Identifying Evidence-based Interventions for School Improvement Planning Under ESSA

Issue Area: Mathematics

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Where to find evidence-based programs, interventions, or practices in mathematics

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Link to info/evidence</th>
<th>Outcomes impacted</th>
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<tbody>
<tr>
<td>Best Evidence Encyclopedia</td>
<td>Program review for a long list of curricular materials, computer-assisted instruction, and instructional process programs. Many programs out there have limited or no evidence.</td>
<td><a href="https://bestevidence.org">https://bestevidence.org</a> Educator’s Summary and Educator’s Guide are informative</td>
<td>Curriculum selection; RTI programs</td>
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<tr>
<td>Evidence for ESSA</td>
<td>A short list full curricula and intervention programs aligned to ESSA tiers.                                                                                                                                 <a href="https://evidenceforessa.org">https://evidenceforessa.org</a> Can narrow search by refining results in left column.</td>
<td></td>
<td>Curriculum selection; RTI programs</td>
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<tr>
<td>National Council of Teachers of Mathematics (NCTM)</td>
<td>Research briefs and clips address a wide range of topics in mathematics education. Offer monthly practitioner magazines for elementary, middle, and high school level and the Journal for Research in Mathematics Education (JRME)</td>
<td><a href="https://nctm.org">https://nctm.org</a> Research and Advocacy link at the top. Briefs require active membership login.</td>
<td>Mathematics achievement; RTI; Curriculum selection; Professional learning</td>
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Questions to consider when evaluating interventions/practices that might be appropriate for improvement plans:

- What data are needed to best understand local needs and/or root causes?
- What are the potential root causes of gaps with performance goals or inequities?
- How should needs be prioritized when several are identified?
- Are there any interventions supported by strong evidence or moderate evidence? If not, is there promising evidence?
- Were studies conducted in settings and with populations relevant to the local context (e.g., students with disabilities, English Learners)?
- What resources are required to implement this intervention?
- How does this intervention fit into larger strategic goals and other existing efforts?
- How will this intervention be sustained over time?
- What is the local capacity to implement this intervention? Are there available funds? Do staff have the needed skills? Is there buy-in for the intervention?
- What information will be collected to monitor the quality of implementation?

Questions selected from Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments (September 16, 2016)

Examples of evidence-based practices at different tiers: (All from What Works Clearinghouse practice guides)

1. Strong evidence – Teach students how to use visual representations.
2. Moderate evidence - Interventions at all grade levels should devote about 10 minutes in each session to building fluent retrieval of basic arithmetic facts.
3. Promising evidence - Teachers should expose girls to female role models who have achieved in math or science in order to promote positive beliefs regarding women’s abilities in math and science.