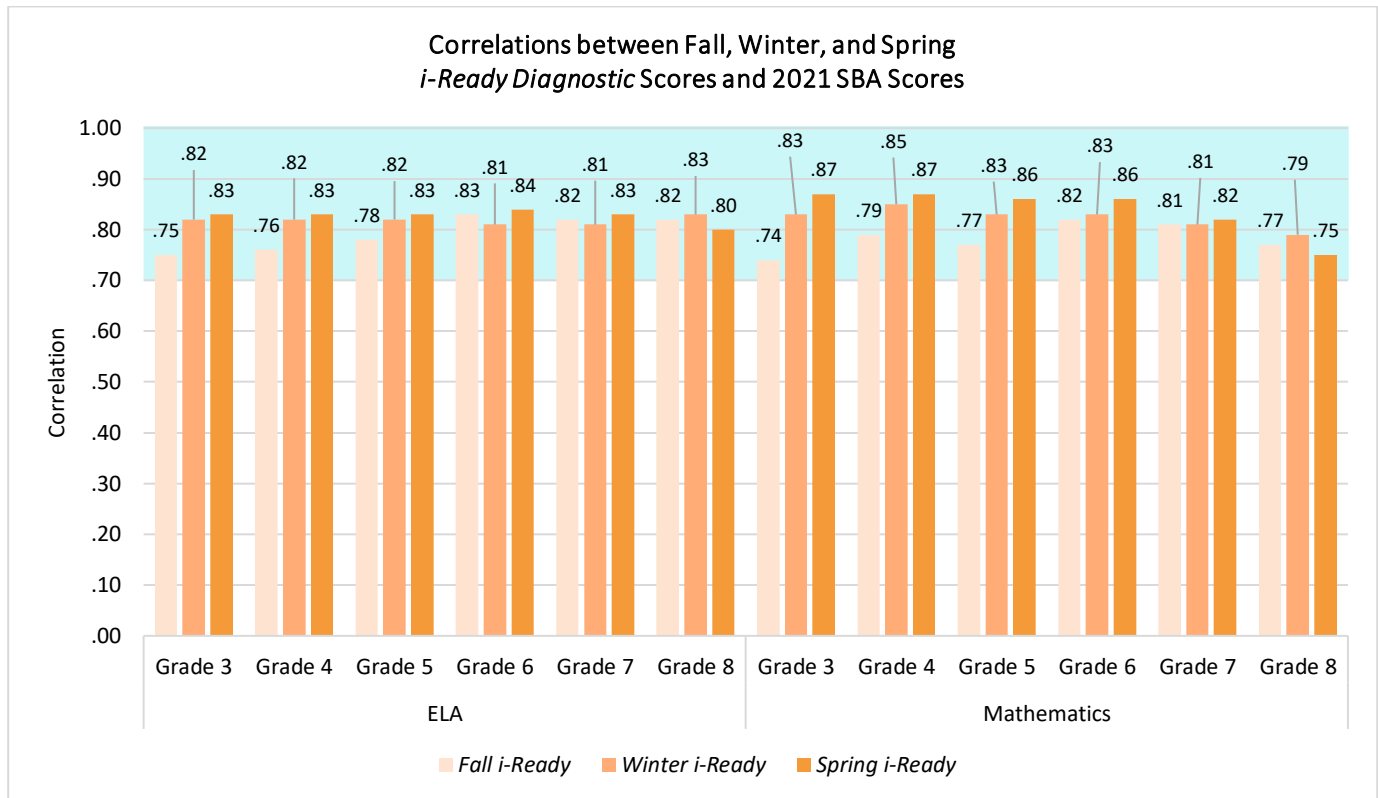
³Weighted average across all schools in the state, including schools not participating in this study.

Data from US Department of Education, National Center for Education Statistics (NCES), Common Core of Data (CCD), "Local Education Agency (School District) Universe Survey," 2019–2020 v.1a. (obtained from <https://nces.ed.gov/ccd/pubagency.asp>), represent 2019–2020 data, which was the most recent full dataset available from NCES at the time of the study.

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 .80 for Grade 8 to .84 for Grade 6, and spring correlations for Mathematics ranged from .75 for Grade 8 to .87 for Grades 3 and 4. 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. 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 29,000 students, with between 1,179 and 5,927 students per grade for ELA for the spring *i-Ready* assessment and between 1,259 and 6,085 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 2020–2021 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. As such, the sample sizes tended to increase from fall to winter to spring as more students returned to in-school testing.

Table 2. Sample Sizes for Correlations

	ELA			Mathematics		
	Fall	Winter	Spring	Fall	Winter	Spring
Grade 3	1,022	2,352	5,927	1,060	2,381	6,085
Grade 4	1,024	2,198	5,780	1,018	2,241	5,928
Grade 5	913	2,040	5,524	903	2,100	5,659
Grade 6	572	1,034	2,465	599	1,155	2,707
Grade 7	670	692	1,434	674	728	1,549
Grade 8	580	509	1,179	563	608	1,259

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 Hawai’ian Students in this Study

	American Indian or Alaska Native	Asian	Black	Hawai’ian or Pacific Islander	Hispanic	Two or More Races	White
ELA	.1%	24.4%	1.4%	23.2%	18.9%	19.9%	12.1%
Mathematics	.1%	24.3%	1.5%	23.3%	18.8%	19.7%	12.2%