The Relationship between *i-Ready Diagnostic* and the 2022 Colorado Measures of Academic Success (CMAS)

Curriculum Associates Research Brief | May 2023

Research Overview

i-Ready Diagnostic and the 2022 CMAS are highly correlated—**with an average spring correlation of .82 for English Language Arts/Literacy (ELA) and .87 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 CMAS for Grades 3–8 in ELA and Mathematics, the primary grades in which *i-Ready* is used in Colorado for which there is a state summative assessment in place. Students came from a total of 14 school districts, one of which is a charter agency (see Table 1). The school districts were selected for participation in the study specifically to be representative of the state in terms of factors such as urbanicity, race/ethnicity, and socioeconomic status (using National School Lunch Program as a proxy). See the appendix for more information on the sample.

Table 1. Demographic Information for Colorado Districts in Study

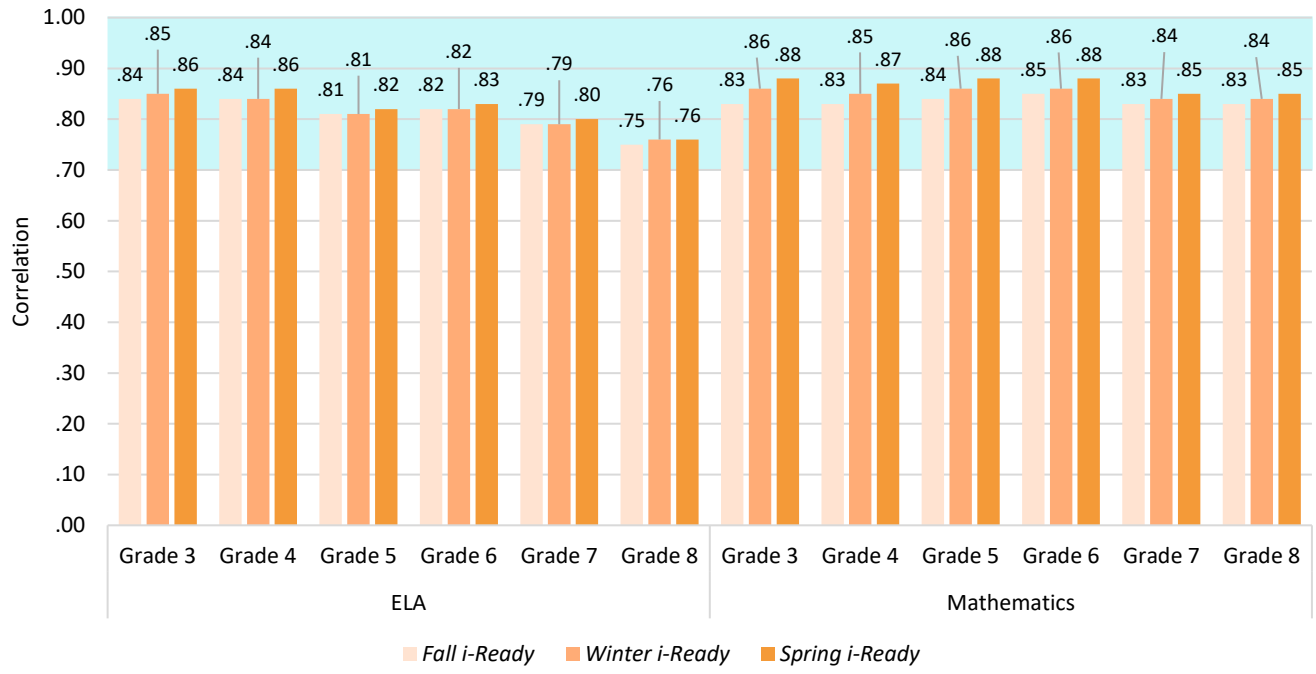
District	Schools Participating	Location	Total Enrollment	% National School Lunch Program	% English Language Learners[1]
1	62	Suburb (55), Rural (6), Town (1)	35,000–39,999	10%	5%
2	42	City (41), Rural (1)	20,000–24,999	75%	35%
3	41	Suburb (28), Rural (10), Town (3)	20,000–24,999	35%	10%
4	22	City (21), Rural (1)	9,000–9,499	40%	25%
5	26	Suburb (22), Rural (3), City (1)	8,500–8,999	35%	<5%
6	18	Suburb (11), City (7)	7,000–7,499	20%	5%
7	18	Suburb (10), Rural (8)	6,000–6,499	50%	5%
8	17	City (16), Suburb (1)	6,000–6,499	80%	10%
9	8	Town (6), Rural (2)	3,000–3,499	45%	20%
10	4	Town (3), Rural (1)	1,000–1,499	65%	20%
11	1	Rural (1)	1,000–1,499	*	15%
12	5	Rural (3), Suburb (2)	1,000–1,499	55%	15%
13	4	Rural (2), Town (2)	1,000–1,499	15%	5%
14	3	Suburb (2), Rural (1)	800–899	35%	<5%
Average of Participating Districts[2]				38%	16%
Average across All Districts in the State[2]				38%	11%

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.
[1]Data on English language learners is only available at the district level.
[2]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 CMAS (see Figure 1). Specifically, spring correlations for ELA ranged from .76 for Grade 8 to .86 for Grades 3 and 4, and spring correlations for Mathematics ranged from .85 for Grades 7 and 8 to .88 for Grades 3, 5, 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 CMAS.

Figure 1 Correlations between Fall, Winter, and Spring *i-Ready Diagnostic* Scores and 2022 CMAS Scores



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 69,000 students, with between 8,929 and 11,933 students per grade for ELA for the spring *i-Ready* assessment and between 9,036 and 11,968 students per grade for Mathematics for the spring *i-Ready* assessment (see Table 2). These students took both the *i-Ready Diagnostic* and the CMAS 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
Grade 3	11,385	11,457	11,771	11,395	11,463	11,828
Grade 4	11,554	11,583	11,933	11,477	11,490	11,968
Grade 5	11,340	11,376	11,636	11,256	11,136	11,647
Grade 6	9,700	10,057	10,273	9,913	9,966	10,221
Grade 7	9,648	9,647	9,781	9,871	9,601	9,902
Grade 8	8,875	8,845	8,929	9,056	8,709	9,036

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 Colorado Students in this Study

	American Indian or Alaska Native	Asian	Black	Hawaiian or Pacific Islander	Hispanic	Two or More Races	White
ELA	1.1%	4.8%	5.4%	.5%	30.9%	3.5%	53.9%
Mathematics	1.1%	4.8%	5.4%	.4%	31.1%	3.5%	53.6%