EVIDENCE-BASED IMPROVEMENT

A Guide for States to Strengthen Their Frameworks and Supports Aligned to the Evidence Requirements of ESSA

TOOL 5:   
INTERVENTION EVIDENCE REVIEW

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## Feedback

We welcome your feedback. This tool and the related guide are a first generation set of materials to help states and districts implement ESSA; we hope to revise and improve them based on use in the field. Suggestions of other resources are welcome, as are requests to develop new tools to fill gaps in the field. Access the full guide at: [http://www.wested.org/resources/evidence-based-improvement-essa-guide-for-states](http://www.wested.org/resources/evidence-based-improvement-essa-guide-for-states%20)

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# **Tool 5:** Intervention Evidence Review

**Purpose**

To help a state education agency (SEA), local education agency (LEA), or school review research on interventions, strategies, policies, practices, programs, or activities (collectively referred to, in this tool, as interventions) that target a specific issue, problem, or outcome.

**Outcome**

By completing this tool, the user can assess the entire body of evidence (based on the evidence definitions in ESSA and nonregulatory guidance from the U.S. Department of Education [ED]) for particular interventions that target the outcome of interest.

**Materials**

Gather results from completed needs assessments, or root-cause or gap analyses; statements or summaries of problems or issues that require attention; lists of interventions that you currently use; and research on potential interventions. Also, gather any relevant information about the setting of your state, district, or school (e.g., populations served).

**Who Should Be Involved**

Staff who are charged with selecting evidence-based interventions for states, districts, or schools should work together to use this tool. Those involved should have substantive knowledge of the issues and outcomes that potential interventions are intended to address, including the educational setting(s) where the intervention would be implemented (e.g., knowledge of the targeted grade levels and student populations). Staff, consultants, or providers of technical assistance (e.g., staff from your Regional Educational Laboratory) who have a background in quantitative research methods should assist with the review of the research literature and completion of the tool.

**Time**

Completing the first two questions and the last two rows of the tool—tasks in which the entire team is engaged—requires approximately one hour. In addition,45to 90 minutes per study, depending on the length and complexity of the study, are required for reviewing each research study.

**Instructions Overview (detailed instructions are provided with each step)**

Step 1: Get organized, including identifying roles and responsibilities, gathering materials, establishing a schedule, and reviewing documentation.

Step 2: Take stock of the most pressing problems or issues in your education setting, the outcomes that you would like to achieve, and possible interventions to help achieve those outcomes.

Step 3: Review available research studies on a single intervention and determine whether each study demonstrates strong, moderate, or promising evidence for the intervention (or demonstrates a rationale for using the intervention), based on ESSA standards and nonregulatory guidance from ED.

Step 4: Examine the context of the research and determine the extent to which the evidence for each study on the intervention was gathered in educational settings and populations similar to yours.

Step 5: Assess the cumulative body of evidence on the intervention, both in general and specifically for your educational setting.

**Leading the Conversation**

The goal of this exercise is to examine the entire body of research that exists for an intervention. Although ESSA stipulates that a single study may be used to provide strong, moderate, or promising evidence, subsequent nonregulatory guidance from ED encourages stakeholders to examine the body of research on an intervention.

The facilitator of the activity might want to begin the activity by clarifying differences in how evidence is used in decision-making in ESSA, compared to No Child Left Behind to help team members understand the importance of their work. See section 2 of this guide for an explanation of the role of research and evidence in decision-making in ESSA and for a graphic showing a recommended evidence-based decision-making process.

**Modifications or Variations**

It may not be practical or appropriate for all team members to participate in each step or in all parts of a step. In step 1, for example, the organizers or facilitators might determine who will be involved and develop the meeting schedule, but the entire team might work together on gathering and reviewing documentation. Organizers and facilitators will have to determine what works best for their participants in their setting.

Multiple experts in quantitative research methods can be called upon to find the relevant research and to review the research. If multiple experts are used, they should first complete the tool independently and then meet as a group to discuss and compare results and to note discrepancies among their results.

This tool can be used in at least two ways. It is designed to help compare the evidence bases for more than one intervention, to identify what has the best likelihood of addressing a well-defined problem or outcome. In certain cases, there may be a large number of interventions that target the outcome of interest, whereas, in other cases, there may be fewer such interventions. In situations where there are many interventions, users of this tool may want to first group the interventions into different categories (e.g., classroom-focused versus whole-school, or delivered by an instructor versus delivered online) in order to facilitate decision-making. The tool can also be used to understand what research shows about the success of a single intervention in different contexts, so that the intervention can be intentionally adapted to local context.

**STEP 1: Get Organized**

Take time to get organized and build your knowledge base by gathering necessary materials and building a well-informed team to complete subsequent steps. Things to consider:

**Who is involved?** Identify which departments or programs should be represented; then identify the individuals who will participate in this work. What are their respective roles and responsibilities in the group (e.g., note taker, facilitator)? The team should include individuals who have input into selecting the evidence-based interventions; stakeholders who have knowledge of the problems, issues, and context of the educational setting; and one or more experts in quantitative research methods.

| **Department  or Program** | **Name** | **Contact Information** | **Role/Responsibility** |
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**What do we need to know?** Gather and organize documents and other materials that provide data about or describe the most pressing problems or issues in your state, district, or school. These materials could include results from completed needs assessments or gap analyses and from logic models, as well as graphics that depict problems or issues along with their effects and possible causes. You may also want to develop a list of interventions that are currently in place at the state, district, and school levels.

|  |  |
| --- | --- |
| **Document or Material**  **(title, description, source)** | **Why It Is Important**  **(what everyone should know)** |
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**Attend to logistics.** What will the meeting schedule be? Where will you meet? What materials do you need (e.g., chart paper, sticky notes)? Who will be involved in step 3 (reviewing the research)?

Notes

**STEP 2: Take Stock of Problems or Issues**

Convene the entire team, review the materials, and decide what the most pressing problems, issues, or questions in your education setting are, in relation to the program or funding stream under consideration; the outcomes that you would like to achieve; and possible interventions to help achieve those outcomes.

**Question 1**. Think about your educational setting (state, district, or school). Based on a needs assessment or other analysis, what are the two or three most pressing problems, issues, or questions that you would like addressed in relation to the program or funding stream under consideration?

**Question 2.** Based on the pressing problems, issues, or questions that you would like addressed (e.g., improving the high school graduation rate), what specific outcome(s) are you hoping to achieve, and for whom?

**Question 3.** What are some of the interventions currently in place in your state or district, and/or that you might consider for implementation, that focus on improving the specific outcome(s) that you are hoping to change for your population?

Select **one** of the interventions that attempts to address the problem or issue and to achieve the targeted outcomes, and write the intervention in the space below. Carry over the intervention to Step 3 (Repeat this step for each intervention under consideration.)

**STEP 3: Review the Research**

Before beginning this step, the team should consult the What Works Clearinghouse (WWC), which contains extensive information on a number of education-focused interventions. If there are no available evidence reviews on the intervention, primary research on the intervention can be obtained from academic databases such as the Education Resources Information Center (ERIC). Consult section 5 for other sources of evidence reviews of social programs, including those that are focused on education.

The researcher(s) on the team should obtain and review all of the available research on the intervention under study, and determine whether each study provides strong, moderate, or promising evidence for the intervention (or demonstrates a rationale for adoption), based on ESSA standards and guidance from ED, as well as on the nonregulatory guidance that applies to evidence standards in education. The ESSA standards and guidance from ED will also provide definitions of randomized controlled trials, quasi-experimental design, and correlational study. These resources should also be consulted for definitions of “well-implemented” and “well-designed” research. If more than one researcher is completing these questions, they should consult each other regarding their responses and resolve any discrepancies.

Transfer the intervention you selected at the end of the previous step here.

| **Question** | **In each column, address the question for each study, using the response options listed; make notes in the columns if needed.** | **Study 1** | **Study 2** | **Study 3** |
| --- | --- | --- | --- | --- |
| 4 | **List the source of the evidence review (e.g., WWC), or author(s) and year of the study** |  |  |  |
| 5a | **Was this study a well-designed and well-implemented randomized controlled trial (RCT), as defined by ESSA?**  Response options: Yes, No, or Not enough information  If “Yes,” go to 5b.  If “No” or “Not enough information,” go to 6a. |  |  |  |
| 5b | **For this RCT, is there a statistically significant *favorable* effect of the intervention on the relevant outcome(s)?**  Response options: Yes or No |  |  |  |
| 5c | **For this RCT, is there a statistically significant and overriding *unfavorable* effect on the relevant outcome(s)?**  Response options: Yes or No |  |  |  |
| 5d | **Does this RCT provide STRONG EVIDENCE for the intervention?**  Response options: Yes or No  If the response to row 5b is “Yes” and the response to 5c is “No,” mark “Yes” in this row, then proceed to question 9.  If the response to row 5b is “No” and the response to row 5c is “Yes,” mark “No” in this row, then proceed to question 6a. |  |  |  |
| 6a | **Was this study a well-designed and well-implemented quasi-experimental design (QED), as defined by ESSA?**  Response options: Yes, No, or Not enough information  If “Yes,” go to 6b.  If “No” or “Not enough information,” go to 7a. |  |  |  |
| 6b | **For this QED study, is there a statistically significant *favorable* impact of the intervention on the relevant outcome(s)?**  Response options: Yes or No |  |  |  |
| 6c | **For this QED study, is there a statistically significant and overriding *unfavorable* effect on the relevant outcome(s)?**  Response options: Yes or No |  |  |  |
| 6d | **Does this QED study provide MODERATE EVIDENCE for the intervention?**  Response options: Yes or No  If the response to row 6b is “Yes” and the response to 6c is “No,” mark “Yes” in this row, then proceed to question 9.  If the response to row 6b is “No” and the response to row 6c is “Yes,” mark “No” in this row, then proceed to question 7a. |  |  |  |
| 7a | **Was this study a well-designed and well-implemented correlational study, as defined by ESSA?**  Response options: Yes, No, or Not enough information  If “Yes,” go to 7b.  If “No” or “Not enough information,” go to 8. |  |  |  |
| 7b | **For this correlational study, is there a statistically significant *favorable* impact of the intervention on the relevant outcome(s)?**  Response options: Yes or No |  |  |  |
| 7c | **For this correlational study, is there a statistically significant and overriding *unfavorable* effect on the relevant outcome(s)?**  Response options: Yes or No |  |  |  |
| 7d | **Does this correlational study provide PROMISING EVIDENCE for the intervention?**  Response options: Yes or No  If the response to 7b is “Yes” and the response to 7c is “No,” mark “Yes” in this row, then proceed to question 9 under step 4.  If the response to 7b is “No” and the response to 7c is “Yes,” mark “No” in this row, then proceed to question 8. |  |  |  |
| 8 | **Does this study DEMONSTRATE A RATIONALE for using the intervention? In other words, does this study suggest that the intervention is likely to improve a relevant outcome?**  Response options: Yes, No, or Not enough information |  |  |  |

**STEP 4: Examine the Research and Educational Context**

Convene the entire team to review the studies of this intervention. Then, assess the similarity of your educational setting, and of the population(s) of interest, to those used in the studies of the intervention.

Transfer the intervention you selected at the end of step 2 here.

| **Question** | **In each column, address the question for each study, using the response options listed; make notes in the columns if needed.** | **Study 1** | **Study 2** | **Study 3** |
| --- | --- | --- | --- | --- |
| 9 | **Examining the information for questions 5d, 6d, 7d, and 8, what is the highest level of evidence provided by each study for the intervention?**  Response options: Strong, Moderate, Promising, or Demonstrates a rationale |  |  |  |
| 10 | **In each study, was the intervention implemented in a setting similar to yours (e.g., rural, urban, grade span)?**  Response options: Very much, Somewhat, A little, Not at all |  |  |  |
| 11 | **In each study, was the intervention implemented with populations similar to yours (e.g., limited language proficient, low socio-economic status, specific ethnicity)?**  Response options: Very much, Somewhat, A little, Not at all |  |  |  |

**STEP 5: Assess the Cumulative Evidence for the Intervention**

Based on the responses to previous questions in this tool, the entire team can assess the cumulative evidence for the intervention, both in general and specifically for your particular educational setting. This information can be used when completing tool 6 (Comparing Evidence-Based Interventions).

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| --- | --- |
| 12 | **Looking across the information for question 9 only, which of the following designations best describes the *cumulative evidence* for this intervention?**  **Strong \_\_\_\_\_\_\_ Moderate \_\_\_\_\_\_\_ Promising \_\_\_\_\_\_\_ Demonstrates a rationale \_\_\_\_\_\_\_** |

|  |  |
| --- | --- |
| 13 | **Looking across information for questions 9, 10, and 11, which of the following designations best describes the *cumulative evidence* for this intervention, specifically for the settings and populations that are similar to yours?**  **Strong \_\_\_\_\_\_\_ Moderate \_\_\_\_\_\_\_ Promising \_\_\_\_\_\_\_ Demonstrates a rationale \_\_\_\_\_\_\_** |