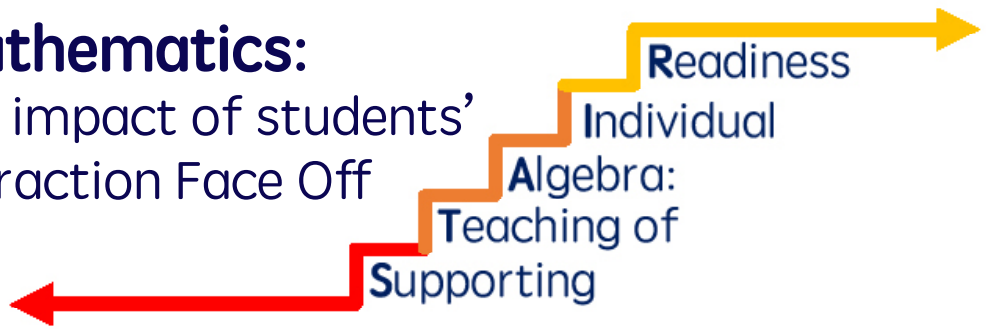


Resources in Mathematics:

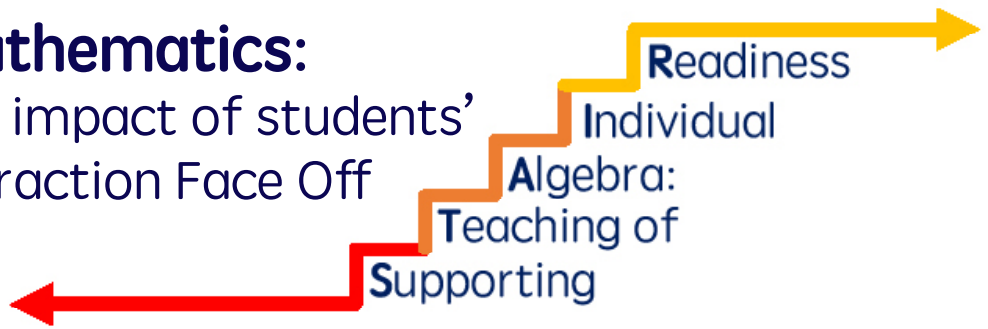
Evidence Form: the impact of students' progress utilizing Fraction Face Off



Citation	Relevant Findings	Overlap of Populations and/or Settings
<p>What Works Clearinghouse, Institute of Education Sciences, U.S. Department of Education. (2020, March). Fraction Face-Off! Retrieved from https://ies.ed.gov/ncee/wwc/Docs/InterventionReports/wwc_STEM_FFO_IR_mar2020.pdf</p> <p>Fuchs, L. S., Schumacher, R. F., Long, J., Namkung, J., Hamlett, C. L., Cirino, P. T., Jordan, N. C., Siegler, R., Gersten, R., & Changas, P. (2013). Improving at-risk learner's understanding of fractions. <i>Journal of Educational Psychology</i>, 105(3), 683 – 700. Retrieved from https://eric.ed.gov/?id=EJ1054396</p>	<p>1 study meets WWC standards without reservations</p> <p>With 212 students with MD, Fraction Face-Off has potentially positive effects with an improvement index of +33 in geometry and measurement.</p> <p>With 1,152 students, Fraction Face-Off has potentially positive effects with an improvement index of +31 for number and operations and +24 for general mathematics achievement.</p>	<p>They worked with 4th-grade students with MD; we propose to replicate with 4th-grade students with MD outside of the area (Nashville, TN) in which the original sample was collected.</p>
<p>Fuchs, L. S., Fuchs, D., Compton, D. L., Wehby, J., Schumacher, R. F., Gersten, R., & Jordan, N. C. (2015). Inclusion versus specialized intervention for very-low-performing students: What does access mean in an era of academic challenges? <i>Exceptional Children</i>, 81(2), 134 – 157. https://eric.ed.gov/?id=ED552925</p>	<p>With 121 students with MD who received Fraction Face-Off intervention, the authors noted significant effects favoring the intervention students over students in the business-as-usual (n = 84) on Comparing Fractions (ES = 1.89), Calculations with Fractions (ES = 1.68), and NAEP Fraction Items (ES = 1.54).</p>	<p>They worked with 4th-grade students with MD who scored at or below the 10th percentile; we propose to replicate with 4th-grade students, many of whom will have scored at or below the 10th percentile.</p>

Resources in Mathematics:

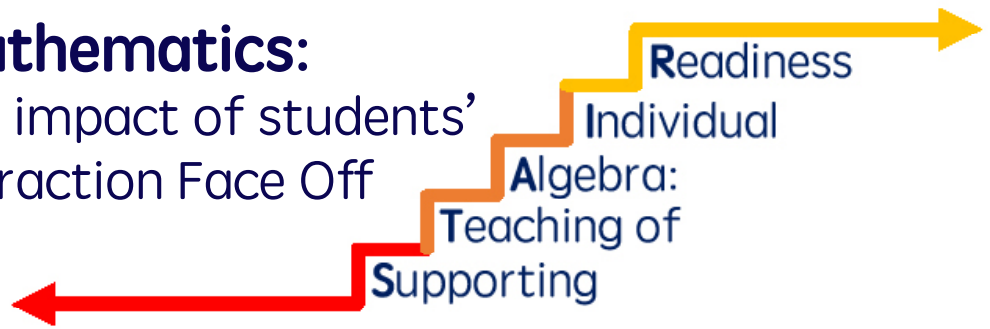
Evidence Form: the impact of students' progress utilizing Fraction Face Off



Citation	Relevant Findings	Overlap of Populations and/or Settings
<p>Fuchs, L. S., Malone, A. S., Schumacher, R. F., Namkung, J., Hamlett, C. L., Jordan, N. C., Siegler, R. S., Gersten, R., & Changas, P. (2016). Supported self-explaining during fraction intervention. <i>Journal of Educational Psychology</i>, 108(4), 493 – 508. Retrieved from https://eric.ed.gov/?id=EJ1099301</p>	<p>69 students with MD received Fraction Face-Off with a focus on word problems. 73 students with MD received Fraction Face-Off with a focus on explanations. 70 students with MD participated in the business-as-usual (BAU).</p> <p>On a Magnitude Comparison measure, word-problem students outperformed BAU (ES = 0.89) and explanations students outperformed BAU (ES = 1.37).</p> <p>On a Fraction Word Problem measure, word-problem students outperformed BAU (ES = 1.20) but explanations students did not.</p> <p>On NAEP Fraction Items, word-problem students outperformed students in the BAU (ES = 0.70) as did explanations students (ES = 0.57).</p> <p>On Fraction Number Line, word-problem students outperformed students in the BAU (ES = 0.71) and explanations students outperformed students in the BAU (ES = 0.63).</p> <p>On Calculations with Fractions, word-problem students outperformed the BAU (ES = 2.08) and explanations students outperformed the BAU (ES = 1.98).</p>	<p>They worked with 4th-grade students with MD; we propose to replicate with 4th-grade students with MD outside of the area (Nashville, TN) in which the original sample was collected.</p>

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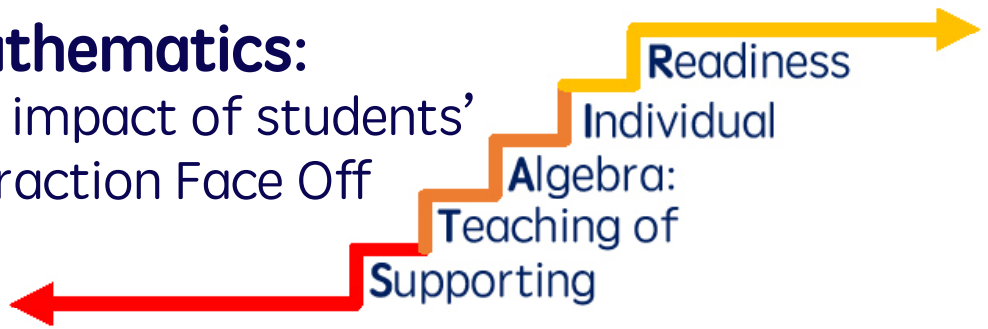
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Citation	Relevant Findings	Overlap of Populations and/or Settings
<p>Fuchs, L. S., Schumacher, R. F., Long, J., Namkung, J., Malone, A. S., Wang, A., Hamlett, C. L., Jordan, N. C., Siegler, R. S., & Changas, P. (2016). Effects of intervention to improve at-risk fourth-graders' understanding, calculations, and word problems with fractions. <i>Elementary School Journal</i>, 116(4), 625 – 651. Retrieved from https://eric.ed.gov/?id=ED566704</p>	<p>71 students with MD received Fraction Face-Off with a focus on additive word problems, and 72 students with MD received Fraction Face-Off with a focus on multiplicative word problems. 70 students were in the business-as-usual (BAU).</p> <p>On Fraction Number line, additive students outperformed BAU students (ES = 0.81) and multiplicative students outperformed the BAU (ES = 1.10).</p> <p>On NAEP Fraction Items, additive students outperformed BAU students (ES = 0.33) and multiplicative students outperformed BAU students (ES = 0.44).</p> <p>On Calculations with Fractions, additive and multiplicative students outperformed students in the BAU (ES = 1.70 and 1.22, respectively).</p>	<p>They worked with 4th-grade students with MD; we propose to replicate with 4th-grade students with MD outside of the area (Nashville, TN) in which the original sample was collected.</p>
<p>Fuchs, L. S., Sterba, S. K., Fuchs, D., & Malone, A. S. (2016). Does evidence-based fractions intervention address the needs of very low-performing students? <i>Journal of Research on Educational Effectiveness</i>, 9(4), 662 – 677. Retrieved from https://eric.ed.gov/?id=EJ1115270</p>	<p>For students who scored in the 1st, 10th, 25th, 50th, 75th, and 99th percentiles at pretest, the Fraction Face-Off intervention demonstrated similar effectiveness across all percentiles.</p>	<p>They worked with 4th-grade students with MD; we propose to replicate with 4th-grade students with MD outside of the area (Nashville, TN) in which the original sample was collected.</p>

Resources in Mathematics:

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Citation	Relevant Findings	Overlap of Populations and/or Settings
<p>Malone, A. S., Fuchs, L. S., Sterba, S. K., Fuchs, D., & Foreman-Murray, L. (2019). Does an integrated intervention focus on fractions and decimals improve at-risk students' rational number performance? <i>Contemporary Educational Psychology</i>, 59, 101782. https://eric.ed.gov/?id=ED595127</p>	<p>76 students with MD received Fraction Face-Off with fractions and decimals. 73 students with MD received Fraction Face-Off with fractions and applications. 76 students with MD were in the business-as-usual (BAU).</p> <p>On Fraction Number line, decimals and applications students outperformed students in the BAU (ES = 1.10 and 1.07, respectively).</p> <p>On NAEP Fraction Items, decimal and applications students outperformed students in the BAU (ES = 0.36 and 0.59, respectively).</p> <p>On Calculations with Fractions, decimals students outperformed the BAU (ES = 2.63) and applications students outperformed the BAU (ES = 3.14).</p> <p>On Fraction Word Problems, decimals students outperformed students in the BAU (ES = 0.63) and applications students outperformed students in the BAU (ES = 0.82).</p>	<p>They worked with 4th-grade students with MD; we propose to replicate with 4th-grade students with MD outside of the area (Nashville, TN) in which the original sample was collected.</p>