



Includes
ESSA Level
2 and 3
Evidence

Evidence of the Impact of *i-Ready* on Students' Reading and Mathematics Achievement

.....
*A summary of i-Ready efficacy studies including
independent and third-party research*
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About *i-Ready*

i-Ready is backed by the most practical and applicable efficacy research in education. *i-Ready Instruction*—the system of personalized lessons designed to fill students' knowledge gaps and help every student reach grade-level proficiency—has been studied by numerous third-party and independent organizations, as well as Curriculum Associates' own research team, in partnership with educators throughout the country.

Key Findings

This document provides an overview of various studies that demonstrate how *i-Ready Instruction* effectively improves the reading and mathematics skills of students across the country in Grades K–8, including:

- **Research meeting the Every Student Succeeds Act (ESSA) Level 2 (Moderate) evidence requirements:** Many rigorous research studies meeting **ESSA Level 2 (Moderate)** evidence standards show **positive and statistically significant gains** for students receiving *i-Ready Instruction* above that of their control group counterparts in both reading and mathematics on internal (i.e., *i-Ready Diagnostic*) and external (e.g., Acadience Reading, Florida Standards Assessment (FSA), and Smarter Balanced Assessment (SBA)) outcome measures (Dvorak & Randel, 2019a; Dvorak, Randel, & Swain, 2019b; Dvorak, Randel, & Swain, 2019c; Dvorak & Randel, 2019d; Dvorak & Randel, 2019e; Marple, Jaquet, Laudone, Sewell, & Liepmann, 2019; Brasiel & Martin, 2015; Evaluation and Training Institute, 2019; Seabolt, 2018; Snyder, Eager, Juth, Lawanto, & Williams, 2016).
- **Studies demonstrating improvement on state tests:** Several independent studies (those conducted without guidance or funding by Curriculum Associates) found that *i-Ready Instruction* students outperformed their peers, making **positive and statistically significant gains** on state test measures such as the FSA, SBA, and Utah’s Student Assessment of Growth and Excellence (SAGE) (e.g., Marple et al., 2019; Seabolt, 2018; STEM Action Center Utah, 2018).
- **Evidence of efficacy with special populations of students:** A large-scale study from the 2017–2018 school year conducted by Curriculum Associates (2019) found that **students with disabilities, students who were English Learners (ELs), and students who were economically disadvantaged outperformed students in the same subgroups**, demonstrating **positive and statistically significantly higher growth** on the *i-Ready Diagnostic* in both Reading and Mathematics. An **independent study** also found that students with disabilities, including students in inclusion programs and resource classrooms, scored statistically significantly higher in the spring than the fall in Reading and Mathematics (Forsman, 2018).

Summary of Research Studies on *i-Ready*

The summary table on the next page features studies on the programs created by Curriculum Associates that include *i-Ready Instruction*. *i-Ready Instruction* (“*i-Ready*”) can be used on its own or as part of *Ready*® *Mathematics* Blended Core Curriculum (“*Ready Mathematics* Blended Core,” which includes *i-Ready Instruction* and the *Ready Mathematics* Core system of books and/or online tools), or *Ready* Blended Supplemental, which includes *i-Ready Instruction* with *Ready Reading* or *Ready Mathematics* books and/or online tools.

The summaries that follow are provided for convenience, and those interested in further details are encouraged to review the original research studies, which are accessible at CurriculumAssociates.com/i-Ready-Research.

Summary of i-Ready Instruction Efficacy Research

Study Name Author (Year)	Study Population				Description/Methodology					
	Subject		Grades		Meets ESSA		Large Sample Size (N = 350 or More Students)	Positive, Statistically Significant Results for Some or All Grades	Independent or Third-Party Author ^{††}	Disaggregated Results*
	Reading	Math	K-5	6-8	Level 2 (Moderate)	Level 3 (Promising)				
<i>i-Ready</i>										
1 <i>i-Ready</i> Efficacy: Research on <i>i-Ready</i> Instruction Program Impact Curriculum Associates (2019a)	●	●	●	●		●	●	●		●
2 An Impact Evaluation of <i>i-Ready</i> Diagnostic and Instruction Implementation for Reading at Grades K-2 Dvorak et al. (2019a)	●		●		●		●	●	● ^{††}	
3 An Impact Evaluation of Mathematics and Reading <i>i-Ready</i> Instruction for Elementary Grades Dvorak et al. (2019b)	●	●	●		●		●	●	● ^{††}	
4 An Impact Evaluation of Reading <i>i-Ready</i> Instruction for Middle School Grades Dvorak et al. (2019c)	●			●	●		●	●	● ^{††}	
5 <i>i-Ready</i> in 7th Grade Math Classes: A Mixed Methods Case Study Marple et al. (2019)		●		●	● [†]		●	●	●	
6 STEM Action Center Program Evaluation Reports Brasiel & Martin (2015); Snyder et al., (2016); Utah Education Policy Center (2017); Utah STEM Action Center (2018)		●	●	●	● [†]		●	●	●	
7 Utah's Early Intervention Reading Software Program Report Evaluation and Training Institute (2019)	●		●		● [†]		●	●	●	

*Specific student groups include students with disabilities, students who were ELs, and students who were economically disadvantaged.

[†]Study includes characteristics for meeting ESSA Level 2 (Moderate) evidence. However, because the authors did not specify which ESSA evidence level the study meets in the report, nor has it been reviewed by an independent clearinghouse such as the What Works Clearinghouse, educators should review the full research report in order to determine if it meets their own interpretations for ESSA evidence.

^{††}Third-party studies are defined as those that were conducted by external research organizations that were contracted by Curriculum Associates to independently perform the research to industry-recognized standards. Studies by independent authors (without ^{††}) were conducted and funded entirely independently of Curriculum Associates.

Summary of i-Ready Instruction Efficacy Research, Cont'd.

Study Name Author (Year)	Study Population				Description/Methodology					
	Subject		Grades		Meets ESSA		Large Sample Size (N = 350 or More Students)	Positive, Statistically Significant Results for Some or All Grades	Independent or Third-Party Author ^{††}	Disaggregated Results*
	Reading	Math	K-5	6-8	Level 2 (Moderate)	Level 3 (Promising)				
<i>i-Ready, Cont'd.</i>										
8 What Is the Impact on Growth in Language Arts and Mathematics Skills for Special Needs Students when the <i>i-Ready</i> Program Is Implemented? Forsman (2018)	●	●		●		●		●	●	●**
9 A Causal Comparative Analysis of a Computer Adaptive Mathematics Program Using Multilevel Propensity Score Matching Seabolt (2018)		●	●		● [†]		●	●	●	
<i>Ready Mathematics Blended Core</i>										
10 An Impact Evaluation of the Blended Core Mathematics Program for Elementary Grades Swain et al. (2019)		●	●		●		●	●	● ^{††}	
<i>Ready Blended Supplemental</i>										
11 An Impact Evaluation of Supplemental Blended Implementation for Mathematics at Grades 6-8 Dvorak et al. (2019d)		●		●	●		●	●	● ^{††}	
12 An Impact Evaluation of Supplemental Blended Implementation for Reading at Grades K-2 Dvorak et al. (2019e)	●		●		●		●	●	● ^{††}	

*Specific student groups include students with disabilities, students who were ELs, and students who were economically disadvantaged.

**Reported for students with disabilities only.

[†]Study includes characteristics for meeting ESSA Level 2 (Moderate) evidence. However, because the authors did not specify which ESSA evidence level the study meets in the report, nor has it been reviewed by an independent clearinghouse such as the What Works Clearinghouse, educators should review the full research report in order to determine if it meets their own interpretations for ESSA evidence.

^{††}Third-party studies are defined as those that were conducted by external research organizations that were contracted by Curriculum Associates to independently perform the research to industry-recognized standards. Studies by independent authors (without ^{††}) were conducted and funded entirely independently of Curriculum Associates.

***i-Ready* Research Study Summaries**

Each efficacy study highlighted within the table on pages 4–5 is summarized below. Those interested in further details are encouraged to review the original research studies, which are accessible at CurriculumAssociates.com/i-Ready-Research.

1 *i-Ready* Efficacy: Research on *i-Ready* Instruction Program Impact

AUTHOR(S):
Curriculum Associates, 2019a

EVALUATION SCHOOL YEAR:
2017–2018

PRODUCT:
i-Ready

GRADE(S):
K–8

ESSA LEVEL:
3 (Promising)

Curriculum Associates analyzed data from more than one million students who took the *i-Ready Diagnostic* in the 2017–2018 school year. In both reading and mathematics, students who used *i-Ready Instruction* for an average of 45 minutes or more per subject per week for at least 18 weeks experienced greater learning gains compared to students who did not, when controlling for prior achievement. This study also examined differences among special populations. Students with disabilities, students who were ELs, and students who were economically disadvantaged who used *i-Ready Instruction* all saw greater growth than students from the same subgroups who did not have access to the program. The significance of the findings and the rigorous study design provide support for *i-Ready* as a program that meets the criteria for ESSA Level 3.

2 An Impact Evaluation of *i-Ready Diagnostic and Instruction* Implementation for Reading at Grades K–2: Final Report

AUTHOR(S):
Dvorak et al., 2019a

EVALUATION SCHOOL YEAR:
2016–2017

PRODUCT:
i-Ready

GRADE(S):
K–2

ESSA LEVEL:
2 (Moderate)

Utilizing a quasi-experimental study designed to meet ESSA Level 2 criteria, the Human Resources Research Organization (HumRRO), a third-party research firm, examined the effect of *i-Ready Instruction* for Reading for early elementary students in Grades K–2 during the 2016–2017 school year. Analyses using propensity score matching and hierarchical linear modeling found that schoolwide implementation of *i-Ready Instruction* for Reading in Grades K–2 resulted in increased student achievement compared to schools using only the *i-Ready Diagnostic*.

3 An Impact Evaluation of Mathematics and Reading *i-Ready Instruction* for Elementary Grades

AUTHOR(S):
Dvorak et al., 2019b

EVALUATION SCHOOL YEAR:
2017–2018

PRODUCT:
i-Ready

GRADE(S):
K–5

ESSA LEVEL:
2 (Moderate)

HumRRO, a third-party research firm, conducted a quasi-experimental study designed to meet ESSA Level 2 criteria examining the impact of *i-Ready Instruction* for Reading and Mathematics among elementary students in Grades K–5 during the 2017–2018 school year. Leveraging propensity score matching at the school and student level, HumRRO identified a final sample of 121 schools and more than 37,000 students. Final impact analyses using hierarchical linear modeling showed that students in schools implementing *i-Ready Instruction* with fidelity experienced statistically significantly higher student-level achievement in mathematics for all grades, as well as in reading at Grades K–2. Implementing *i-Ready Instruction* with fidelity was defined as using *i-Ready Instruction* for an average of 30 minutes per subject per week for at least 18 weeks.

4 An Impact Evaluation of Reading *i-Ready Instruction* for Middle School Grades

AUTHOR(S):
Dvorak et al., 2019c

**EVALUATION
SCHOOL YEAR:**
2017–2018

PRODUCT:
i-Ready

GRADE(S):
6–8

ESSA LEVEL:
2 (Moderate)

HumRRO, a third-party research firm, examined the impact of *i-Ready Instruction* for Reading among middle school students in Grades 6–8 during the 2017–2018 school year. Using a quasi-experimental design with propensity score matching designed to meet ESSA Level 2 criteria, HumRRO identified a final sample of 24 schools and nearly 19,000 students. Using hierarchical linear modeling, HumRRO found that sixth grade students using *i-Ready Instruction* for Reading experienced statistically significantly higher spring scores than students not using *i-Ready Instruction*. Students using *i-Ready Instruction* in Grades 7 and 8 experienced higher spring scores than students not using *i-Ready Instruction*, but differences were not statistically significant.

5 *i-Ready* in 7th Grade Math Classes: A Mixed Methods Case Study

AUTHOR(S):
Marple et al., 2019

**EVALUATION
SCHOOL YEAR:**
2017–2018

PRODUCT:
i-Ready

GRADE(S):
7

ESSA LEVEL:
2 (Moderate)[†]

Conducted by WestEd in partnership with the Silicon Valley Education Foundation and supported by the Bill & Melinda Gates Foundation, this independently funded quasi-experimental study that meets ESSA Level 2 criteria found that seventh grade students who spent a minimum of 45 minutes a week or more on *i-Ready Instruction* for Mathematics during the 2017–2018 school year demonstrated a significant improvement in their scores on the SBA over students who did not. Specifically, utilizing data from more than 1,700 students, WestEd found that students using *i-Ready Instruction* for more than 45 minutes tended to score 24 points higher than similar students who used *i-Ready Instruction* for less than 45 minutes. Students with 45 minutes or more in *i-Ready Instruction* also experienced greater growth toward the next achievement level on the SBA.

6 Utah STEM Action Center Multiyear Studies

AUTHOR(S):
Brasiel & Martin, 2015; Snyder et al., 2016; Utah Education Policy Center, 2017; STEM Action Center, 2018

**EVALUATION
SCHOOL YEARS:**
2014–2015;
2015–2016;
2016–2017;
2017–2018

PRODUCT:
i-Ready

GRADE(S):
K–8

ESSA LEVELS:
2 (Moderate)[†] and
3 (Promising)

The Utah STEM Action Center conducted a multiyear evaluation of multiple providers of online instructional technology for mathematics for the K–12 Mathematics Personalized Learning Software Grant Pilot Program, including *i-Ready Instruction*. For school years 2014–2015 through 2017–2018, the Utah STEM Action Center published annual reports regarding the implementation and effectiveness of these technologies. (Note that the study design varied by evaluation school year.) Using multiple methodologies such as linear and logistic regression, these reports showed that *i-Ready Instruction* was consistently one of the top mathematics solutions among the vendors evaluated. The most recent evaluation from 2017–2018 examined whether the use of online mathematics instructional technology impacted performance on Utah’s SAGE test. Use of *i-Ready Instruction* was associated with increased likelihood of proficiency on the SAGE test, and students who used *i-Ready Instruction* with greater frequency demonstrated higher student growth percentiles than students who used *i-Ready* with lower frequency.

[†]Study includes characteristics for meeting ESSA Level 2 (Moderate) evidence. However, because the authors did not specify which ESSA evidence level the study meets in the report, nor has it been reviewed by an independent clearinghouse such as the What Works Clearinghouse, educators should review the full research report in order to determine if it meets their own interpretations for ESSA evidence.

7 Utah's Early Intervention Reading Software Program Report

AUTHOR(S):
Evaluation and Training Institute, 2019

EVALUATION SCHOOL YEAR:
2018–2019

PRODUCT:
i-Ready

GRADE(S):
K–3

ESSA LEVEL:
2 (Moderate)[†]

On behalf of the Utah State Board of Education, the Evaluation and Training Institute conducted an evaluation on Utah's Early Intervention Software Program (EISP) for Reading during the 2018–2019 school year. The EISP was implemented in 88 Local Education Agencies (LEAs) that had the option of selecting one of four adaptive computer-based literacy software programs, including *i-Ready Instruction* for Reading, for use with all students in Grades K–1 and struggling readers in Grades 2–3. The evaluators found that *i-Ready* had a positive and statistically significant impact on literacy achievement (as measured by the Acadience Reading composite scores) for students in kindergarten, first grade, and third grade. Of the four vendors, *i-Ready Instruction* had some of the largest effect sizes (effect size = .33 for Grade K, effect size = .32 for Grade 1, and effect size = .25 for Grade 3).

8 What Is the Impact on Growth in Language Arts and Mathematics Skills for Special Needs Students when the *i-Ready* Program Is Implemented?

AUTHOR(S):
Forsman, 2018

EVALUATION SCHOOL YEAR:
2016–2017

PRODUCT:
i-Ready

GRADE(S):
6–8

ESSA LEVEL:
3 (Promising)

This dissertation examined the use of *i-Ready Instruction* as an effective intervention strategy for students with disabilities in reading and mathematics during the 2016–2017 school year. Sixty-six students were identified as students with disabilities in the following categories: Emotionally Disabled, Intellectual Disability, Multiple Disabilities, Language/Speech Impaired, Specific Learning Disabled in one or all subjects, Autism, and Other Health Impaired. Using multiple independent samples *t*-tests and the *i-Ready Diagnostic* as the outcome measure, these analyses found that students in inclusion classrooms (in which students with and without disabilities learn together) scored statistically significantly higher in the spring than the fall in reading and mathematics. Resource students (students with disabilities who received specialized instruction outside of the general education classroom) also experienced statistically significantly greater scores in the spring compared to the fall in reading. This study meets ESSA Level 3 criteria.

9 A Causal Comparative Analysis of a Computer Adaptive Mathematics Program Using Multilevel Propensity Score Matching

AUTHOR(S):
Seabolt, 2018

EVALUATION SCHOOL YEAR:
2016–2017

PRODUCT:
i-Ready

GRADE(S):
5

ESSA LEVEL:
2 (Moderate)[†]

This dissertation examined the effectiveness of *i-Ready Instruction* for Mathematics for fifth grade students in a school district in central Florida during the 2016–2017 school year. Leveraging multilevel propensity score matching, students using *i-Ready Instruction* with fidelity (a minimum of 45 minutes per week for at least 25 weeks) were matched to students who did not use *i-Ready* with fidelity. Impact analyses conducted with multilevel models demonstrated that students using *i-Ready Instruction* with fidelity experienced greater mathematics score gains on the FSA compared to those who did not use *i-Ready* with fidelity. This study meets ESSA Level 2 criteria.

[†]Study includes characteristics for meeting ESSA Level 2 (Moderate) evidence. However, because the authors did not specify which ESSA evidence level the study meets in the report, nor has it been reviewed by an independent clearinghouse such as the What Works Clearinghouse, educators should review the full research report in order to determine if it meets their own interpretations for ESSA evidence.

10 An Impact Evaluation of the Blended Core Mathematics Program for Elementary Grades

AUTHOR(S):
Swain et al.,
2019; Curriculum
Associates, 2019b

**EVALUATION
SCHOOL YEAR:**
2017–2018

PRODUCT:
Ready Mathematics
Blended Core
(includes *i-Ready*)

GRADE(S):
K–5

ESSA LEVEL:
2 (Moderate)

HumRRO, a third-party research firm, conducted a study using data from the 2017–2018 school year of more than 21,000 students to understand the impact of the *Ready Mathematics* Blended Core Curriculum (*i-Ready Diagnostic*, *i-Ready Instruction*, and *Ready Mathematics* used as core instruction) on mathematics achievement for students in Grades K–5. The quasi-experimental study, leveraging hierarchical linear modeling and propensity score matching, meets ESSA Level 2 criteria. HumRRO’s findings support that participation in *Ready Mathematics* Blended Core Curriculum resulted in higher student-level achievement in mathematics, as measured by the *i-Ready Diagnostic*, compared to a control group of students using only the *i-Ready Diagnostic*. For students with comparable starting points, the mean mathematics achievement for the *Ready Mathematics* Blended Core Curriculum group was statistically significantly higher in all Grades K–5. Moreover, the effect sizes provided additional support that students in *Ready Mathematics* Blended Core Curriculum schools benefited from their school’s adoption and implementation of the *Ready Mathematics* Blended Core Curriculum.

11 An Impact Evaluation of Supplemental Blended Implementation for Mathematics at Grades 6–8

AUTHOR(S):
Dvorak et al., 2019d

**EVALUATION
SCHOOL YEAR:**
2016–2017

PRODUCT:
Ready Mathematics
Blended Core
(includes *i-Ready*)

GRADE(S):
6–8

ESSA LEVEL:
2 (Moderate)

HumRRO, a third-party research firm, conducted a quasi-experimental study designed to meet ESSA Level 2 criteria to examine whether the use of the Supplemental Blended Program in Mathematics (*i-Ready Diagnostic*, *i-Ready Instruction*, and *Ready Mathematics* used as a supplement to the core instruction) resulted in higher student achievement than use of only the *i-Ready Diagnostic*. Utilizing propensity score matching and hierarchical linear modeling, HumRRO examined data from the 2016–2017 school year and found that school-level implementation of the Supplemental Blended Program in Mathematics resulted in increased student achievement compared to schools using the *i-Ready Diagnostic*.

12 An Impact Evaluation of Supplemental Blended Implementation for Reading at Grades K–2

AUTHOR(S):
Dvorak et al., 2019e

**EVALUATION
SCHOOL YEAR:**
2016–2017

PRODUCT:
Ready Blended
Supplemental
(includes *i-Ready*)

GRADE(S):
K–2

ESSA LEVEL:
2 (Moderate)

HumRRO, a third-party research firm, conducted a quasi-experimental study designed to meet ESSA Level 2 criteria to examine the Supplemental Blended Program in Reading (*i-Ready Diagnostic*, *i-Ready Instruction*, and *Ready Reading* used as a supplement to the core instruction) for early elementary students in Grades K–2 during the 2016–2017 school year. Analyses using propensity score matching and hierarchical linear modeling found that school-level implementation of the Supplemental Blended Program in Reading for Grades K–2 resulted in increased student achievement compared to schools using only the *i-Ready Diagnostic*.

For More Information

Please visit CurriculumAssociates.com/i-Ready-Research to read the full research reports.



References

- Brasiel, S., & Martin, T. (2015). *STEM action center grant program annual evaluation report 2014-15*. Logan, UT: Utah State University, Department of Instructional Technology and Learning Sciences.
- Curriculum Associates, LLC. (2019a). *i-Ready efficacy: Research on i-Ready Instruction program impact*. (Curriculum Associates research report No. RR 2019-55). North Billerica, MA: Author.
- Curriculum Associates, LLC. (2019b). *Research on program impact of Ready Mathematics Blended Core Curriculum*. (Curriculum Associates research report No. RR 2019-54). North Billerica, MA: Author.
- Dvorak, R. N., & Randel, B. (2019a). *An impact evaluation of i-Ready Diagnostic and Instruction implementation for reading at grades K–2: Final report*. (HumRRO report 2019 No. 032). Alexandria, VA: HumRRO.
- Dvorak, R. N., Randel, B., & Swain, M. (2019b). *An impact evaluation of mathematics and reading i-Ready Instruction for elementary grades: Final report*. (HumRRO Report 2019 No. 062). Alexandria, VA: HumRRO.
- Dvorak, R. N., Randel, B., & Swain, M. (2019c). *An impact evaluation of reading i-Ready Instruction for middle school grades*. (HumRRO Report 2019 No. 074). Alexandria, VA: HumRRO.
- Dvorak, R. N., & Randel, B. (2019d). *An impact evaluation of supplemental blended implementation for mathematics at grades 6–8: Final report*. (HumRRO Report 2019 No. 003). Alexandria, VA: HumRRO.
- Dvorak, R. N., & Randel, B. (2019e). *An impact evaluation of supplemental blended implementation for reading at grades K–2: Final report*. (HumRRO Report 2019 No. 002). Alexandria, VA: HumRRO.
- Evaluation and Training Institute. (2019). *Early intervention reading software program report*. <https://schools.utah.gov/file/ae750095-378d-4c5e-a7af-1ac0268610b5>
- Forsman, T. A. (2018). *What is the impact on growth in language arts and mathematics skills for special needs students when the i-Ready program is implemented?* (Doctoral dissertation).
- Marple, S., Jaquet, K., Laudone, A., Sewell, J., & Liepmann, K. (2019). *i-Ready in 7th grade math classes: A mixed methods case study*. San Francisco, CA: WestEd.
- Seabolt, J. (2018). *A causal comparative analysis of a computer adaptive mathematics program using multilevel propensity score matching*. (Doctoral dissertation).
- Snyder, M., Eager, K., Juth, S., Lawanto, K., Williams, T. (2016). *STEM action center grant program annual evaluation report: 2015–2016*. Logan, UT: Utah State University, Department of Psychology.
- STEM Action Center Utah (2018). *Utah STEM action center annual report fy2018*.
- Swain, M., Randel, B., & Dvorak, R. (2019). *An impact evaluation of the blended core mathematics program for elementary grades: Final report—revised*. (HumRRO Report 2019 No. 029). Alexandria, VA: HumRRO.
- The Utah Education Policy Center and Utah Valley University: School of Education. (2017). *STEM action center program evaluation: Academic year 2016–17*.





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