



ARIZONA DEPARTMENT OF EDUCATION

Each reading intervention program will be scored using a rubric. A response must meet **all** the criteria in each scored area to be included on the K-3 MOWR vetted reading intervention program list. *Effect Size, Peer Review, and MTSS Level of Support may be noted in the study but does not disqualify overall approval.

Study: [Examining the Efficacy of mCLASS Intervention](#)

Date of Study: 2025

Grade Levels of Study: K-3rd grade

Reading Intervention Program's Marketed Name: mCLASS Intervention

	Rating or Measure Select: Y or N	Rationale
ESSA Evidence Tier	Y	A randomized matched pair study examining the effectiveness of mCLASS Intervention in improving Tier 2 student reading achievement for elementary students in Grades K–3.
Independent Researchers (Y/N)	Y	University of Michigan Institute for Social Research (ISR)- Sandra Pappas, Allison York, Ye Wang, Kathleen Richards
Established Measure (Y/N)	Y	Students in both treatment and control schools were administered the DIBELS Next assessment at BOY, MOY, and EOY and STAR Early Literacy (SEL; Renaissance Learning, 2008) at EOY. Treatment students were also administered a series of mCLASS Intervention-specific measures: First Sound Fluency (FSF), Letter Naming Fluency (LNF), Phoneme Segmentation Fluency (PSF), Nonsense Word Fluency (NWF), DIBELS Oral Reading Fluency (DORF), and Daze. An additional three measures were administered to students in mCLASS Intervention schools. The mCLASS Intervention-specific measures were designed to supplement DIBELS Next, assessing students' comprehension, vocabulary, and

		decoding knowledge of regular words, irregular words, letter combinations, and advanced phonics. Decoding (DEC), vocabulary (VOC), and Comprehension Skills (mCLASS Intervention CS).
Sample Size	Y	29 schools were randomly assigned to the treatment group and 28 schools were assigned to the control group. Given the odd number of schools participating in the study, one treatment group school was matched to two control schools. Schools assigned to the treatment group implemented mCLASS Intervention with Tier 2 students considered to be struggling based on DIBELS Next composite scores and therefore eligible to receive additional support. The final sample included 57 elementary schools that serve ethnically diverse, lower-income student populations. Participating schools represented approximately 12,000 kindergarten through third grade students from 10 states and included 14 school districts. A large proportion of students within both conditions were White (56.21% treatment and 42.74% control), followed by African American (17.57% treatment and 18.01% control) and Hispanic (9.27% treatment and 15.12% control).
Research Design	Y	A longitudinal matched pair randomized controlled trial experimental design was used wherein schools were randomly assigned to treatment or control groups after blocking on low socioeconomic status ([SES]; i.e., schools selected based on at least 50 percent of students eligible for free or reduced-price lunch). Teachers implemented mCLASS Intervention instruction from August through May, or for the duration of their academic school year. All students assigned to mCLASS Intervention schools were assessed with the suite of Benchmark measures at BOY, MOY, and EOY during district/school pre-established assessment windows lasting approximately 2 weeks. Students who were selected for mCLASS Intervention received 10-day sequences of 30-minute intervention lessons, and they were assessed with progress monitoring measures corresponding to their instructed skills on the last day of each

		sequence. This schedule served as a guideline for educators, and analytical results should be interpreted with an understanding that strict adherence to this schedule did not always occur. Schools assigned to the control group implemented business-as-usual practices, which likely included district- or school-directed interventions. Interventions implemented within non-mCLASS Intervention control group schools were district/school-selected and may have differed between districts as well as between schools within a district. In addition, control schools were granted access to Now What? Tools, a supplement to DIBELS Next which supports struggling students. Fidelity data were collected via the mCLASS Intervention fidelity checklist, which was developed and piloted specifically for this study. The observations covered 16 schools by three observers for Grades K–3, with 35 responses in total. The average number of students in mCLASS Intervention groups was 4.33 when observed. These results suggest a high level of adherence to the implementation of mCLASS Intervention as it was designed. The analyses evaluated the impact of mCLASS Intervention on only those students who were eligible to receive additional support, comparing only Red/Yellow students in the schools receiving mCLASS Intervention to Red/Yellow students in schools that did not receive mCLASS Intervention. First a comparison of the DIBELS Next pretest composite scores (DIBELS CS) of the treatment and control groups was conducted to determine whether these two groups had significant academic differences prior to the start of the study. Analysis of DIBELS BOY 2013 pretest DIBELS CS suggest that there were no significant differences between the DIBELS CS of students in mCLASS Intervention and non-mCLASS Intervention schools in kindergarten, Grade 2, and Grade 3 [kindergarten: $t(1314) = 0.98$, n.s.; Grade 2: $t(1008) = 0.55$, n.s.; Grade 3: $t(1003) = 0.59$, n.s.]. However, the DIBELS CS of Grade 1 students in mCLASS Intervention schools was significantly higher than those who were in the nonmCLASS Intervention schools [$t(1253) = 2.82$, $p < 0.05$; see Table 6]. Thus, ANCOVA (Analysis of Covariance) and adjusted means will be used to examine post-
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		test scores, thereby controlling for any pretest differences.
Outcome	Y	Results suggest that student achievement in mCLASS Interventions schools is higher than similar students not in mCLASS Intervention schools on the Dynamic Indicators of Basic Early Literacy Skills (DIBELS Next) and STAR Early Literacy (SEL) measures across one full year in Grades K–3. The findings suggest that mCLASS Intervention, a data-driven, differentiated instructional intervention, promotes student achievement. Overall, results suggest that mCLASS Intervention was successful in boosting student performance; the treatment group demonstrated performance over and above that which was achieved by the control group. There are several possible explanations for the lack of mCLASS Intervention impact on Grade 3. For example, this result may be related to higher DIBELS Next performance at BOY for Grade 3 students in mCLASS Intervention schools, which limited the opportunity for growth (i.e., a ceiling effect). In addition, state-mandated testing and associated preparation in Grade 3 may have been prioritized over participation in mCLASS Intervention thereby reducing the number of mCLASS Intervention cycles offered to struggling students in Grade 3. Lastly, research supports the notion that growth in upper elementary school grades improves at a slower pace (e.g., Christ, Silberglitt, Yeo, & Cormier, 2010). Furthermore, homogeneity of instructional needs within intervention groups promotes intervention efficacy (Gersten et al., 2008), but the longer a school waits to provide highquality intervention to struggling students, the more heterogeneous the classroom profile of skills becomes, as some students may be much further behind in reading development than their classmates.
Statistical Significance	Y	The data presented within this report represent year 1 of a 4-year longitudinal study. Student Growth Percentiles (SGPs; Betebenner, 2009) use quantile regression to provide a

		normative context for interpreting student growth based on prior performance. In kindergarten, Grade 1, Grade 2, and overall, mCLASS Intervention students achieved growth that was significantly higher than their matched pair control group counterparts from the beginning to the end of the year (Overall across grades: $Z = 3.83$, $p < 0.05$; kindergarten: $Z = 2.57$, $p < 0.05$; Grade 1: $Z = 2.39$, $p < 0.05$; Grade 2: $Z = 2.59$, $p < 0.05$). In Grade 3, growth was not significantly different between mCLASS Intervention (i.e., treatment) and control groups ($Z = 0.11$, n.s.). A one-way between-groups analysis of covariance (ANCOVA) was conducted to compare the effect of the intervention program in the treatment group to the control group's performance on post-test DIBELS Next measures and STAR Early Literacy at the end of the year. As with the SGP results, the performance of students in Grade 3 is not significantly different between treatment and control groups (effect sizes range from -0.08 to 0.03). The effect sizes are typically highest in kindergarten and Grade 1. The highest effect was found in NWF-WWR results for kindergarten [$t(1152) = 5.16$, $p < 0.05$, effect size = 0.50].
*Effect Size	Y	Post-Test Results for DIBELS Next and SEL: full sample.

Measure Name	Variables	Rename file	Control	Significance Test
DIBELS Composite Score GK	Unadjusted mean	120.39	114.58	t(1152) = 2.56, p < 0.05, effect size = 0.24
	Adjusted mean	120.65	114.31	
	Unadjusted standard deviation	45.76	44.39	
	n	588	567	
DIBELS Composite Score G1	Unadjusted mean	106.03	100.78	t(1110) = 2.79, p < 0.05, effect size = 0.25
	Adjusted mean	108.96	97.85	
	Unadjusted standard deviation	77.13	73.07	
	n	556	557	
DIBELS Composite Score G2	Unadjusted mean	157.85	143.64	t(901) = 2.89, p < 0.05, effect size = 0.19
	Adjusted mean	156.33	145.20	
	Unadjusted standard deviation	88.41	88.64	
	n	458	446	
DIBELS Composite Score G3	Unadjusted mean	251.18	249.52	t(847) = -0.45, n.s., effect size = -0.03
	Adjusted mean	249.18	251.31	
	Unadjusted standard deviation	114.15	110.61	
	n	401	449	

Measure Name	Variables	Burst	Control	Significance Test
STAR Early Literacy Scaled Score GK	Unadjusted mean	621.87	609.67	t(1038) = 2.22, p < 0.05, effect size = 0.21
	Adjusted mean	622.42	609.06	
	Unadjusted standard deviation	98.18	104.67	
	n	544	497	
STAR Early Literacy Scaled Score G1	Unadjusted mean	688.44	682.92	t(999) = 2.22, p < 0.05, effect size = 0.20
	Adjusted mean	692.23	679.02	
	Unadjusted standard deviation	105.59	103.95	
	n	508	494	
STAR Early Literacy Scaled Score G2	Unadjusted mean	741.48	731.05	t(791) = 1.92, n.s., effect size = 0.17
	Adjusted mean	741.56	730.96	
	Unadjusted standard deviation	90.40	88.89	
	n	410	384	
STAR Early Literacy Scaled Score G3	Unadjusted mean	789.86	788.38	t(771) = -0.27, n.s., effect size = -0.02
	Adjusted mean	788.31	789.69	
	Unadjusted standard deviation	79.29	78.36	
	n	354	420	
LNF GK	Unadjusted mean	45.11	42.57	t(1152) = 2.81, p < 0.05, effect size = 0.26
	Adjusted mean	45.20	42.47	
	Unadjusted standard deviation	18.01	16.87	
	n	588	567	

		<table><tr><th>Measure Name</th><th>Variables</th><th>Burst</th><th>Control</th><th>Significance Test</th></tr><tr><td rowspan="4">PSF GK</td><td>Unadjusted mean</td><td>44.09</td><td>43.02</td><td rowspan="4">t(1152) = 1.18, n.s., effect size = 0.11</td></tr><tr><td>Adjusted mean</td><td>44.18</td><td>42.93</td></tr><tr><td>Unadjusted standard deviation</td><td>18.59</td><td>19.07</td></tr><tr><td>n</td><td>588</td><td>567</td></tr><tr><td rowspan="4">NWF-CLS GK</td><td>Unadjusted mean</td><td>31.19</td><td>28.99</td><td rowspan="4">t(1152) = 2.54, p < 0.05, effect size = 0.24</td></tr><tr><td>Adjusted mean</td><td>31.27</td><td>28.91</td></tr><tr><td>Unadjusted standard deviation</td><td>16.49</td><td>16.49</td></tr><tr><td>n</td><td>588</td><td>567</td></tr><tr><td rowspan="4">NWF-CLS G1</td><td>Unadjusted mean</td><td>49.34</td><td>47.78</td><td rowspan="4">t(1110) = 2.52, p < 0.05, effect size = 0.23</td></tr><tr><td>Adjusted mean</td><td>50.12</td><td>47.00</td></tr><tr><td>Unadjusted standard deviation</td><td>23.66</td><td>21.81</td></tr><tr><td>n</td><td>556</td><td>557</td></tr><tr><td rowspan="4">NWF-WWR GK</td><td>Unadjusted mean</td><td>3.49</td><td>2.00</td><td rowspan="4">t(1152) = 5.16, p < 0.05, effect size = 0.50</td></tr><tr><td>Adjusted mean</td><td>3.52</td><td>1.97</td></tr><tr><td>Unadjusted standard deviation</td><td>5.69</td><td>4.83</td></tr><tr><td>n</td><td>588</td><td>567</td></tr><tr><td rowspan="4">NWF-WWR G1</td><td>Unadjusted mean</td><td>11.76</td><td>11.39</td><td rowspan="4">t(1110) = 1.86, n.s., effect size = 0.17</td></tr><tr><td>Adjusted mean</td><td>12.07</td><td>11.09</td></tr><tr><td>Unadjusted standard deviation</td><td>9.94</td><td>9.19</td></tr><tr><td></td><td></td><td></td></tr></table> <table><tr><th>Measure Name</th><th>Variables</th><th>Burst</th><th>Control</th><th>Significance Test</th></tr><tr><td rowspan="4">DORF G1</td><td>Unadjusted mean</td><td>33.93</td><td>31.41</td><td rowspan="4">t(1110) = 3.38, p < 0.05, effect size = 0.30</td></tr><tr><td>Adjusted mean</td><td>34.80</td><td>30.55</td></tr><tr><td>Unadjusted standard deviation</td><td>24.10</td><td>22.74</td></tr><tr><td>N</td><td>556</td><td>557</td></tr><tr><td rowspan="4">DORF G2</td><td>Unadjusted mean</td><td>54.91</td><td>49.63</td><td rowspan="4">t(901) = 4.15, p < 0.05, effect size = 0.27</td></tr><tr><td>Adjusted mean</td><td>54.48</td><td>50.07</td></tr><tr><td>Unadjusted standard deviation</td><td>24.93</td><td>23.94</td></tr><tr><td>N</td><td>458</td><td>446</td></tr><tr><td rowspan="4">DORF G3</td><td>Unadjusted mean</td><td>70.63</td><td>71.19</td><td rowspan="4">t(847) = -1.19, n.s., effect size = -0.08</td></tr><tr><td>Adjusted mean</td><td>70.14</td><td>71.63</td></tr><tr><td>Unadjusted standard deviation</td><td>28.56</td><td>28.47</td></tr><tr><td>N</td><td>401</td><td>449</td></tr><tr><td rowspan="4">DAZE G3</td><td>Unadjusted mean</td><td>12.43</td><td>12.08</td><td rowspan="4">t(847) = 0.41, n.s., effect size = 0.03</td></tr><tr><td>Adjusted mean</td><td>12.33</td><td>12.17</td></tr><tr><td>Unadjusted standard deviation</td><td>6.98</td><td>7.20</td></tr><tr><td>n</td><td>401</td><td>449</td></tr></table>	Measure Name	Variables	Burst	Control	Significance Test	PSF GK	Unadjusted mean	44.09	43.02	t(1152) = 1.18, n.s., effect size = 0.11	Adjusted mean	44.18	42.93	Unadjusted standard deviation	18.59	19.07	n	588	567	NWF-CLS GK	Unadjusted mean	31.19	28.99	t(1152) = 2.54, p < 0.05, effect size = 0.24	Adjusted mean	31.27	28.91	Unadjusted standard deviation	16.49	16.49	n	588	567	NWF-CLS G1	Unadjusted mean	49.34	47.78	t(1110) = 2.52, p < 0.05, effect size = 0.23	Adjusted mean	50.12	47.00	Unadjusted standard deviation	23.66	21.81	n	556	557	NWF-WWR GK	Unadjusted mean	3.49	2.00	t(1152) = 5.16, p < 0.05, effect size = 0.50	Adjusted mean	3.52	1.97	Unadjusted standard deviation	5.69	4.83	n	588	567	NWF-WWR G1	Unadjusted mean	11.76	11.39	t(1110) = 1.86, n.s., effect size = 0.17	Adjusted mean	12.07	11.09	Unadjusted standard deviation	9.94	9.19				Measure Name	Variables	Burst	Control	Significance Test	DORF G1	Unadjusted mean	33.93	31.41	t(1110) = 3.38, p < 0.05, effect size = 0.30	Adjusted mean	34.80	30.55	Unadjusted standard deviation	24.10	22.74	N	556	557	DORF G2	Unadjusted mean	54.91	49.63	t(901) = 4.15, p < 0.05, effect size = 0.27	Adjusted mean	54.48	50.07	Unadjusted standard deviation	24.93	23.94	N	458	446	DORF G3	Unadjusted mean	70.63	71.19	t(847) = -1.19, n.s., effect size = -0.08	Adjusted mean	70.14	71.63	Unadjusted standard deviation	28.56	28.47	N	401	449	DAZE G3	Unadjusted mean	12.43	12.08	t(847) = 0.41, n.s., effect size = 0.03	Adjusted mean	12.33	12.17	Unadjusted standard deviation	6.98	7.20	n	401	449
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*MTSS Level of Support	Y	Research study looked at Tier II reading intervention.																																																																																																																																								

*Peer Review (Y/N)	N	Not stated.
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MOWR Committee Findings:

-Will continue to be on the MOWR Intervention Program Vetted List.