



## Leveraging Evidence-Based Resources to Improve Student Performance

### What are evidence-based strategies?

Evidence-based educational resources are programs, strategies, interventions, or practices that have been evaluated and proven to impact student outcomes.

### What is the difference between evidence-based and research-based strategies?

Although these terms are often used interchangeably, they are different. A strategy that is evidence-based has been evaluated to determine the degree to which it impacts outcomes.

### Why should a district/charter use evidence-based strategies?

Districts/Charters selecting evidence-based resources that match their populations and settings can have confidence that the interventions are likely to produce positive student achievement results; thus, leveraging their dollars for resources that yield the maximum return.

The Missouri Department of Elementary and Secondary Education (DESE) encourages the use of evidence-based programs for school improvement and the Every Student Succeeds Act (ESSA) requires the use of evidence-based interventions for the use of federal dollars for Title programs.

### How do you know that a strategy has had an impact on student outcomes?

The U.S. Department of Education strongly encourages district/charter leaders to choose school improvement practices that are the most effective and have the strongest, positive impact on student achievement, which can be identified by strong effect sizes. An effect size is a standardized measure of the magnitude of an effect. The effect size represents the change (measured in standard deviations) in an average student's outcome that can be expected if that student is given the intervention. Since effect sizes are standardized, they can be compared across outcomes and studies. Effect sizes are widely accepted figures indicating the impact a program intervention, strategy, or activity has made on student achievement and learning. Effect sizes of +0.2 to 0.5 are generally considered to be "small," whereas effect sizes of +0.5 to 0.8 are considered to be "medium" and anything over +0.8 are considered "large." Larger effect sizes indicate larger impacts. **Dis**

### What are the different levels of evidence as defined by ESSA?

ESSA has identified four levels (tiers) of evidence:

1. Strong evidence is based on at least one well-designed and well-implemented experimental study (randomly assigned control group).
2. Moderate evidence is based on at least one well-designed and well-implemented quasi-experimental study (control group exists, but not randomly assigned).
3. Promising evidence is based on at least one well-designed and well-implemented correlational study (relationship between two variables) with statistical controls for selection bias.
4. Demonstrates a rationale based on high-quality research findings or positive evaluation that such program, strategy, intervention, or practice is likely to improve student outcomes.

#### Does ESSA require the use of specific levels (tiers)?

Programs, strategies, interventions, or practices applied under Title I, Section 1003 (School Improvement) are required to have strong, moderate, or promising evidence. All other programs under Titles I-IV can rely on levels (tiers) 1-4.

Level 4 allows a district/charter to explore new strategies that have a strong rationale and potential for improving student outcomes.

#### What factors should be considered when evaluating and selecting evidence-based resources?

The U.S. Department of Education's Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments provides a useful, detailed list of questions districts should consider when researching and selecting evidence-based resources. This document may be found at: <https://www2.ed.gov/policy/elsec/leg/essa/guidanceuseseseinvestment.pdf>

The following list provides some general factors to consider:

- **Need** – The difference between the actual and desired outcome. What area do you want to improve?
- **Root cause of the need** – What is the underlying cause of this need?
- **Source of the study** – How reliable is the source of the study?
- **Level of the evidence** – What level of evidence does this study represent (strong, moderate, etc.)?
- **Outcomes measured** – What outcomes did the study look at and do they match your need(s)?
- **Effect size** – Do the results demonstrate a strong positive impact on outcomes?
- **Context** – Was the study completed with a similar population and setting similar to yours?
- **Costs** – What is the cost of the program or practice and does it fall within your budget?
- **Resources and staff** – Do you have adequate resources and staff in order to implement with fidelity?
- **Timeline for implementation** – Do you have adequate time to implement?

Districts/Charters must be purposeful in selecting evidence-based resources. It is critical in the selection of an evidence-based resource that it matches the root cause of an identified

need (i.e. reading comprehension for adolescents), matches the local school's characteristics (setting and populations), can be implemented with fidelity, and fits with other improvement initiatives.

### What are some sources for evidence-based information?

DESE does not endorse or require the use of any specific clearinghouse. There are several online clearinghouses/websites available for educators to use in researching effective, evidence-based programs and practices. The following represents some of the common sites:

**What Works Clearinghouse (WWC)** <https://ies.ed.gov/ncee/wwc/> This clearinghouse is produced by the U.S. Department of Education's Institute of Educational Sciences (IES). It covers a wide range of education interventions and practices from pre-K through postsecondary.

**Evidence for ESSA** <https://www.evidenceforessa.org/> This clearinghouse is produced by the Center for Research and Reform in Education (CRRE) at Johns Hopkins University School of Education. The clearinghouse focuses on K-12 reading and mathematics.

**Best Evidence Encyclopedia** <http://www.bestevidence.org/> This clearinghouse is produced by the Center for Data-Driven Reform in Education at Johns Hopkins University School of Education. The clearinghouse includes reading, mathematics, science, comprehensive school reform, and early childhood interventions.

**ERIC** <http://www.eric.ed.gov/>  
ERIC is an online library of educational research and information.

**IRIS** <https://iris.peabody.vanderbilt.edu/>  
[The IRIS Center provides online evidence-based resources.](https://iris.peabody.vanderbilt.edu/)

The Evidence-based Network provides guidance in the selection and implementation of evidence-based interventions.

**The National Center on Response to Intervention** <http://www.rti4success.org/>  
The National Center on Response to Intervention supports the successful implementation of Rti.

**The Florida Center for Reading Research** <http://www.fcrr.org/>  
The Florida Center for Reading Research provides research and evidence-based strategies.

### How does the use of evidence-based resources fit in the continuous improvement cycle?

Selecting an evidence-based strategy that matches the root cause of a need identified by a district/charter is an important part of the continuous improvement cycle. Once an evidence-based program/practice has been selected, the work towards implementing with fidelity in the

appropriate context begins. The following key points provide a condensed list of things that must be completed:

- Develop an implementation plan that clearly identifies the what, when, and where of the implementation.
- Implement and monitor the implementation (formally and informally).
- Examine the effectiveness of the program as it relates to outcomes and reflects on the next step.