An SEA Guide for Identifying Evidence-Based Interventions for School Improvement

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Introduction

Purpose of the Self-Study Guide

The Every Student Succeeds Act (ESSA) challenges state education agencies (SEAs) to improve student outcomes by addressing the student-, teacher-, and school-level factors that drive achievement gains.

This Guide for Identifying Evidence-Based Interventions for School Improvement is intended to help State Education Agencies (SEAs) carefully consider the evidence supporting intervention options that they will require or recommend in their state ESSA plan and funding applications. SEAs could indicate in their state ESSA plan how they have used or will use the self-study process to identify interventions, in partnership with stakeholders. The purpose of the guide is to help SEAs:

1. evaluate the evidence base for interventions as they identify those to be included in the state plan for ESSA as options for schools in need of comprehensive or targeted support,
2. determine the interventions that have strong evidence, and are relevant and appropriate to meeting the needs of the Local Education Agencies (LEAs), and
3. plan to provide resources for LEAs to help them choose the best evidence-based option(s) for schools in need of comprehensive or targeted support to include in school improvement plans.

Flexibility with Responsibility – The Roles of the SEA and LEA

SEAs and LEAs are charged with implementing ESSA, with states being asked to ensure that LEAs are implementing evidence-based strategies, activities, and interventions in schools in need of significant improvement. Throughout this document, evidence-based strategies, activities, and interventions will be collectively referenced as "interventions."

In the past, school improvement interventions that LEAs were allowed to use were very prescriptive, but ESSA provides states with the flexibility to delineate interventions, or help LEAs select interventions, provided they are evidence-based. This flexibility provides LEAs with an opportunity to help schools develop improvement plans that may prove to be more effective in increasing student achievement.

ESSA requires that SEAs identify schools in need of comprehensive support and targeted support as delineated in this chart provided by the U.S. Department of Education:

Category: Comprehensive Support and Improvement

Types of Schools	Description	Timeline for Identification	Initial year of identification
Lowest-Performing	Lowest-performing five percent of schools in the State participating in Title I.	At least once every three years	2018-2019
Low High School Graduation Rate	Any public high school in the State with a four-year adjusted cohort graduation rate at or below 67 percent, or below a higher percentage selected by the State, over no more than three years.	At least once every three years	2018-2019
Chronically Low-Performing Subgroup	Any school participating in Title I that was identified for targeted support and improvement because it had a subgroup of students performing at or below the performance of all students in the lowest-performing schools and did not improve after implementing a targeted support and improvement plan over a State-determined number of years.	At least once every three years	State-determined

Category: Targeted Support and Improvement

Types of Schools	Description	Timeline for Identification	Initial year of identification
Consistently Underperforming Subgroup	Any school with one or more consistently underperforming subgroups.	Annually	2019-2020
Low-Performing Subgroup	Any school in which one or more subgroups of students is performing at or below the performance of all students in the lowest-performing schools. These schools must receive additional targeted support under the law. If this type of school is a Title I school that does not improve after implementing a targeted support and improvement plan over a State-determined number of years, it becomes a school that has a chronically low-performing subgroup and is identified for comprehensive support and improvement.	At least once every three years	2018-2019

Along with the flexibility of ESSA comes the responsibility for LEAs, and ultimately SEAs, to ensure that evidence-based interventions are selected and implemented so that students attending schools in need of comprehensive or targeted support have the best opportunity to improve achievement. LEAs and schools in need of comprehensive or targeted support will develop school improvement plans which reflect these evidence-based interventions. LEAs will review and approve targeted support plans, and SEAs and LEAs will review and approve comprehensive support plans. **LEAs must conduct a needs assessment for schools identified in need of comprehensive support. Potential interventions should be evaluated on the basis of school needs and the evidence-based interventions selected for implementation should meet the needs of the school.**

The Self-Study Process

Self-study is a process that facilitates thoughtful investigation and discussion of an issue or topic so that decisions can be made through the collaboration of a variety of stakeholders. Although a time investment is required to prepare for discussions that focus on the topic or issue, engage in the discussions themselves, and subsequently plan for implementation of decisions made by the self-study team, the results of this collaboration can be invaluable.

In order to engage in the self-study process, a team must first be established. The self-study team may include school improvement specialists, content area specialists, exceptional student education (ESE) and English learner (EL) specialists, as well as those involved in professional development and leadership at the SEA knowledgeable in school improvement. The SEA may also choose to include representatives from LEAs such as district leaders, teachers and principals to help increase relevance and buy-in. A facilitator will then be selected to organize the work and may be chosen by SEA leadership or the team itself. Since the goal of this specific self-study is to decide upon interventions that might be recommended for schools needing improvement, the facilitator should have deep content knowledge of school improvement, be well-organized, a good listener, and be able to lead a discussion that encourages participation from all team members. SEAs may wish to consider using an external facilitator such as an individual from a university, Regional Education Laboratory, or Comprehensive Center.

The self-study process will help SEAs identify the strongest evidence-based interventions that the SEA will require or recommend for inclusion in LEA school improvement plans or LEA funding applications. SEAs could indicate in their state plan how they have used or will use this self-study to identify interventions, in partnership with stakeholders.

Prior to engaging in this process, the SEA should conduct a needs assessment to clearly identify the problems to be addressed (see Figure 2 below). Undoubtedly, schools in need of improvement throughout the state will exhibit a variety of issues and problems. It is important that the recommended interventions not only have a strong evidence-base, but that they address the issues that schools are facing. Figure 1 outlines the general steps in conducting the self-study.

Figure 1. The Self-Study Process: Conducting the Self-Study

Step 1 is preparation. During this step the facilitator will describe the process to the team and ensure that everyone has the same understanding of the work. Each team member will review the sections of the self-study guide addressing the collection and evaluation of research and the ESSA Levels of Evidence, identify one or more potential interventions, and evaluate the level of evidence for them. These interventions may fall into the areas that have been identified in the *SEA Scoring Guide* (described in the upcoming Self-Study Guide Tools section), or they may fall into an entirely different category altogether. This is a critical activity since this guide is unable to address all of the potential interventions a state might consider, and more ideas for consideration will improve the results of the discussion step. In addition, the team members will complete the *SEA Scoring Guide*, considering the strategies and interventions provided, and reflecting upon whether or not they should be recommended for use in LEAs and schools.

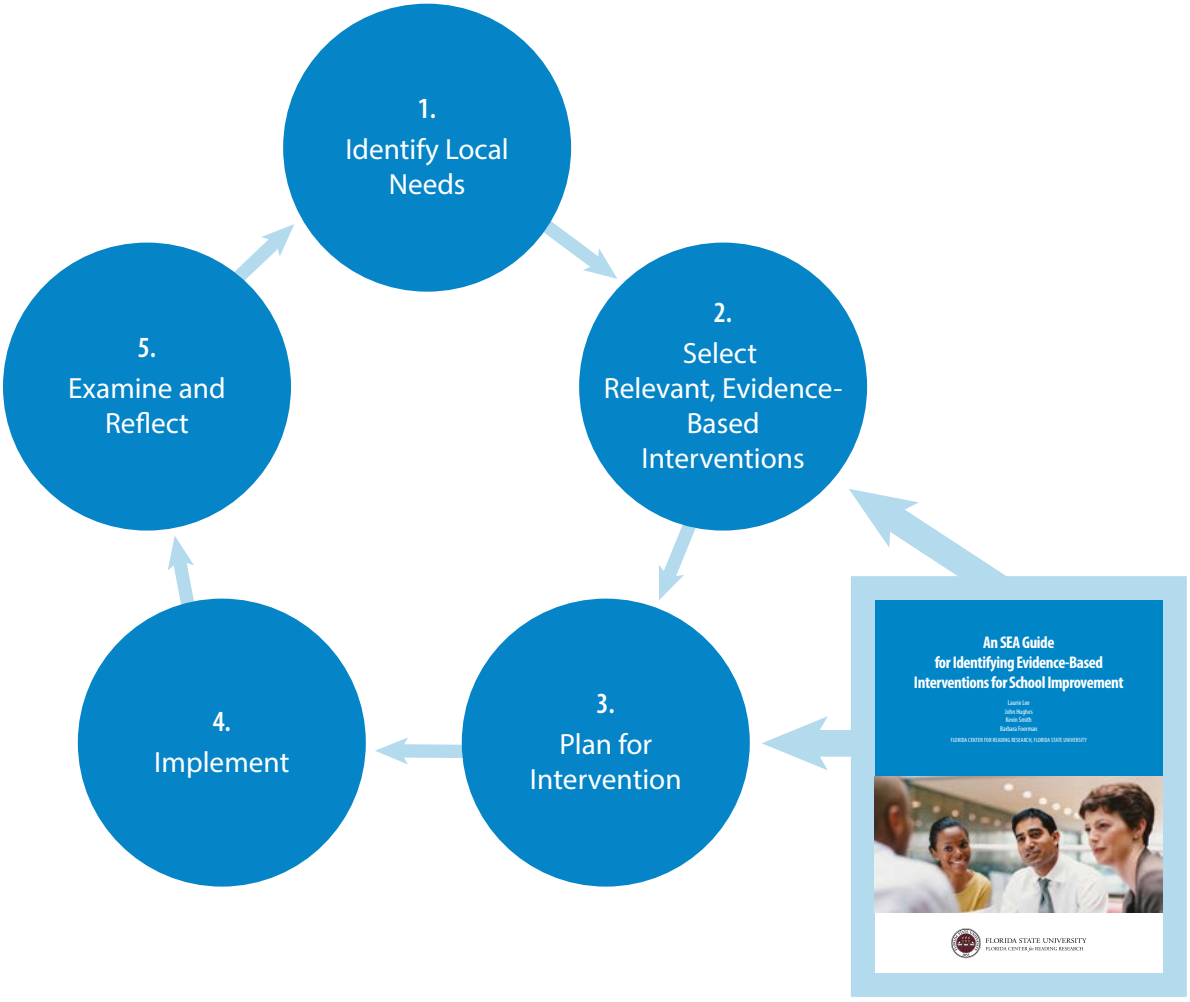
During Step 2 team members discuss all of the various ideas for interventions that the SEA might permit or recommend, and the individual ratings that team members assigned on the *SEA Scoring Template* (described in the upcoming Self-Study Guide Tools section) and the *SEA Scoring Guide*. It is during this step that the SEA will settle on the options that LEAs will be authorized to use if the state is providing a list of interventions from which LEAs must choose. Having a broad range of strategies and interventions is important, but it is equally important that they be based on the best available evidence. In addition, it is critical that strategies and interventions meet the needs that have been identified in the state.

During the final step, the SEA team members discuss priorities, potential resource development, and anticipated challenges in implementation of the strategies. Next steps may be determined with a timeline established and team members assigned to tasks. The facilitator leads the discussion and information is recorded on the *SEA Planning Form* (described in the upcoming Self-Study Guide Tools section).

Context for Use of the Self-Study Guide

Guidance released by the U.S. Department of Education on September 16, 2016 and available at http://www2.ed.gov/policy/elsec/leg/essa/guidanceuseseinvestment.pdf provides a series of steps that can promote continuous improvement and support better outcomes for students. These steps include:

Figure 2. Steps to Promote Continuous Improvement



Source: Adapted from U.S. Department of Education, 2016.

The use of this self-study guide will be most helpful in addressing steps two and three above.

SEAs should select, or help LEAs select, evidence-based interventions (step two) that best meet the needs identified in the school-level needs assessment and that address the root causes of underperformance. While the level of evidence should be as strong as possible, it is just as important that the interventions meet the needs identified in step one. In addition, the guidance encourages SEAs and LEAs to look at the overall body of relevant evidence rather than just one study when selecting interventions. Moreover, the evidence base should reflect a preponderance of statistically significant, positive effects rather than statistically significant, negative effects. Finally, in cases of minimal evidence, the role of strong theory and logic is paramount.

The guiding questions included in the self-study guide may help team participants consider whether an intervention may meet the needs of schools in the state and begin planning for implementation (step three). The questions may also provoke thinking about resources available as well as technical assistance and support that SEAs may need to offer to LEAs for successful implementation.

SEA Self-Study Guide Tools

The SEA Guide for Identifying Evidence-Based Interventions for School Improvement consists of the following nine tools: *SEA Self-Study Guide Checklist*, *SEA Facilitator's Checklist*, *SEA Team Member's Checklist*, *SEA Scoring Template*, *SEA Scoring Guide*, *SEA School Voting and Consensus Rating Form*, *SEA Planning Form*, *Appendix A*, and *Appendix B*. These are described below.

SEA Self-Study Guide Checklist

This checklist delineates in chronological order the steps of the self-study process for facilitators and team members. The tool assists those involved in the self-study in ensuring that all tasks are completed.

SEA Facilitator's Checklist

While the *SEA Self-Study Guide Checklist* delineates tasks of everyone involved in the self-study process, this checklist reflects only the responsibilities of the **facilitator** throughout preparation, discussion, and planning for next steps. This tool assists facilitators in ensuring that all tasks are completed.

SEA Team Member's Checklist

While the *SEA Self-Study Guide Checklist* delineates the tasks of everyone involved in the self-study process, this checklist reflects only the responsibilities of **each team member** throughout preparation, discussion, and planning for next steps. This tool assists team members in ensuring that all tasks are completed.

SEA Scoring Template

This blank template provides an opportunity for each team member to identify one or more interventions that are appropriate and relevant to the needs of the schools in the state, determine the strength of the associated evidence base and the fit and feasibility of the intervention, and record this information prior to the start of the self-study process. The form includes fields to enter the following information:

- a broad overall area to which the intervention pertains that could be an area identified in the *SEA Scoring Guide*, or another area altogether,
- the specific intervention identified by research to be considered,
- the evidence level based on a body of collected research,
- a summary of the collection of research reviewed which may Include the results and significance of the studies, and
- additional information identified locally that pertains to the needs that schools will want to consider such as school improvement plans or student achievement data.
- Guiding questions will facilitate a discussion among team members. Guiding questions may include any number of factors. Some common ones to consider include:
    - the level of satisfaction among the group with the evidence-level of the intervention,
    - the extent to which the intervention was conducted on a student population that is relevant to the state or district context,

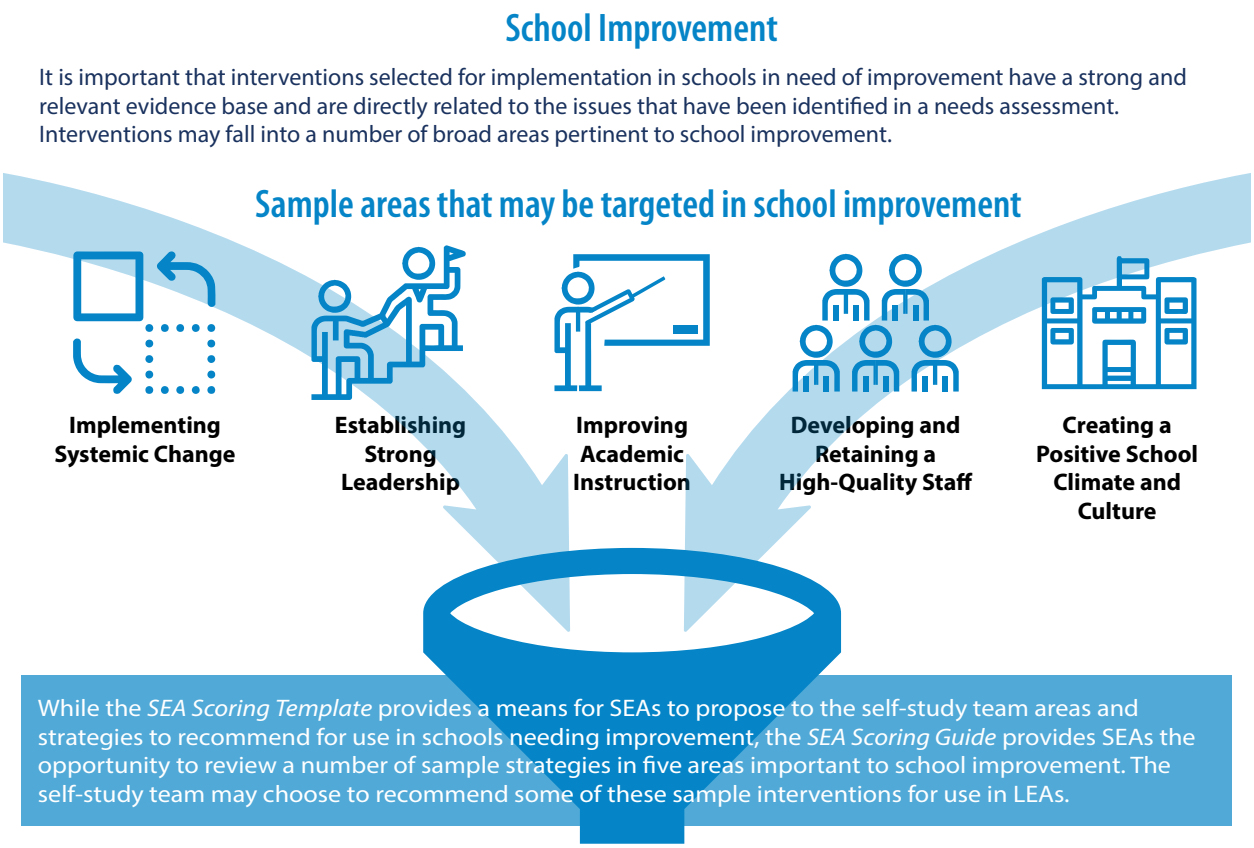
- the types of schools where the intervention might work best, and
- the possible cost/benefit of implementation.

A rating scale is also included in the template so that, after careful consideration, self-study team members can determine whether they (1) do not recommend, (2) recommend, or (3) strongly recommend an intervention. The *SEA Scoring Guide* (described below) may be used as an example for completing the *SEA Scoring Template*.

SEA Scoring Guide

The *SEA Scoring Guide* includes already identified examples of evidence-based strategies and interventions, along with a summary of the research base, the ESSA evidence-base level, state-level information that may be helpful to consider, and guiding questions for discussion. The content of the *SEA Scoring Guide* is organized into five areas: implementing systemic change; establishing strong leadership; improving academic instruction; developing and retaining a high-quality staff; and creating a positive school climate and culture. The areas chosen for the guide were based on those identified in the Institute of Education Sciences (IES) Practice Guide *Turning Around Chronically Low-Performing Schools.* A literature review was conducted identifying interventions associated with the areas. In addition, literature was also reviewed pertaining to the systemic interventions previously required for use in schools needing improvement. **The *SEA Scoring Guide* is not meant to be an all-inclusive or recommended list of school improvement interventions, but rather contains examples of interventions that might meet the needs of schools needing comprehensive or targeted support.**

Figure 3. Areas Associated with School Improvement



As the facilitator and self-study team members review the information in the scoring guide, work through the rating system individually, and then engage in discussion, they thoughtfully consider whether or not to recommend an intervention for their state. The interventions recommended may become a menu from which LEAs may choose based on the needs of the school. It may be that an evidence-level is strong for an intervention, but the state has not experienced much success using that specific approach. Also, team members should strongly consider what has already been done in the state, and the effectiveness of current strategies and interventions. It may be that an evidence-level may be strong for an intervention but the state has not experienced much success in using that specific approach. Perhaps some interventions should replace others based on that experience. An annotated bibliography of the research supporting each scoring guide area is provided in *Appendix A*.

SEA Voting and Consensus Rating Form

After the *SEA Scoring Guide* is completed, the facilitator guides the self-study team through a consensus rating process. The team uses the *SEA Voting and Consensus Rating Form* to reach agreement on whether the proposed intervention should be recommended as an option for schools requiring comprehensive or targeted support in the ESSA state plan. The most important part of this process is the discussion that goes into consensus rating. The scores on the *SEA Voting and Consensus Rating Form* should reflect this facilitated discussion.

SEA Planning Form

This form is used to establish priorities, ideas regarding resource development for LEAs, and any anticipated challenges. The facilitator leads the discussion centered on these topics and uses the form to record ideas.

Appendix A. Annotated Bibliography

This appendix describes key references that provide additional support for each of the scoring guide areas. Research from each study referenced in the LEA and School Scoring Guide is summarized.

Appendix B. Theory of Action and Sample Logic Model

This appendix provides information pertaining to theory of action and also includes a sample logic model to help familiarize participants with these concepts.

Preparing for Self-Study

In preparation for the self-study process, leadership at SEAs recruit team members to participate. Leadership at SEAs recruit members for the self-study team. The team should be comprised of a wide range of individuals so as to include as much knowledge and as many skills as possible. Members typically include researchers, content area specialists, exceptional student education (ESE) and English learner (EL) specialists, those involved with professional development, and senior leadership at the SEA. The SEA may also wish to include representatives from LEAs such as district leaders, teachers, and principals. The names of team members and facilitator may be recorded on the *SEA Voting and Consensus Rating Form*.

Leadership at the SEA or the team members select a dedicated and knowledgeable facilitator such as the school improvement director or ESSA state plan project manager. The facilitator should have deep content knowledge of school improvement, be well-organized, a good listener, and be able to lead a discussion that encourages participation from all team members.

Once the team is established, the following steps should be followed:

1. The facilitator studies the materials provided to conduct the self-study process so that he/she can effectively guide team members through the process. The facilitator gathers all pertinent data and evidence pertaining to the interventions.

2. The facilitator distributes a blank *SEA Scoring Template*, the *SEA Scoring Guide*, *Appendix A*, *Appendix B*, as well as any other relevant data or evidence to each team member, and provides a timeline for team members to review materials.

3. The facilitator schedules a short meeting after team members have reviewed the documents to discuss any questions.

4. The facilitator asks each member to re-read the sections of the self-study guide addressing the collecting and evaluating of research and the ESSA Levels of Evidence. The facilitator then requests that team members research an area pertinent to school improvement in order to identify a specific evidence-based intervention for consideration by the team during the self-study process, and to complete the *SEA Scoring Template*. Research areas could include those addressed in this guide: implementing systemic change, establishing strong leadership, improving academic instruction, developing and retaining high-quality staff, and creating a positive school climate and culture. Alternatively, research could include other areas selected by the team member or SEA. The team can work individually or with a partner or small group to identify a broad area and then a more specific intervention to investigate. The team may collect research on as many interventions as they choose. Team members may wish to share their selected intervention(s) with one another so there is no duplication of effort.

5. The facilitator establishes a deadline for completion and submission of the *SEA Scoring Templates* and communicates that to the team.

6. Each team member re-reads the sections of the self-study guide addressing the collecting and evaluating of research and the ESSA Levels of Evidence, reviews research, completes the *SEA Scoring Template* using the *SEA Scoring Guide* as an example, and returns the completed template to the facilitator by the established deadline.

7. The facilitator distributes the completed templates to all team members and instructs members to rate these strategies and interventions according to the scale on the template and to complete the *SEA Scoring Guide*.

8. The facilitator informs team members of the timeline for their review and schedules a consensus rating process meeting.

9. Team members review the completed *SEA Scoring Templates* they received from the facilitator. They may also rate the interventions in the *SEA Scoring Guide* to individually reflect their thoughts regarding the recommendation of any interventions after reviewing the summary of research and any data or evidence provided by the facilitator. A team member who does not know how to rate a specific area may abstain from rating it.

Collecting Research

To collect the research necessary to identify a range of evidence-based interventions, team members should search professional educational journals and websites of reputable organizations. Some databases and websites to consider include:

What Works Clearinghouse: http://ies.ed.gov/ncee/wwc/

ERIC: http://www.eric.ed.gov/

JSTOR: http://www.jstor.org/action/showAdvancedSearch

Google Scholar: www.google.com/scholar

Institute of Education Sciences (IES) Resources: http://ies.ed.gov

Blueprints for Healthy Youth Development Database: http://www.blueprintsprograms.com/

Results First Clearinghouse: http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2014/09/results-first-clearinghouse-database

The search process begins by identifying relevant keywords. The search should not focus on just a few search terms, such as "school turnaround" but should be broad so as to capture as many relevant studies as possible. Examples of keywords include:

School turnaround	Focus school	Reading intervention
School improvement	Effective schools	Professional development
Low-performing schools	Randomized control trial	Mathematics intervention

Keywords can be combined to look for specific ideas, such as 'best practices' and 'professional development' and 'principals' to find ways to better train school leaders.

In addition to searching for individual articles and studies, SEAs may find resources that combine multiple studies in a specific area helpful. The What Works Clearinghouse (WWC) practice guides, for example, synthesize a large number of studies and identify those with the most supporting evidence. Similarly, organizations like RAND have pulled together multiple studies to provide summaries of what the research has found.[1]

1 http://www.rand.org/pubs/research_reports/RR1550.html

Evaluating Research

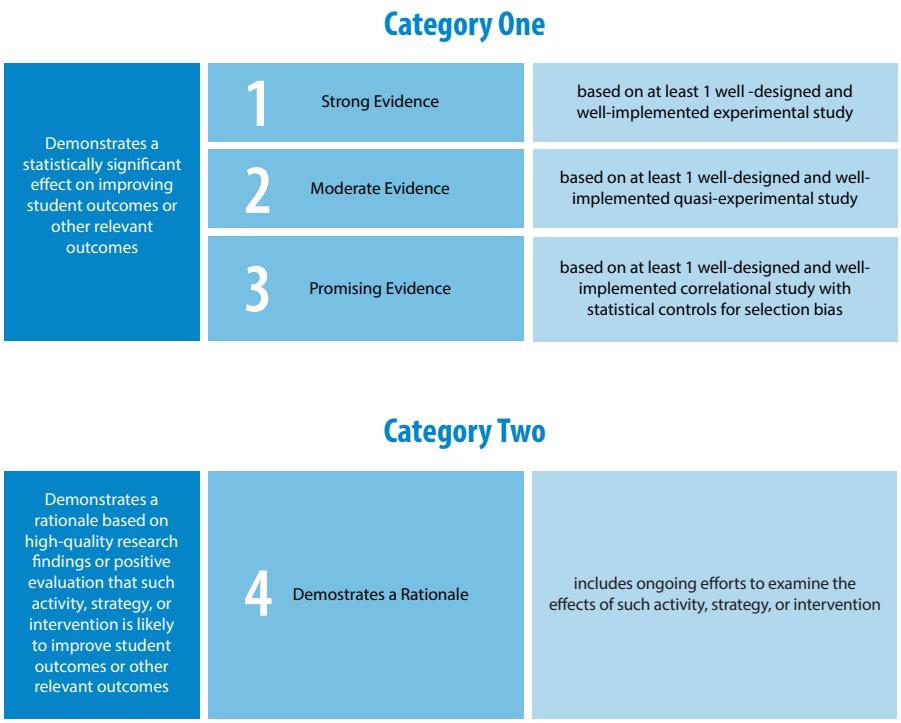
One of the most challenging steps for many SEAs will be evaluating the research that they collect to match it to the appropriate levels of evidence. This section provides some general guidance on how to determine the level of evidence for a study; however, a number of resources exist that can help SEAs with this task. One is the What Works Clearinghouse[2], sponsored by the Institute for Education Sciences. The WWC rates research studies according to a set of standards[3] and provides information about the rigor of those studies. Because the guidance around ESSA levels of evidence refer to and utilize WWC standards, those standards are referenced throughout this section and readers should familiarize themselves with them. Another resource is the Best Evidence Encyclopedia housed at Johns Hopkins University.[4]

Additionally, there are a number of organizations that SEAs can reach out to for support in evaluating research. Federally funded organizations such as the Regional Comprehensive Centers and content centers[5] and the Regional Educational Laboratories[6] are well-suited to provide states with this kind of support. SEAs can partner with universities that have centers and individual faculty with expertise in these topics. The National Network of Education Research–Practice Partnerships can provide support to SEAs that want to explore these kinds of research–practice partnerships.[7]

What are the ESSA levels of evidence?

ESSA recognizes four levels of evidence. This section is designed to help SEA and LEA staff understand these different levels and apply them to research they are considering for school turn-around and related purposes. A summary of the four levels of evidence is shown in Figure 4:

Figure 4. ESSA Levels of Evidence



Source: Source: Adapted from Chiefs for Change, 2016.

2 http://ies.ed.gov/ncee/wwc/default.aspx
3 http://ies.ed.gov/ncee/wwc/DocumentSum.aspx?sid=19
4 http://www.bestevidence.org/
5 http://www2.ed.gov/about/contacts/gen/othersites/compcenters.html
6 http://ies.ed.gov/ncee/edlabs/
7 http://nnerpp.rice.edu/

For each of the first three levels, the research studies must demonstrate a "statistically significant effect on improving student outcomes or other relevant outcomes." Statistically significant means that the difference observed in the study is not likely due to chance. Implied by this requirement is that the results are positive and not overridden by statistically significant negative results from other studies with moderate or strong levels of evidence. In many cases, multiple studies of the same intervention will yield different results and it is possible that some could be positive and others negative while all still being statistically significant.

A result can be statistically significant but not substantively important. That is, a positive effect can be statistically significant but the effect may be so small as to be unimportant in practical terms. The impact is often described as an *effect size*, which is the magnitude of the difference between intervention groups measured as the proportion of a standard deviation. For example, an effect size of 0.25 means that an average student in one intervention group would be expected to have scored 0.25 standard deviation more had they participated in the other intervention group. The WWC considers an effect size of greater than or equal to 0.25 to be a substantively important difference. While not specifically required under ESSA, it is strongly recommended that when reviewing research the effect size should be considered along with the statistical significance.[8]

In addition, the first three evidence levels each expect that the studies have large and multi-site samples and that the samples reflect populations or settings similar to those proposed to receive the intervention. These are critical considerations. A well-designed study with strong evidence for an intervention for early grade students may not be suitable for adolescents. Similarly, an intervention from a study conducted in an urban school may not be appropriate for a rural school. Ensuring that the sample was large, from multiple sites, and similar to the target population will increase the chances of success.

Finally, the fourth level, demonstrates a rationale, can be thought of as an evidence-building opportunity. That is, evaluation of an intervention with minimal evidence but strong supporting logic for its potential to improve outcomes is an opportunity to begin developing evidence of its effectiveness.

What is strong evidence?

Strong evidence is defined as "a well-designed and well-implemented experimental study." The Department of Education considers a study to be well-designed and implemented if it is meets WWC standards without reservations. One of the first steps in reviewing any research is to check the WWC to see if a study has been rated.

But if a study has not been reviewed by the WWC, it is still possible to determine the appropriate level of evidence. For strong evidence this will require some form of an experiment or a regression discontinuity design.

8 Throughout this report a number of terms are used, such as statistically significant, substantively important and intervention. A good resource that defines many of these terms can be found at the What Works Clearinghouse which provides an online glossary at: http://ies.ed.gov/ncee/wwc/Glossary.aspx.

The essential components of an experiment in educational research include:

- some kind of intervention or treatment designed to change outcomes,
- subjects who receive the intervention (typically called an experimental or treatment group),
- subjects who do not receive the intervention (typically called the control group), and
- random assignment of experimental and control groups.

To qualify as an experiment, there must be some factor that is manipulated. This is called the *treatment* and could be a curriculum, a teaching strategy, a school policy, or anything similar. For example, a district might implement a new math intervention. This would be provided to some students at some schools but not to others. Thus, an educational aspect is changed for some individuals and held constant for others.

The students (or teachers or schools) that receive the intervention or are part of the factor that is manipulated are the *experimental* or *treatment* group (and possibly a comparison group). Those for whom instruction is unchanged are part of the *control* group, often called the "business-as-usual group."

Note, however, that random assignment is particularly critical. Whenever two different groups receive different treatments, changes in outcomes could be a result of the different treatment but also because of differences in the groups. For example, if a school wanted to test a new reading program it might decide to give some classrooms the new program but other classrooms use the original reading program. This creates two groups to compare but if the students in the classes are different (maybe one group is more advanced than the other), differences in outcomes might be due to differences in the students and not the new program. The best way to overcome this risk is to randomly assign students (or teachers or schools) to either the treatment or control group. True random assignment helps ensure that the two groups are likely to be similar to each other and that any differences in outcomes are due to the treatment and not to differences between the subjects in the two groups.

Whether or not an experiment is well-designed and well-executed is not simple to determine. There are numerous factors that could weaken confidence in an experiment's results, more than can be described here. Readers should look at resources such as the What Works Clearinghouse, which has developed standards to help judge the level of rigor for many educational studies.

For this guide there are two critical limitations to focus on that can help identify studies that were not well designed or well executed. The first limitation is *attrition*. Attrition is the loss of subjects from the experiment. Even if the subjects are randomly assigned at the beginning, if enough members of either group leave the experiment, it can effectively undo the randomization process. The individuals who leave are likely to differ from those who stay, and, thus, if enough leave the results could be biased. The WWC provides guidance on appropriate levels of attrition.[9]

The second limitation is any kind of *confound*. A confound occurs when some aspect of the experiment is completely aligned with one aspect of the study conditions, even if all subjects were randomly assigned. A confound can be thought of as an "extra" factor that was not taken into account that could explain the observed differences between the two groups. The most common confound occurs when there is only one unit (that is, teacher, classroom, school, or district) assigned to each group. For example, consider two classrooms taught by different teachers. One classroom comprises the intervention group and the other comprises the control group. The teachers could be randomly assigned to the treatment or control conditions but there would still be a confound because there was only one teacher in each condition. If the study found that the intervention classroom performed better than the control classroom, an alternative explanation for the observed difference could be related to differ-

9 http://ies.ed.gov/ncee/wwc/Docs/referenceresources/wwc_brief_attrition_080715.pdf

ences between the classroom teachers and not the intervention. Another example of a confound in an RCT is overalignment of the outcome measure and the intervention. If the outcome measure is a direct measure of the intervention, then the results are confounded. An intervention that teaches specific spelling words and then measures the results with a test of those same words would be overaligned. Inclusion of a norm-referenced spelling test would be necessary to prove the intervention's effectiveness beyond a taught spelling list.

Like an experimental design, a regression discontinuity design (RDD) can meet WWC standards without reservations and can be considered strong evidence. An RDD determines causal impacts by examining interventions that occur just above and below a cut-off of some kind. In these cases, the cut-off, such as a cut-score on a test, splits the population of interest into two groups that can be compared. The logic is that subjects just above and just below the cut-off are likely very similar and so can be compared. An RDD study must meet several requirements to qualify as strong evidence, including establishing the equivalence between the two groups and avoiding confounds. For more information on how an RDD can meet WWC standards without reservations, please see the WWC reference resources.[10]

Summary of key things to look for:

- meeting WWC standards without reservations,
- experimental or treatment group (and the possible addition of a comparison group),
- control group that does not receive the treatment,
- groups formed by random assignment or a discontinuity such as a cut-score,
- low attrition, and
- the absence of a confound.

What is moderate evidence?

Moderate evidence is based on at least one study using a quasi-experimental design (QED).[11] What is the difference between an experiment and a quasi-experiment? The major difference is that a QED lacks random assignment of subjects to groups and instead, a QED leverages some natural change, such as implementation of a new program, to create treatment and control groups. QED studies are common because many educational policies and practices are implemented across the board or with a small pilot group that was not randomly assigned. For example, a few school principals might volunteer their schools to participate in a new initiative. Results from those schools might then be compared to schools that did not volunteer. This creates a *treatment* and a *control* group but lacks random assignment. As noted above, when subjects are not randomly assigned it increases the risk that any observed differences in outcomes are due to other factors. In this example one might wonder if the principals who volunteered were especially excited or interested in the intervention, or perhaps more creative leaders, and that it was their leadership and interest that drove changes in outcomes.

A common QED is to compare changes in the pre-test and post-test scores for students in two different groups. This looks like an experiment except that the two groups were not randomly assigned. The researchers would try to select groups that are similar on key criteria, such as English learner status or economic status, so that the groups can be compared. A related approach is to statistically match students. One way this is done is by taking each student who received an intervention and finding a

10 http://ies.ed.gov/ncee/wwc/Document/258

11 Note that an RDD is a type of quasi-experimental design but it can still meet WWC standards without reservations and thus potentially can qualify as strong evidence.

statistical "twin" who did not receive the intervention and then comparing results.

As with experiments, deciding whether or not a QED is well-designed and well-executed is not simple to determine. Again, readers should look at resources such as the What Works Clearinghouse, which provides information about the level of rigor for many educational studies. A study that meets WWC standards with reservations qualifies as moderate evidence.

Perhaps the single most critical factor to consider in a QED is whether or not the study was able to establish *baseline equivalence* between the two groups. As noted above, experiments use random assignment to try to ensure that the two groups studied are as equal as possible and often include pretest scores as covariates so as to improve analytic precision. Without random assignment, researchers use other ways to ensure that groups are similar, such as comparing them on key variables like race, economic status, and test scores. Verifying that two groups are comparable on pre-test scores is an excellent way to establish baseline equivalence.

Without randomized assignment there will remain a concern about unobservable group differences that weaken confidence in the results. For example, two students with the same pre-test scores could have very different levels of motivation, which could in turn result in one improving more than another. Concerns about unobserved differences are why even a well-executed QED is rated as only having moderate evidence.

Summary of key things to look for:

- experimental or treatment group (and the possible addition of a comparison group),
- control group,
- establishing or failing to establish baseline equivalence, and
- no random assignment.

What is promising evidence?

Promising evidence comes from correlational studies. In a correlational study there is no assignment to treatment and control groups. Instead, a correlational study uses *predictors* or independent variables to look for a *relationship* between some factor and the outcome of interest within a group or groups of subjects. For example, suppose a school enacted a program to encourage students to read more books during the school year by offering prizes. At the end of the year a researcher might see if the number of books read is a good predictor of changes in student test scores. All students would be in the analysis so there is just one study group. The number of books serves as the independent variable or predictor of interest while other factors such as prior test scores might be used as *control variables* or *covariates*. Nonetheless, a positive association between number of books read and increase in student test scores would be difficult to interpret because of the lack of a control group and potential confounds.

The phrase "statistical controls for selection bias" refers to some of these control variables or covariates. Selection bias refers to the possibility that the process of selecting or identifying the study subjects introduces some kind of systematic error that could invalidate the results. A common problem is selective participation in a treatment. For example, as part of a new policy the district assigns reading coaches to specific schools. Because the schools were not randomly assigned, or assigned based on a cut-score, there would not be a good comparison group. Instead, a researcher wanting to understand if the new policy was effective would have to use statistical controls to try to adjust for differences between the schools with coaches and those without. Thus, conclusions from the available data would be limited.

Researchers often try to overcome selection bias by checking that key factors, such as test scores and demographics, are similar between those receiving the treatment and those that did not. Putting these variables into a model allows researchers to statistically control for those factors. To meet the standard of promising evidence, a correlational study must have those kinds of statistical controls. Note that statistical controls may also be used in a QED or even an RCT to add analytic precision and to guard against possible confounds such as variation in district policy implementation.

Correlational studies are considered promising evidence because there is no way to assign causality to the results. Mathematically, all a correlation can demonstrate is that two variables are related to each other. Logic might indicate a causal path, such as reading coaches lead to higher tests scores. But without random assignment there are other competing explanations for the correlation. In this example, reading coaches might lead to improved scores. But it is also plausible that the schools with coaches adopted other changes that led to higher test scores. A correlational analysis can only show an association, it cannot explain a causal relationship. That is why such studies are only rated promising.

Key things to look for to identify a correlational study:

- only one study group (no separate treatment and control groups),
- terms such as "relationship," "covariate," and "predictor," and
- presence of statistical controls.

What qualifies as demonstrates a rationale?

The final level of evidence provides flexibility to work with interventions that have not been studied much or at all. Part of the goal for this flexibility is that allowing schools and districts to test new interventions may add to our knowledge of what works. Note that ESSA limits the use of funds for practices in this category. For example, the 7% of Title I, Part A funds set aside for school improvement efforts must use interventions supported by research in the top three tiers.

For the purposes of this guide, two aspects are notable. First, there should be a theory of change providing a basis for expecting an intervention to result in an improvement. The theory of change should be well-constructed and well-established, such as by using a logic model. Readers are encouraged to develop logic models for these kinds of interventions.[12] An example of a logic model for evaluating the effects of professional development of student reading outcomes is provided In Appendix B.

Second, it is expected that SEAs and LEAs will carefully monitor progress of the selected strategies. Ideally the interventions should be evaluated through well-designed experiments but an LEA or SEA should at least set up an evaluation before applying the intervention. This would require, minimally, identifying the expected outcomes, tracking implementation, collecting follow up data, and conducting the analyses. Implementing an intervention with no way to measure or understand its consequences deprives the larger educational field an opportunity to learn more about the intervention.

Keys to consider:

- What is the logic model explaining the theory of change?
- How will the practice be evaluated?
- How will you know if it worked, or didn't work?

12 A good resource to help with creating logic models can be found at http://ies.ed.gov/pubsearch/pubsinfo.asp?pubid=REL2015057.

Follow up, Monitoring, and Evaluation

Inherent to implementing evidence-based interventions to improve school performance is frequent monitoring of progress. Leaders at all levels need to address the crucially important questions of: "Are we on track?" and, if not, "Why not, and what are we going to do about it?"

Most SEAs will use their existing accountability systems for monitoring and evaluation; however, there are ways to enhance these systems. SEAs may want to consider the following questions:

How do SEAs and LEAs identify indicators appropriate to the interventions selected?

How large of an improvement and how quickly should SEAs and LEAs see a difference in the indicators?

What steps might SEAs and LEAs take to increase the intensity of the new interventions to accelerate student growth?

At what point do the indicators suggest that interventions be changed?

Answers to these questions entail that leaders build an infrastructure at the school level that addresses improvement in instruction, leadership, teaching, and professional development, with the necessary resources and accountability to be successful.

SEA Self-Study Guide Checklist

Self-Study Guide Checklist - Preparation

Task	Recruit team members which could include researchers, content area specialists, exceptional student education and English learner specialists, senior leadership, and representatives from LEAs such as district administrators, teachers and principals.		
Person Responsible		**Due Date**	**Date Completed**
State Education Agency Leadership			
Follow-up Notes/Tasks			

Task	Choose a knowledgeable facilitator such as a School Improvement Director or ESSA state plan project manager.		
Person Responsible		**Due Date**	**Date Completed**
State Education Agency Leadership or Team			
Follow-up Notes/Tasks			

Task	Review materials for self-study process and gather all pertinent data and evidence pertaining to the interventions.		
Person Responsible		**Due Date**	**Date Completed**
Facilitator			
Follow-up Notes/Tasks			

Task	Distribute a blank *SEA Scoring Template*, *SEA Scoring Guide*, *Appendix A*, *Appendix B*, as well as any other relevant data or evidence to each team member. Provide a timeline for team members to review the materials.		
Person Responsible		**Due Date**	**Date Completed**
Facilitator			
Follow-up Notes/Tasks			

Task	Review all materials received from the facilitator.		
Person Responsible		**Due Date**	**Date Completed**
Team Members			
Follow-up Notes/Tasks			

Task	Conduct a short meeting after team members have reviewed the documents to discuss any questions.		
Person Responsible		**Due Date**	**Date Completed**
Facilitator			
Follow-up Notes/Tasks			

Task	Attend team meeting and ask any questions to be sure the process is clear.		
Person Responsible		**Due Date**	**Date Completed**
Team Members			
Follow-up Notes/Tasks			

Task	Ask each member to re-read the sections of the self-study guide addressing the collecting and evaluating of research and the ESSA Levels of Evidence. Request team members to review research pertinent to an area related to school improvement to identify an evidence-based intervention for consideration by the self-study team. Instruct team members to complete the *SEA Scoring Template* for the intervention selected.		
Person Responsible		**Due Date**	**Date Completed**
Facilitator			
Follow-up Notes/Tasks			

Task	Establish a deadline for completion and submission of the *SEA Scoring Templates* and communicate that to the team.		
Person Responsible		**Due Date**	**Date Completed**
Facilitator			
Follow-up Notes/Tasks			

Task	Re-read the sections of the self-study guide addressing the collecting and evaluating of research and the ESSA Levels of Evidence. Conduct a review of research to identify a school improvement intervention to be considered for recommendation by the team. Complete the *SEA Scoring Template*, using the *SEA Scoring Guide* as an example, and submit the completed template to the facilitator by the established deadline.		
Person Responsible		**Due Date**	**Date Completed**
Team Members			
Follow-up Notes/Tasks			

Task	Distribute the completed *SEA Scoring Templates* to all team members and ask them to rate the interventions according to the scale on the template and to complete the *SEA Scoring Guide*.		
Person Responsible		**Due Date**	**Date Completed**
Facilitator			
Follow-up Notes/Tasks			

Task	Rate the interventions on the *SEA Scoring Templates* (received from the facilitator) according to the rating on the template. Complete the *SEA Scoring Guide* after reviewing the research and information provided for each intervention. Use the guiding questions to help make decisions.		
Person Responsible		**Due Date**	**Date Completed**
Team Members			
Follow-up Notes/Tasks			

Self-Study Guide Checklist - Discussion

Task	Conduct the first team vote in an effort to reach consensus on the ratings.		
Person Responsible		**Due Date**	**Date Completed**
Facilitator			
Follow-up Notes/Tasks			

Task	Guide the team discussion regarding the first vote including the rationale for decisions of team members.		
Person Responsible		**Due Date**	**Date Completed**
Facilitator			
Follow-up Notes/Tasks			

Task	Participate in the discussion regarding first vote. Reconsider the first rating based on discussion.		
Person Responsible		**Due Date**	**Date Completed**
Team Members			
Follow-up Notes/Tasks			

Task	Facilitate second team vote if consensus is not reached initially.	
Person Responsible	**Due Date**	**Date Completed**
Facilitator		
Follow-up Notes/Tasks		

Task	Participate in second team vote If consensus is not reached initially.	
Person Responsible	**Due Date**	**Date Completed**
Team Members		
Follow-up Notes/Tasks		

Task	Guide any discussion and records results of voting, any team thoughts, comments or concerns, on the *SEA Voting and Consensus Rating Form*.	
Person Responsible	**Due Date**	**Date Completed**
Facilitator		
Follow-up Notes/Tasks		

Task	Participate in additional discussion of voting results.	
Person Responsible	**Due Date**	**Date Completed**
Team Members		
Follow-up Notes/Tasks		

Self-Study Guide Checklist - Planning

Task	Lead discussion regarding priorities, resources, and anticipated challenges and records thoughts of the team on the *SEA Planning Form*.	
Person Responsible	**Due Date**	**Date Completed**
Facilitator		
Follow-up Notes/Tasks		

Task	Participate in discussion regarding priorities, resources, and anticipated challenges.	
Person Responsible	**Due Date**	**Date Completed**
Team Members		
Follow-up Notes/Tasks		

Task	Mark calendar to complete tasks by established deadlines.	
Person Responsible	**Due Date**	**Date Completed**
Facilitator		
Follow-up Notes/Tasks		

Task	Record any assigned responsibilities and mark calendar to complete tasks by established deadlines.	
Person Responsible	**Due Date**	**Date Completed**
Team Members		
Follow-up Notes/Tasks		

Task	Schedule future meetings to assess progress.	
Person Responsible	**Due Date**	**Date Completed**
Facilitator		
Follow-up Notes/Tasks		

Task	Attend any future meetings as scheduled by the facilitator.	
Person Responsible	**Due Date**	**Date Completed**
Team Members		
Follow-up Notes/Tasks		

SEA Facilitator's Checklist

Facilitator's Checklist - Preparation	
Task	Review materials for self-study process and gather all pertinent data and evidence pertaining to the strategies and interventions.
Due Date	**Date Completed**
Follow-up Notes/Tasks	
Task	Distribute a blank *SEA Scoring Template*, *SEA Scoring Guide*, *Appendix A*, and *Appendix B*, as well as any other relevant data or evidence to each team member. Provide a timeline for team members to review the materials.
Due Date	**Date Completed**
Follow-up Notes/Tasks	
Task	Conduct a short meeting after team members have reviewed the documents to discuss any questions.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

Task	Ask each member to re-read the sections of the self-study guide addressing the collecting and evaluating of research and the ESSA Levels of Evidence. Request team members to review research pertinent to an area related to school improvement to identify a specific evidence-based intervention for consideration by the self-study team. Instruct team members to complete the *SEA Scoring Template* for the intervention selected.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

Task	Establish a deadline for completion and submission of the *SEA Scoring Templates* and communicate that to the team.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

Task	Distribute the completed *SEA Scoring Templates* to all team members and ask them to rate the strategies and interventions according to the scale on the template and to complete the *SEA Scoring Guide*.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

Facilitator's Checklist - Discussion

Task	Conduct the first team vote in an effort to reach consensus on the ratings.	
	Due Date	**Date Completed**
	Follow-up Notes/Tasks	

Task	Guide the team discussion regarding first vote including the rationale for decisions of team members.	
	Due Date	**Date Completed**
	Follow-up Notes/Tasks	

Task	Facilitate second team vote if consensus is not reached initially.	
	Due Date	**Date Completed**
	Follow-up Notes/Tasks	

Task	Guide any discussion and record results of voting, any team thoughts, comments or concerns, on the *SEA Voting and Consensus Rating Form*.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

Facilitator's Checklist - Planning

Task	Lead team discussion regarding priorities, resources, and anticipated challenges and record thoughts of the team on the *SEA Planning Form*.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

Task	Mark calendar to complete tasks by established deadlines.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

Task	Schedule future meetings to assess progress.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

SEA Team Member's Checklist

Team Member's Checklist - Preparation

Task	Review all materials received from the facilitator.	
Due Date		**Date Completed**
Follow-up Notes/Tasks		
Task	Attend team meeting and ask any questions to be sure the process is clear.	
Due Date		**Date Completed**
Follow-up Notes/Tasks		
Task	Re-read the sections of the self-study guide addressing the collecting and evaluating of research and the ESSA Levels of Evidence. Conduct a review of research to identify a school improvement intervention to be considered for recommendation by the team. Complete the *SEA Scoring Template*, using the *SEA Scoring Guide* as an example, and submit the completed template to the facilitator by the established deadline.	
Due Date		**Date Completed**
Follow-up Notes/Tasks		

Task	Rate the strategies and interventions on the completed *SEA Scoring Templates* (received from the facilitator) according to the rating on the template. Complete the *SEA Scoring Guide* after reviewing the research and information provided for each intervention. Use the guiding questions to help make decisions.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

Team Member's Checklist - Discussion

Task	Participate in the discussion regarding first vote. Reconsider the first rating based on discussion.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

Task	Participate in second team vote if consensus is not reached initially.
Due Date	**Date Completed**
Follow-up Notes/Tasks	

Task	Participate in additional discussion of voting results.	
Due Date		**Date Completed**
Follow-up Notes/Tasks		

Team Member's Checklist - Planning

Task	Participate in discussion regarding priorities, resources, and anticipated challenges.	
Due Date		**Date Completed**
Follow-up Notes/Tasks		

Task	Record any assigned responsibilities and mark calendar to complete tasks by established deadlines.	
Due Date		**Date Completed**
Follow-up Notes/Tasks		

Task	Attend any future meetings as scheduled by the facilitator.	
Due Date		**Date Completed**
Follow-up Notes/Tasks		

SEA Scoring Template

Area (choose an area from the SEA Scoring Guide, or select your own):

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive or targeted support schools.

Intervention:	Select the Rating:
	◯ **1** **Not recommended** ◯ **2** **Recommended** ◯ **3** **Strongly recommended**

Evidence Level:

Summary of Research:

Additional Information Regarding Relevance and Appropriateness:

Guiding Questions:

Selected Citations:

SEA Scoring Guide

The areas chosen for the *SEA Scoring Guide* were based on those identified in the Institute of Education Sciences (IES) Practice Guide *Turning Around Chronically Low-Performing Schools.* A literature review was conducted identifying interventions associated with the areas. In addition, literature was also reviewed pertaining to the systemic interventions previously required for use in schools needing improvement. **The *SEA Scoring Guide* is not meant to be an all-inclusive or recommended list of school improvement interventions, but rather contains examples of interventions identified in the practice guide that might meet the needs of schools requiring comprehensive or targeted support.** A brief heading appears before the description of each intervention that corresponds to the *SEA Voting and Consensus Rating Form* to help team members recall the gist of each intervention as they complete the rating form.

Area 1: Implementing Systemic Change

LEAs or schools select and implement a systemic intervention which affects the organizational structure of the school.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive or targeted support schools.

Reconstitution	Select the Rating:
LEAs or schools will implement a reconstitution model which will replace the principal, rehire no more than 50 percent of the staff, and grant the principal sufficient operational flexibility (including staffing, calendars, schedules, and budgeting) to implement fully a comprehensive approach that substantially improves student outcomes.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Moderate

Summary of Research:

One quasi-experimental study[13] found improved student achievement in the first year of the reform but smaller impacts in subsequent years. Over time, it does not seem that the positive impact on student achievement is sustained; however, it may be due to the withdrawal of support such as professional development that occurred in the years following the reconstitution.

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; school improvement plans for comprehensive and targeted support schools; student data from schools that have reconstituted in the past.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- Where has a reconstitution model been implemented effectively?
- Under what conditions were these schools successful or not?
- How can we help LEAs or schools ensure that the new principal and staff can make effective change?
- How do we help LEAs or schools recruit and retain high-quality teachers?
- How can we help LEAs or schools ensure that any initial benefit is sustained?
- For what schools might this be a relevant and appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[13]Strunk, K. O., Marsh, J. A., Hashim, A. K., & Bush-Mecenas, S. (2016). Innovation and a Return to the Status Quo A Mixed-Methods Study of School Reconstitution. *Educational Evaluation and Policy Analysis*, DOI: 0162373716642517.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive or targeted support schools.

Transformation	Select the Rating:
LEAs or schools will implement a transformational model, which by definition replaces the principal, and addresses various aspects at the school such as professional development, instructional reform, teacher evaluation and rewards systems, extended learning time, and community involvement.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Moderate

Summary of Research:

A meta-analysis of research[14] was conducted regarding a transformational model as well as the effects associated with specific comprehensive school reform model components. Overall, the effects appear to be positive, especially in the instances where the intervention was in place for five years or more. If using an outside provider, it is important to consider the provider that is most appropriate for the needs of the school. While the intent was for the intervention to emphasize eleven specific components as identified by the U.S. Department of Education in 2002 in a comprehensive manner[15], some externally developed programs emphasized some components more than others.

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; school improvement plans for comprehensive and targeted support schools.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- Where has a transformational model been implemented effectively?
- Under what conditions were these schools successful or not?
- If LEAs or schools wish to use an outside provider to assist them, how can we help them in the selection process?
- What guidance can be provided to districts if they seek to develop this model?
- What can we do to help promote sustainability?
- For what schools might this be a relevant and appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[14]Borman, G. D., Hewes, G. M., Overman, L. T., & Brown, S. (2003). Comprehensive school reform and achievement: A meta-analysis. *Review of educational research*, *73*(2), 125-230.

[15]May, H., & Supovitz, J. A. (2006). Capturing the cumulative effects of school reform: An 11-year study of the impacts of America's Choice on student achievement. *Educational Evaluation and Policy Analysis*, *28*(3), 231-257.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive or targeted support schools.

Transfer Control	Select the Rating:
LEAs or schools will implement a restart model which involves transferring control of a school to an operator, such as a charter school, that has been selected through a rigorous review process.	◯ **1** **Not recommended** ◯ **2** **Recommended** ◯ **3** **Strongly recommended**

Evidence Level:

Promising

Summary of Research:

Only a few schools that received School Improvement Grant funds have chosen to restart by transferring control to a charter school. Case studies[16] suggest that the autonomy associated with charters can be an advantage in implementing processes that may positively impact student achievement. That said, the restart model has had mixed results reflecting that simply converting a low-performing school to a charter school does not in and of itself positively impact student achievement[17].

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; school improvement plans for comprehensive and targeted support schools.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- Where has a restart model been implemented effectively?
- Under what conditions were these schools successful or not?
- How can we ensure that the LEA/school selects the operator that best meets their needs?
- What review process occurs for operators?
- For what schools might this be a relevant and appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[16]Corbett, J. (2015). Chartering Turnaround: Leveraging Public Charter School Autonomy to Address Failure. *National Alliance for Public Charter Schools*.

[17]Herman, R. (2012). Scaling school turnaround. *Journal of Education for Students Placed at Risk (JESPAR)*, *17*(1-2), 25-33.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive or targeted support schools.

Magnet	Select the Rating:
LEAs or schools will convert to a thematic magnet school resulting in a change in faculty as well as a change in student population.	◯ **1** **Not recommended** ◯ **2** **Recommended** ◯ **3** **Strongly recommended**

Evidence Level:

Moderate

Summary of Research:

Many years of research[18] substantiates the fact that schools in need of the most improvement are most often schools with higher populations of minority students and students in poverty. Studies[19,20,21,22] show that if the school implements a magnet program attracting students in higher socio-economic backgrounds, student achievement tends to increase.

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; school improvement plans for comprehensive and targeted support schools; data regarding schools that have implemented magnet programs.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- Where has the implementation of a magnet program been implemented successfully?
- What types of magnet programs have been most successful?
- Under what conditions were these schools successful or not?
- For what schools might this be a relevant and appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[18]Blank, R. K., Dentler, R., Baltzell, D. C., Chabotar, K (1983). *Survey of magnet schools. Analyzing a model for quality integrated education*. Final Report of a National Study 10-11 (U.S. Dept. of Ed.).

[19]Bifulco, R., Cobb, C. D., Bell, C. (2008). *Do magnet schools outperform traditional public schools and reduce the achievement gap?* The case of Connecticut's interdistrict magnet school program. Occasional Paper No. 167. New York: National Center for the Study of Privatization in Education.

[20]Gamoran, A. (1996). Student achievement in public magnet, public comprehensive, and private city high schools. Educational Evaluation and Policy Analysis 18, 1–18.

[21]Kahlenberg, R. D. (2009). *Turnaround schools that work: Moving beyond separate but equal*. Century Foundation.

[22]Poppell, J. and Hague, S. (2001). Examining indicators to assess the overall effectiveness of magnet schools: A study of magnet schools in Jacksonville, Florida. Paper presented at the American Educational Research Association, Seattle, Washington, 10-14.

Area 2: Establishing Strong Leadership

LEAs or schools will identify and employ strong leadership that can effect change quickly.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Principal Commitment	Select the Rating:
LEAs or schools will ensure that the principal has a clear commitment to dramatic changes from the status quo and can communicate the magnitude and urgency of those changes.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Promising

Summary of Research:

It is important that principals "demonstrate commitment to developing a learning community for students and staff with the primary focus of the school on learning with staff and students working together toward that goal".[23] School leaders also signal change through clear communication, creating high expectations, sharing leadership and authority, demonstrating a willingness to make the same types of changes asked of their staff, identifying advocates with the staff, building a consensus that permeates the staff, ensuring that the maximum amount of classroom time is focused on instruction and establishing a cohesive culture. The current principal may be able to signal change; however, there may need to be a change in leadership to communicate the need for a dramatic change in the school.

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; school improvement plans for comprehensive and targeted support schools; hiring protocols from districts; school climate survey results.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- How often are principals retained versus new principals hired?
- How does the success of a retained principal compare to that of a newly hired principal?
- Under what conditions were schools that implemented this intervention successful or not?
- How can we ensure the principal will implement change and exhibit behaviors that impact student achievement?
- What guidance can we provide LEAs and schools as they consider the retention of the current principal or recruitment of another?
- For what schools might this be a relevant and appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[23]Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides pg. 10.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Principal Behaviors	Select the Rating:
LEAs or schools will ensure that principals implement evidence-based behaviors shown to increase student achievement such as monitoring and providing feedback to teachers and students, protection of instructional time, promoting school learning climate, supporting teachers in professional development, emphasizing data-driven decision-making and positively interacting with students and teachers.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Varies by specific behavior

Summary of Research:

There are some principal responsibilities that affect student achievement more than others. There is evidence[24] that behaviors related to instructional management and internal relations impact student achievement while behaviors associated with organizational management and administrative duties do not appear to impact student achievement significantly, if at all.

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; school improvement plans for comprehensive and targeted support schools; principal evaluation protocol for districts; school climate survey results.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- Are there characteristics, such as years of experience, which indicate a principal would be more likely to exhibit these behaviors?
- What will LEAs do to ensure that principals are engaging in behaviors that most impact student achievement?
- Under what conditions were the schools implementing this intervention successful or not?
- How do we support LEAs/schools as they implement this intervention?
- For what schools might this be a relevant and appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[24]Osborne-Lampkin, L. T., Folsom, J. S., & Herrington, C. (2015). *A systematic review of the relationships between principal characteristics and student achievement* (REL 2016-091). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Distributed Leadership	Select the Rating:
LEAs or schools will implement a distributed leadership model, transformational leadership model, or an integrated model to increase student achievement.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Promising

Summary of Research:

Distributed leadership and transformational leadership models positively impact student achievement; however, it appears that the effect is indirect. These leadership styles had a significant effect on changes in school academic capacity, which in turn had significant effects on growth in English language arts and mathematics outcomes.[25] Studies[26,27] have found that over time that schools with a higher level of integrated leadership (transformational and distributed) had higher academic achievement than schools with a lower level of integrated leadership (Heck and Hallinger, 2009).

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; school improvement plans for comprehensive and targeted support schools.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- Has a distributed, transformational, or integrated leadership model been implemented in comprehensive and targeted support schools in our state?
- Under what conditions were these schools successful or not?
- What can we do to provide guidance and technical assistance to LEAs and schools to help them implement these leadership models?
- For what schools might this be a relevant and appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[25]Louis, K. S., Leithwood, K., Wahlstrom, K. L., Anderson, S. E., Michlin, M., & Mascall, B. (2010). Learning from leadership: Investigating the links to improved student learning. *Center for Applied Research and Educational Improvement/University of Minnesota and Ontario Institute for Studies in Education/University of Toronto*, *42*, 50.

[26]Heck, R. H., & Hallinger, P. (2009). Assessing the contribution of distributed leadership to school improvement and growth in math achievement. *American Educational Research Journal*, *46*(3), 659-689.

[27]Osborne-Lampkin, L. T., Folsom, J. S., & Herrington, C. (2015). *A systematic review of the relationships between principal characteristics and student achievement* (REL 2016-091). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Turnaround Program	Select the Rating:
LEAs or schools provide a program such as the School Turnaround Specialist Program which includes substantial professional development to help school leaders improve culture, team building, data analysis, instruction and other aspects of the school to positively impact student achievement. Follow-up occurs over the course of one to two years.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Moderate

Summary of Research:

A quasi-experimental four-year study[28] was conducted involving schools in Cleveland and Cincinnati, Ohio. The study found statistically significant effects during and after implementing the School Turnaround Specialist Program and underscored the importance of strong leadership. The intervention entailed an intense two-year embedded professional development program in which leaders were given support in establishing goals, using data to make decisions regarding student performance, and motivating teachers. Significant growth occurred in a relatively short period of time. This improvement began during the two-year program and continued two years beyond. The analysis of data excluded schools receiving School Improvement Grants (SIG) during the time of the study. Although improvement was noted, the schools still fell short of the average state level of proficiency.

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; school improvement plans for comprehensive and targeted support schools; data or information from institutions that provide school turnaround specialist programs; school climate survey results.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- Where has a school turnaround specialist program been implemented in comprehensive and targeted support schools in our state effectively?
- Under what conditions were these schools successful or not?
- What institutions or entities provide School Turnaround Specialists Programs or similar programs to schools in our state?
- How can we ensure the program is implemented in a manner similar to the successful program?
- Can or should this intervention be used in conjunction with other interventions?
- For what schools might this be a relevant and appropriate choice?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[28]Player, D., & Katz, V. (2016). Assessing School Turnaround: Evidence from Ohio. *The Elementary School Journal*, *116*(4), 675-698.

Area 3: Improving Academic Instruction

LEAs or schools will implement evidence-based curriculum aligned with state standards and assessments and use data to set goals and drive instruction for all students.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Review Curricula	Select the Rating:
LEAs or schools will evaluate current curricula and interventions to ensure they are evidence-based and aligned with state standards and assessments.	◯ **1** **Not recommended** ◯ **2** **Recommended** ◯ **3** **Strongly recommended**

Evidence Level:

Varies, depending on curricula

Summary of Research:

Research[29] reflects that student performance improved if instructional materials were aligned with state standards and assessments. The What Works Clearinghouse provides a list of many reviewed curricula and interventions along with their research base that are shown to improve the academic skills of students. LEAs should incorporate consideration of the research supporting curricula in their review process and whenever feasible give priority to adopting curricula with stronger research support.

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; instructional materials rubrics; adoption or selection process protocol; school improvement plans for comprehensive and targeted support schools.

Guiding Questions:

- Are we satisfied with the evidence level of the curricula?
- Will this intervention meet the needs of any schools needing improvement in our state?
- What curricula and materials are successful schools using?
- Under what conditions were schools implementing this intervention successful or not?
- Are there curriculum materials or interventions used in the state that have demonstrated success in comprehensive and targeted support schools?
- What tools can be provided to help LEAs and schools evaluate curricula?
- For what schools might this be a relevant and appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[29]Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Analyze Data	Select the Rating:
LEAs or schools will analyze a range of data from the prior year at the school level to focus on areas that need improvement schoolwide, at the classroom level to focus on teacher's instructional strengths and weaknesses, and at the student level to focus on the instructional needs of ALL students.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Promising

Summary of Research:

Research[30,31,32] suggests that data should be analyzed at the school, classroom, and student level in order to identify areas of strengths and weaknesses and to determine how best to improve the quality of instruction. This data should not be limited to student achievement data[33], but could also include data reflecting the school's climate, community, implementation of curriculum, and quality of instruction. In addition, it is important that the appropriate data is collected and analyzed. Formative assessments selected for implementation must align with the standards, curriculum and the state assessment. Data should be widely distributed and teachers and administrators should be taught how to correctly interpret and use data so as to develop expertise in the use of data.

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; school improvement plans for comprehensive and targeted support schools; school climate survey results.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- How can we ensure that appropriate data are collected and analyzed?
- How can we ensure that data analysis occurs before the school year starts so that students may receive instruction that meets their needs at the beginning of the school year?
- What support can we provide LEAs and schools in interpreting data correctly?
- Under what conditions were the schools implementing this intervention successful or not?
- How can we ensure that all subgroups are considered?
- How can we support districts in utilizing non-academic data such as data pertaining to attendance, discipline, course enrollment and pass rates, and fiscal expenditures?
- For what schools might this be a relevant or appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[30]Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

[31]Anderson, S., Leithwood, K., & Strauss, T. (2010). Leading data use in schools: Organizational conditions and practices at the school and district levels. *Leadership and Policy in Schools*, *9*(3), 292-327.

[32]van Geel, M., Keuning, T., Visscher, A. J., & Fox, J. P. (2016). Assessing the Effects of a School-Wide Data-Based Decision-Making Intervention on Student Achievement Growth in Primary Schools. *American Educational Research Journal*, DOI: 0002831216637346.

[33]Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Progress Monitoring	Select the Rating:
LEAs or schools will progress monitor students throughout the school year, analyze data, and modify instruction to meet the ongoing instructional needs of students.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Moderate

Summary of Research:

Teachers can use this data to determine the progress of students toward grade level standards and to adjust instruction accordingly.[34] Data should analyzed and interpreted so that teachers can develop a hypothesis regarding student learning and modify instruction to test that hypothesis and improve student achievement[35]. A study[36] was conducted of a computerized curriculum-based instructional management system implemented as an enhancement to ongoing mathematics instruction which enabled teachers to use data to modify instruction for students. This was shown to lead to an increase in student achievement in mathematics. In addition, research[37] reflects that a computer-adaptive literacy assessment can help to identify students at risk of not meeting grade level standards as well as those who are not at risk so that teachers can provide instruction accordingly. Finally, computer-adaptive assessments may be especially valuable in helping teachers to monitor the progress of English learners and students with learning disabilities, enabling them to target instruction to their needs.[38]

Additional Information Regarding Relevance and Appropriateness:

Student achievement data and school improvement plans for comprehensive and targeted support schools.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- Will we require specific tools for progress monitoring?
- Under what conditions were the schools implementing this intervention successful or not?
- How can we support LEAs and schools in collecting data and analyzing it correctly?
- How can we ensure that progress monitoring data drives continued modification of instruction for all students in all subgroups?
- For what schools might this be a relevant and appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[34]Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

[35]Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE 2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

[36]Ysseldyke, J., Spicuzza, R., Kosciolek, S., Teelucksingh, E., Boys, C., & Lemkuil, A. (2003). Using a curriculum-based instructional management system to enhance math achievement in urban schools. *Journal of Education for Students Placed at Risk*, *8*(2), 247-265.

[37]Foorman, B., Kershaw, S., Petscher, Y. (2013*). Evaluating the screening accuracy of the Florida Assessments for Instruction in Reading (FAIR).* (REL 2013-008). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs/regions/southeast/pdf/REL_2013008.pdf.

[38]Foorman, B., Espinosa, A., Jackson, C., Wu, Y. (2016b*). Using computer-adaptive assessments of literacy to monitor the progress of English learner students.* (REL 2016-149). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs/regions/southeast/pdf/REL_2016149.pdf.

Area 4: Developing and Retaining a High-Quality Staff

LEAs or schools implement a plan for developing and retaining a high quality staff that can improve instruction and is dedicated to the school's improvement goals.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Committed Staff	Select the Rating:
LEAs or schools will build a committed staff and provide professional development for teachers to improve the quality of instruction in the classroom and positively impact student achievement.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Strong

Summary of Research:

A common characteristic of schools that have successfully turned around is that school leaders chose teachers who were committed to improving the school and were qualified to implement high-quality instruction.[39] Professional development can also help these teachers continue to improve their instruction. Nine studies[40] that met the What Works Clearinghouse evidence standards, five of which were randomized control trials that met evidence standards without reservations, were examined to ascertain the effectiveness of professional development as it relates to student achievement. These studies focused on elementary school teachers and students and included four studies pertaining to reading and language arts, two related to mathematics, one focused on science and two on language arts, mathematics, and science. All nine studies found that teacher professional development had a moderate effect on student achievement. Effective professional development is focused on content and extends and intensifies teacher knowledge in a particular subject area and how students learn that content.[41] A variety of approaches to professional development can be implemented to impact to student achievement, including the establishment of professional grade level teams wherein teachers can collaborate and receive professional development.[42,43,44]

Additional Information Regarding Relevance and Appropriateness:

School achievement data; school improvement plans.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- What can be done to support LEAs and schools in analyzing data to target their professional development plans?
- Under what conditions were schools implementing this intervention successful or not?
- What support can be provided for LEAs and schools as they develop their professional development plan?
- How can it be ensured that professional development plans are driven by instructional goals?
- What can be done to support LEAs and schools so that they deliver high-quality professional development?
- What can be done to ensure follow-up so that professional development strategies are implemented in the classroom?
- For what schools might this be a relevant or appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[39]Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

[40]Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. L. (2007). Reviewing the Evidence on How Teacher Professional Development Affects Student Achievement. Issues & Answers. REL 2007-No. 033.*Regional Educational Laboratory Southwest (NJ1)*.

[41]Early, D. M., Berg, J. K., Alicea, S., Si, Y., Aber, J. L., Ryan, R. M., & Deci, E. L. (2016). The Impact of Every Classroom, Every Day on High School Student Achievement: Results From a School-Randomized Trial. *Journal of Research on Educational Effectiveness*, *9*(1), 3-29.

[42]Antoniou, P., & Kyriakides, L. (2011). The impact of a dynamic approach to professional development on teacher instruction and student learning: Results from an experimental study. *School Effectiveness and School Improvement*, *22*(3), 291-311.

[43]Saunders, W. M., Goldenberg, C. N., & Gallimore, R. (2009). Increasing achievement by focusing grade-level teams on improving classroom learning: A prospective, quasi-experimental study of Title I schools. *American Educational Research Journal*, *46*(4), 1006-1033.

[44]van Kuijk, M. F., Deunk, M. I., Bosker, R. J., & Ritzema, E. S. (2016). Goals, data use, and instruction: the effect of a teacher professional development program on reading achievement. *School Effectiveness and School Improvement*, *27*(2), 135-156.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Coaches	Select the Rating:
LEAs or schools will provide well-trained instructional coaches to deliver embedded professional development for teachers based on data.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Moderate

Summary of Research:

The hiring of an instructional coach to provide embedded professional development can positively impact student achievement[45,46,47] if the coach is well-trained and engages in behaviors such as modeling lessons, providing feedback, and engaging in discussions centered on data.

Additional Information Regarding Relevance and Appropriateness:

Student achievement data; school improvement plans for comprehensive and targeted support schools; data regarding the numbers and districts that have implemented instructional coaches.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- Have coaches serving in comprehensive and targeted support schools benefited student achievement?
- Under what conditions were these schools successful or not?
- Should there be specific requirements for instructional coaches?
- How can we support districts as they select coaches and train them?
- How can we ensure that roles of coaches include those that benefit student achievement?
- For what schools might this be a relevant or appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[45]Lockwood, J. R., Jennifer Sloan McCombs, and Julie Marsh. "Linking reading coaches and student achievement evidence from Florida middle schools." *Educational Evaluation and Policy Analysis* 32.3 (2010): 372-388.

[46]Marsh, J. A., McCombs, J. S., & Martorell, P. (2010). How Instructional Coaches Support Data-Driven Decision Making. *Educational Policy*, *20*(10), 1-37.

[47]Matsumura, L. C., Garnier, H. E., & Spybrook, J. (2013). Literacy coaching to improve student reading achievement: A multi-level mediation model. *Learning and Instruction*, *25*, 35-48.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Career Continuum	Select the Rating:
LEAs or schools will implement a career continuum for teachers encouraging professional growth and the opportunity to take on leadership roles. They will compensate teachers based on student achievement results and their roles designated by the career continuum.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Moderate

Summary of Research:

Comprehensive school reforms focused on teacher recruiting and developing high quality teachers can positively impact[48] student achievement. Implementing an aggressive recruitment plan including substantial advertising is important so that high-quality teachers are attracted to schools in need of improvement. In addition, establishing a career continuum can help develop and retain teachers by, (a) enabling teachers to assume increasing responsibilities, roles, and authority; (b) providing opportunities for teachers to conduct professional development in their schools; and (c) holding teachers accountable. Implementing a continuum and compensating teachers according to student achievement and their progress on the continuum yielded significant improvement in student achievement data compared to like schools that did not implement a comprehensive method of recruiting, developing, and retaining teachers. In addition, teachers working in a more supportive professional environment improve their effectiveness more over time than teachers working in less supportive contexts.

Additional Information Regarding Relevance and Appropriateness:

School achievement data; school improvement plans.

Guiding Questions:

- Are we satisfied with the evidence level of the intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- Are there districts that have established such a continuum for teachers in our state and how successful has that been?
- Under what conditions were these schools successful or not?
- What responsibilities or roles could be included in a career continuum?
- How can we support LEAs and districts as they develop a career continuum?
- For what schools might this be a relevant or appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[48]Schacter, J., & Thum, Y. M. (2005). Tapping into high quality teachers: Preliminary results from the Teacher Advancement Program comprehensive school reform. *School Effectiveness and School Improvement*, *16*(3), 327-353.

Area 5: Creating a Positive School Climate and Culture

LEAs or schools implement a plan to establish a positive school culture and climate that embraces high academic expectations.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Safety and Community	Select the Rating:
LEAs or schools will prioritize safety, community, and collaboration amongst all stakeholders including faculty, parents and caregivers, and the community.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Promising

Summary of Research:

Academic achievement seems to be impacted[49,50] by a school climate and culture that addresses not only academic needs, but also fosters students' feelings of safety, addresses health and mental health issues, and establishes high expectations for academic success. It is important to develop strong partnerships with parents and families, businesses, faith-based organizations, and youth development agencies to address these priorities beyond the school day. In addition, teacher effectiveness tends to improve more over time when teachers are working in supportive professional environments as opposed to when they are working in less supportive contexts.[51]

Additional Information Regarding Relevance and Appropriateness:

School achievement data; school improvement plans; school climate survey results.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- What districts or schools have successfully changed the culture and how did that affect student achievement?
- Under what conditions were these schools successful or not?
- What can be done to support districts as they identify areas in their culture that need to be improved and develop a plan for doing so?
- What can be done to support districts as they seek to establish partnerships with outside entities in their community?
- For what schools might this be a relevant or appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[49]Anderson-Butcher, D., Iachini, A. L., Ball, A., Barke, S., & Martin, L. D. (2016). A University–School Partnership to Examine the Adoption and Implementation of the Ohio Community Collaboration Model in One Urban School District: A Mixed-Method Case Study. *Journal of Education for Students Placed at Risk (JESPAR)*, 1-15.

[50]Tichnor-Wagner, A., & Allen, D. (2016). Accountable for Care: Cultivating Caring School Communities in Urban High Schools. *Leadership and Policy in Schools*, 1-42.

[51]Kraft, M. A., & Papay, J. P. (2014). Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. *Educational Evaluation and Policy Analysis*, *36*(4), 476-500.

Select the rating that reflects whether or not you feel this option should be included in the menu for selection by comprehensive and targeted support schools.

Visible Change	Select the Rating:
LEAs or schools will create a climate of change evidenced by visible improvements early in the turnaround process.	◯ **1 Not recommended** ◯ **2 Recommended** ◯ **3 Strongly recommended**

Evidence Level:

Promising

Summary of Research:

Successful turnaround schools commonly implement visible changes that can be easily recognized as improvements and accomplished quickly. Although the changes made depend upon the school, changes can oftentimes quickly occur in the areas of use of time, resources, the physical plant, and student discipline.[52]

Additional Information Regarding Relevance and Appropriateness:

School achievement data; school improvement plans; school climate survey results.

Guiding Questions:

- Are we satisfied with the evidence level of this intervention?
- Will this intervention meet the needs of any schools needing improvement in our state?
- What districts and schools instituted changes that could be accomplished quickly and was that successful in benefiting student achievement?
- Under what conditions were these schools successful or not?
- What can be done to support districts as they make decisions regarding what types of positive changes could be made quickly?
- For what schools might this be a relevant or appropriate choice?
- Can or should this intervention be used in conjunction with other interventions?
- What is the cost/benefit of utilizing this intervention?

Selected Citations:

[52]Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

SEA Voting and Consensus Rating Form

This form is used to document the results of consensus ratings by the self-study team. The facilitator leads the team in consensus voting which consists of several steps:

1. *Vote.* Ask each team member to provide a numerical ranking (1-3) for each of the areas.
2. *Identify frequency.* Identify the most frequent ranking (if three team members vote 3, five vote 2, and two vote 1, the most frequent ranking that team members votes is 2).
3. *Discuss the rationale of the high frequency ranking.* Ask a team member who selected the high frequency ranking to talk about what motivated that vote.
4. *Discuss the rationale of lower frequency rankings*. Ask other team members to talk about why they voted in a particular way.
5. *Vote.* Use numeric ranking to vote a second time. Team members may change their votes based on the discussion.
6. *Record rating on this form.* If there is a consensus (typically determined by majority vote), record the high frequency ranking. If consensus is not reached (there is a tie), continue discussing and voting until consensus is reached.
7. *Continue across areas* of the self-study guide and include strategies and interventions submitted by team members.

SEA Self-Study Team:

Facilitator: _____

Team Member: _____

Team Member: _____

Team Member: _____

Team Member: _____

Team Member: _____

SEA Consensus Form:

NR = Not Recommended
R = Recommended
SR = Strongly Recommended

Scoring Guide Area	Consensus Rating	NR	R	SR
1. Implementing Systemic Change	Intervention 1 (reconstitution)	◯ 1	◯ 2	◯ 3
	Intervention 2 (transformation)	◯ 1	◯ 2	◯ 3
	Intervention 3 (transfer control)	◯ 1	◯ 2	◯ 3
	Intervention 4 (magnet)	◯ 1	◯ 2	◯ 3
2. Establishing Strong Leadership	Intervention 1 (principal commitment)	◯ 1	◯ 2	◯ 3
	Intervention 2 (principal behaviors)	◯ 1	◯ 2	◯ 3
	Intervention 3 (distributed leadership)	◯ 1	◯ 2	◯ 3
	Intervention 4 (turnaround program)	◯ 1	◯ 2	◯ 3
3. Improving Academic Instruction	Intervention 1 (review curriculum)	◯ 1	◯ 2	◯ 3
	Intervention 2 (analyze data)	◯ 1	◯ 2	◯ 3
	Intervention 3 (progress monitoring)	◯ 1	◯ 2	◯ 3
4. Developing and Retaining a High Quality Staff	Intervention 1 (committed staff)	◯ 1	◯ 2	◯ 3
	Intervention 2 (coaches)	◯ 1	◯ 2	◯ 3
	Intervention 3 (career continuum)	◯ 1	◯ 2	◯ 3

Scoring Guide Area	Consensus Rating	NR	R	SR
5. Creating a Positive School Climate and Culture	Intervention 1 (safety and community)	◯ 1	◯ 2	◯ 3
	Intervention 2 (visible change)	◯ 1	◯ 2	◯ 3
6. Team-proposed Area	Intervention 1	◯ 1	◯ 2	◯ 3
	Intervention 2	◯ 1	◯ 2	◯ 3
	Intervention 3	◯ 1	◯ 2	◯ 3
7. Team-proposed Area	Intervention 1	◯ 1	◯ 2	◯ 3
	Intervention 2	◯ 1	◯ 2	◯ 3
	Intervention 3	◯ 1	◯ 2	◯ 3
8. Team-proposed Area	Intervention 1	◯ 1	◯ 2	◯ 3
	Intervention 2	◯ 1	◯ 2	◯ 3
	Intervention3	◯ 1	◯ 2	◯ 3
9. Team-proposed Area	Intervention 1	◯ 1	◯ 2	◯ 3
	Intervention 2	◯ 1	◯ 2	◯ 3
	Intervention 3	◯ 1	◯ 2	◯ 3

SEA Planning Form

(to be completed by the facilitator)

After the *SEA Voting and Consensus Rating Form* has been completed, the facilitator will lead a discussion with the team regarding priorities for action. The facilitator will then complete the planning form based on the thoughts of the team. While many priorities may be identified, the team may choose to focus on only a few at any one time so as not to be overwhelmed. The discussion may also include next steps for developing and disseminating resources to LEAs. Any challenges and ideas to meet those challenges may also be captured.

AREA:

1. Based on group discussion and consensus ratings, list the top priorities pertaining to the recommendations of interventions for school improvement.

2. What are next steps in addressing the priorities? Consider timelines and who will be responsible.

3. What resources need to be provided for LEAs? Consider timelines and who will be responsible for development and dissemination.

4. What potential challenges are anticipated? How will they be addressed? Who will be responsible for addressing these challenges?

5. Who will be responsible for ensuring that priorities and resource development and dissemination are occurring according to the established timeline?

Appendix A. Annotated Bibliography

This appendix describes key references that provide additional support for each of the Scoring Guide areas.

Scoring Guide Area 1: Implementing Systemic Change

Strunk, K. O., Marsh, J. A., Hashim, A. K., & Bush-Mecenas, S. (2016). Innovation and a Return to the Status Quo A Mixed-Methods Study of School Reconstitution. *Educational Evaluation and Policy Analysis*, DOI: 0162373716642517.

This study of a small set of schools that were reconstituted in an urban area (pg. 555) found that students in reconstituted schools experience sizable and significant gains in ELA during the first two years of reconstitution, but insignificant effects for math. Changes in the statewide assessment prevented these schools from being studied in subsequent years (pg. 556); however, case study data reflected that while reconstitution initially improves the student achievement at the school, the effects diminish over time (pg. 570). The authors suggest that it may be helpful for districts to maintain support in the form of funding and providing other resources for several years (pg. 571).

Borman, G. D., Hewes, G. M., Overman, L. T., & Brown, S. (2003). Comprehensive school reform and achievement: A meta-analysis. *Review of educational research*, *73*(2), 125-230.

The authors note that there are limitations on the overall quantity and quality of the research base; however, the effects of the comprehensive school reform model appear promising. Schools that implemented the model for five years or more showed particularly strong effects (pg. 125).

May, H., & Supovitz, J. A. (2006). Capturing the cumulative effects of school reform: An 11-year study of the impacts of America's Choice on student achievement. *Educational Evaluation and Policy Analysis*, *28*(3), 231-257.

The authors present the results of an 11-year longitudinal study of the America's Choice comprehensive school reform design focused on student learning gains. The study was conducted in Rochester, New York and compared test scores of students attending America's Choice schools with the scores of students who attended other schools and students who attended the same schools before America's Choice was implemented. There were significant annual effects, which accumulated over time in the elementary and middle grades (pg. 231). This study also found that over time, particularly after the fifth year of implementation, the effects dropped off and that although the effects were significant, students who were working below grade level did not catch up with grade-level peers (pg. 253). The America's Choice model emphasizes ongoing assessment and differentiation of instruction (pg. 252).

Corbett, J. (2015). Chartering Turnaround: Leveraging Public Charter School Autonomy to Address Failure. *National Alliance for Public Charter Schools*.

The authors reflect that only a few districts or schools have chosen to restart schools as charters. Case studies indicate several benefits of restarting a school as a charter including the freedom to hire, place, and remove staff; provide professional development and incentive; to use time as deemed best for students; adopt curriculum and implement other academic services; allocate dollars to priority areas and to own and maintain facilities (pg. 20). Case studies reflect improvements in student performance in some schools (pg. 12).

Herman, R. (2012). Scaling school turnaround. *Journal of Education for Students Placed at Risk (JESPAR)*, *17*(1-2), 25-33.

The author reflects that evidence regarding the effects of charter schools and education management organizations focuses on primarily on charter schools in general. Student achievement results are mixed when comparing student performance in charter schools to that of students in other schools ((pg. 27). It is unclear if true flexibility is afforded to charter schools that are low-performing or if that flexibility matters when it comes to student achievement (pg. 28).

Blank, R. K., Dentler, R., Baltzell, D. C., Chabotar, K (1983). *Survey of magnet schools. Analyzing a model for quality integrated education*. Final Report of a National Study 10-11 (U.S. Dept. of Ed.).

The authors examine using magnet programs to improve the quality of education in urban areas and also to facilitate integration of schools. They note that "While desegregation does not 'predict' quality, within magnets a racial balance does predict academic gains. Integration and quality are highly associated; each is a correlative facet of effectiveness," (pg. 134). A variety of factors in success are noted for schools that were studied. These include leadership of the principal, parental support, coordinated instructional program, and use of community resources (pg. 403, 412).

Bifulco, R., Cobb, C. D., Bell, C. (2008). *Do magnet schools outperform traditional public schools and reduce the achievement gap?* The case of Connecticut's interdistrict magnet school program. Occasional Paper No. 167. New York: National Center for the Study of Privatization in Education.

Results of a study conducted in Connecticut's central cities indicate that "attendance at an interdistrict magnet high school has positive effects on the math and reading achievement of central city students and that interdistrict magnet middle schools have positive effects on reading achievement," (pg. 323).

Gamoran, A. (1996). Student achievement in public magnet, public comprehensive, and private city high schools. Educational Evaluation and Policy Analysis 18, 1–18.

The author reflects that results of a study in American cities indicating that magnet schools were more effective than public comprehensive high schools in raising proficiency in science, reading and social studies (pg 1). In addition, principals of magnet schools reported "slightly more positive academic climates, on average, than principals in comprehensive schools," (pg. 8).

Kahlenberg, R. D. (2009). *Turnaround schools that work: Moving beyond separate but equal*. Century Foundation.

The author states that there are "a number of studies over the past quarter-century that have found that magnet schools have higher levels of achievement than do other schools, and produce faster achievement gains in most subjects" (pg. 8). In addition, the magnet model is one where "schools seek to improve the performance of low-income students by drawing into a high-poverty school a contingent of middle class students" (pg. 8).

Poppell, J. and Hague, S. (2001). Examining indicators to assess the overall effectiveness of magnet schools: A study of magnet schools in Jacksonville, Florida. Paper presented at the American Educational Research Association, Seattle, Washington, 10-14.

A study of magnet schools in Duval County Public Schools in Florida found that academic achievement of students attending magnet schools exceeded that of students who attended nonmagnet schools. The schools were established as part of a plan to desegregate the district (pg. 1).

Scoring Guide Area 2: Establishing Strong Leadership

Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

This practice guide addressing turnaround of chronically low-performing schools recommends that strong leadership signal the need for dramatic change. It is important that principals "demonstrate commitment to developing a learning community for students and staff with the primary focus of the school on learning with staff and students working together toward that goal" (pg. 10). School leaders also signal change through clear communication, creating high expectations, sharing leadership and authority, demonstrating a willingness to make the same types of changes asked of their staff, identifying advocates with the staff, building a consensus that permeates the staff, ensuring that the maximum amount of classroom time is focused on instruction and establishing a cohesive culture (pg. 10-11). The current principal may be able to signal change; however, there may need to be a change in leadership to communicate the need for a dramatic change in the school (pg. 11).

Osborne-Lampkin, L. T., Folsom, J. S., & Herrington, C. (2015). *A Systematic Review of the Relationships between Principal Characteristics and Student Achievement*. (REL 2016-091). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs.

The authors "describe the literature on principal behaviors linked to improved student achievement" (pg. 9). The behaviors are organized into five domains which include instructional management, internal relations, organizational management, administrative duties, and external relations. Under instructional management, behaviors such as "monitoring and providing feedback to teachers and student," "having a vision for learning," "providing support and professional development to teachers," and "using data to drive decision-making," were found to have positive relationships with student achievement. One study found that "promoting high standards for student learning (r = .55-.61) and having a rigorous curriculum (r =.42-.47) were most highly correlated with English language arts achievement in grades 3-5 and that performance accountability was significantly correlated in grade 3 (r = .37; Reardon, 2011)" (pg. 9-10). Eight of nine studies examined found a positive relationship between internal relations and student achievement while three of five studies reflected positive relationships between the time that principals spent on organizational management and student achievement. No studies found any relationship between principals' time spent on administrative duties and student achievement. There were mixed results when it came to time spent devoted to external relationships and student achievement with school-community links n high-poverty and rural schools positively related to student achievement.

Louis, K. S., Leithwood, K., Wahlstrom, K. L., Anderson, S. E., Michlin, M., & Mascall, B. (2010). Learning from leadership: Investigating the links to improved student learning. *Center for Applied Research and Educational Improvement/University of Minnesota and Ontario Institute for Studies in Education/University of Toronto*, *42*, 50.

The authors of this study examined leadership at the school, district, and state level with the purpose to "identify the nature of successful educational leadership and to better understand how such leadership can improve educational practices and student learning" (pg. 7). At the school level, the authors reflected that among other findings that "collective leadership has a

stronger influence on student achievement than individual leadership" (pg. 19). Data suggests that "collective leadership has modest but significant indirect effects on student achievement" (pg. 28) as it positively effects teacher variables such as work setting and motivation which, in turn, impact student achievement.

Heck, R. H., & Hallinger, P. (2009). Assessing the contribution of distributed leadership to school improvement and growth in math achievement. *American Educational Research Journal*, *46*(3), 659-689.

The authors of this study examined the relationship between distributed leadership and academic capacity when observed over time and how distributed leadership impacts school improvement and subsequent growth in math (pg. 677). They "found support for the hypothesis that school leadership and capacity building are mutually reinforcing in their effects on each other over time," and that "changes in these mutually reinforcing constructs were also positively associated with school growth rates in math. The effect size for change in academic capacity was almost 0.2" (pg. 679-680).

Osborne-Lampkin, L. T., Folsom, J. S., & Herrington, C. (2015). *A Systematic Review of the Relationships between Principal Characteristics and Student Achievement.* (REL 2016-091). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs.

The authors examined a study investigating distributed or collaborative leadership. The study found that although there was no evidence of direct effect of collaborative or distributed leadership on student achievement, there was consistent indirect effects (pg. 12). The study found significant effect on changes in school academic capacity "which in turn had a significant effect on growth in student achievement in English language arts" (pg. 12).

Player, D., & Katz, V. (2016). Assessing School Turnaround: Evidence from Ohio. *The Elementary School Journal, 116*(4), 675-698.

The authors of this study examined "a sample of 20 Ohio schools that participated in a school turnaround program and found that participating schools experienced meaningful improvements in student achievement after completing the two-year program" (pg. 675). These schools investigated the implementation of a School Turnaround Specialist Program (STSP) where it was required that the principal and at least half of the school's prior staff would be replaced. That said, the principal was replaced in only six of the 20 schools (pg. 691). Professional development to the principal and other leaders of the school the summer before the program was implemented and considerable support was provided to the principals through mentoring (pg. 679). "The schools examined as a part of this study demonstrated statistically and practically significant growth in student achievement within 2 years of participating in STSP" (pg. 694).

Scoring Guide Area 3: Improving Academic Instruction

Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

The practice guide states that a "comprehensive curriculum review can ensure that the curriculum aligns with state and local standards and meets the needs of all students (pg. 19). In addition, the What Works Clearinghouse establishes levels of evidence for assessing the quality of evidence supporting educational programs and practices (pg. 3).

The practice guide also indicates that schools need to "examine student achievement data to identify gaps and weaknesses in student learning….they can examine student learning through standards-based assessments and classroom assessments" (pg. 17). In addition, "school personnel can also look at data on factors that contribute to or impeded student learning, such as attendance, discipline, and fiscal expenditures" (pg. 17).

Anderson, S., Leithwood, K., & Strauss, T. (2010). Leading data use in schools: Organizational conditions and practices at the school and district levels. *Leadership and Policy in Schools*, *9*(3), 292-327.

"This study examined data use and conditions influencing data use by typical principals and teachers, as well as the relationship between data use and student performance" (pg. 292). The authors note that data should be accessible, timely, and valid. In addition, the staff should have the expertise to analyze the data correctly (pgs. 296-297). "It is not data use per se that affects the quality of teaching and learning; rather it is the appropriateness of actions actually taken based on data-informed decisions about the nature of the problem and how it might be solved (pg. 321).

van Geel, M., Keuning, T., Visscher, A. J., & Fox, J. P. (2016). Assessing the Effects of a School-Wide Data-Based Decision-Making Intervention on Student Achievement Growth in Primary Schools. *American Educational Research Journal*, DOI: 0002831216637346.

This study investigated a school-wide data-based decision-making (DBDM) intervention in primary schools in The Netherlands. The intervention involved a two-year training course in DBDM for primary school teams (pg. 366). It was hypothesized that "implementing DBDM will lead to changes in teacher's classroom practices, which in turn will lead to student achievement growth in mathematics" (pg. 370). Results indicated that the intervention "can lead to a considerable improvement in the correct interpretation of student achievement data" (pg. 387) and there were positive effects on student achievement. In addition, the intervention "significantly improved the performances of students in low socioeconomic schools" (pgs. 360-361).

Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE #2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

This practice guide recommends that a variety of data is collected about student learning. Multiple data sources are important because, "no single assessment provides all the information teachers need to make informed instructional decisions" (pg. 11). Data collected may include "curriculum-based unit tests; class projects; classwork and homework; records from parent meetings and phone calls; classroom behavior charts; individualized education plans;

and prior data from students' cumulative folders" (pg. 13).

Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

The practice guide reflects that schools in need of improvement should "monitor progress and make adjustments" (pg. 17). Once schools have identified areas that needed improvement and develop a plan to improve instruction, they should continually monitor progress. In the schools cited in the practice guide, all of them used benchmark assessments or in some way systematically monitored student achievement and progress toward instructional goals (pg. 17). This was done so instruction could be modified as needed.

Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE #2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

This practice guide recommends that teachers interpret data, develop a hypothesis about how to improve student learning (pg. 14), modify instruction to test the hypothesis, and continue the cycle to increase student learning (pg. 15). Modifying instruction may mean allocating more time, reordering the curriculum, identifying particular students in need of assistance with specific skills, attempting to teach complex skills in new ways, improving alignment between performance expectations among grade levels, or better aligning curricular alignment in the school (pg. 15).

Ysseldyke, J., Spicuzza, R., Kosciolek, S., Teelucksingh, E., Boys, C., & Lemkuil, A. (2003). Using a curriculum-based instructional management system to enhance math achievement in urban schools. *Journal of Education for Students Placed at Risk*, *8*(2), 247-265.

The authors reflect that in order to improve teaching and learning, systematic, usable information regarding individual student performance and progress at the classroom level must be available (pg. 247). The study examined the "use of a computerized curriculum-based instructional management system in addition to ongoing math instruction" (pg. 248). The system allowed teachers to differentiate instruction based on data. Results reflect a positive effect with students in classrooms implementing the system demonstrating more growth than students in classrooms that did not implement the system (pg. 259).

Foorman, B., Espinosa, A., Jackson, C., Wu, T. (2016b). *Evaluating the screening accuracy of the Florida Assessments for Instruction in Reading (FAIR).* (REL 2013-008). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs/regions/southeast/pdf/REL_2013008.pdf.

This study examined the association between student performance on the 2012 Florida Comprehensive Assessment Test (FCAT) and their scores on the Florida Assessment for Instruction in Reading (FAIR) during three assessment periods throughout the year. In addition, the authors looked at the effects of adding FAIR as a means of preventing errors while identifying students in need of intervention (pg. i). The study showed a strong correlation between FAIR FCAT Success Probability (FSP) scores and performance on the 2012 FCAT at all grade levels. In addition, while FCAT could be used to identify students at risk/not at risk of meeting grade

level standards the following school year, implementing FAIR as a progress monitoring tool throughout the school year decreased the percentage of students that were misidentified. For example, "using FAIR FSP scores (which combine the FAIR Reading Comprehension Assessment with the 2011 FCAT 2.0 score) reduced underidentification from 21 percent in grade 4 to 4-6 percent" (pg. 9).

Foorman, B., Kershaw, S., Petscher, Y. (2013). *Using computer-adaptive assessments of literacy to monitor the progress of English learner students.* (REL 2016-149). Washington DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Education Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs/regions/southeast/pdf/REL_2016149.pdf.

This study, conducted in a large urban district in Florida, examined how teachers and school staff administered computer-adaptive assessments of literacy to English learner students in grades 3-5 and how they used the assessments to monitor students' growth in literacy skills. (pgs. 1-2). "Reliably measuring the literacy skills of English learner students can be challenging. Assessments typically address only grade-level proficiency, do not provide instructionally relevant information, and are not developmentally scaled to measure change over time" (pg. 2). The Florida Assessments for Instruction in Reading (FAIR) K-2 system was used because of the low level of English proficiency. The study found that teachers partnered with each other so that the assessment could be delivered within the required timeframe. Students' literacy skills improved during the course of the year, but most students remained at the same grade level in the FAIR K-2 system at the end of the school year. Teachers found the data helpful as they could use it to plan and adjust instruction as needed.

Scoring Guide Area 4: Developing and Retaining a High-Quality Staff

Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

The authors reflect that "the school leader needs to build a staff that is committed to the school's improvement goals and qualified to meet them" (pg. 27). In addition, while not a focus of the specific recommendation in the practice guide, the author's state that "professional development to help staff reach the school's goals is an essential element of all school reform efforts and should be a part of turnaround schools," (pg. 27).

Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. L. (2007). Reviewing the Evidence on How Teacher Professional Development Affects Student Achievement. Issues & Answers. REL 2007-No. 033. *Regional Educational Laboratory Southwest (NJ1)*.

The authors examined nine studies that addressed the effect of teacher professional development on student achievement in mathematics, science, and reading or English language arts. Five of the studies were randomized controlled trials and met the What Works Clearinghouse evidence standards without reservation. Four studies met the evidence standards with reservations (pg. iii). In all studies the professional development provided was directly to teachers and not through a "train the trainer" approach. It was delivered by those who created the professional development. It was also found that studies that had "more than 14 hours of professional development showed a positive and significant effect on student achievement from professional development" (pg."3). Further, the authors state that "First, professional development enhances teacher knowledge and skills. Second, better knowledge and skills improve

classroom teaching. Third, improved teaching raises student achievement….If a teacher fails to apply new ideas from professional development to classroom instruction, students will not benefit from the teacher's professional development" (pg. 4).

Early, D. M., Berg, J. K., Alicea, S., Si, Y., Aber, J. L., Ryan, R. M., & Deci, E. L. (2016). The Impact of Every Classroom, Every Day on High School Student Achievement: Results From a School-Randomized Trial. *Journal of Research on Educational Effectiveness*, *9*(1), 3-29.

Professional development was a key component of the set of instructional improvement interventions that were examined by this study. The study was conducted in high schools and included professional development for both mathematics and English teachers (pg. 3). The authors explain that professional development should be content focused, "meaning that it extends and intensifies teacher knowledge of a subject area and how children learn subject specific content" (pg. 5-6). Students attending treatment schools had higher math scores than those who attended schools not in the treatment group (pg. 19). Although the professional development component alone was not studied, it was a major component of the intervention set.

Antoniou, P., & Kyriakides, L. (2011). The impact of a dynamic approach to professional development on teacher instruction and student learning: Results from an experimental study. *School Effectiveness and School Improvement*, *22*(3), 291-311.

This study investigated a dynamic integrated approach to professional development as opposed to a holistic approach. The dynamic approach focused on factors that describe the teachers' instructional role and are associated with student outcomes such as questioning, classroom assessment, and teacher-modeling while the holistic approach focused on teachers' beliefs, experiences, and reflection on teaching practices (pgs. 291-292). The study found that teachers that had participated in the dynamic approach to professional development were more effective than those participating in the holistic approach model (pg. 303).

Saunders, W. M., Goldenberg, C. N., & Gallimore, R. (2009). Increasing achievement by focusing grade-level teams on improving classroom learning: A prospective, quasi-experimental study of Title I schools. *American Educational Research Journal*, *46*(4), 1006-1033.

The authors conducted a quasi-experimental investigation focused on the effects of establishing grade-level teams focused on student learning on student achievement. Professional development was provided to the principal and the teachers on establishing the teams and professional development occurred during team meetings. Student achievement at schools in the treatment group improved at a faster rate than student achievement at comparable schools who did not implement grade-level teams (pg. 1).

van Kuijk, M. F., Deunk, M. I., Bosker, R. J., & Ritzema, E. S. (2016). Goals, data use, and instruction: the effect of a teacher professional development program on reading achievement. *School Effectiveness and School Improvement*, *27*(2), 135-156.

The authors of this study investigated whether student reading comprehension could be improved through a professional development program emphasizing goals, data use, and instruction (pg. 1). Second and third grade teachers received 40 hours of professional development over the course of the school year. They attended meetings after school and completed homework assignments. Participation was voluntary and free of charge; however, no additional compensation was provided to teachers (pg. 140). The study found a positive effect on student achievement and at the end of the program "students in the experimental condition were more than half a year ahead of students in the control condition" (pg. 150).

Lockwood, J. R., Jennifer Sloan McCombs, and Julie Marsh. "Linking reading coaches and student achievement evidence from Florida middle schools." *Educational Evaluation and Policy Analysis* 32.3 (2010): 372-388.

The authors conducted an evaluation of a statewide reading coach program in Florida middle schools. "Using achievement data from nearly 1,000 Florida middle schools from the 1997-1998 through 2005-2006 school years, we find that receiving a state-funded coach was associated with statistically significant improvements in average annual reading achievement gains for two of the four cohorts of schools analyzed" (pg. 1). It is possible that the lack of effects for one of the cohorts (2006) may have been due to the fact that implementation had taken place for only one year. The other cohort (2004) was small and it is possible that idiosyncrasies of the schools came into play (pg. 383). Overall, "our results might be more supportive of positive coaching effects than the simple count of statistically significant findings would imply" (pg. 383).

Marsh, J. A., McCombs, J. S., & Martorell, P. (2010). How Instructional Coaches Support Data-Driven Decision Making. *Educational Policy*, *20*(10), 1-37.

The authors examined how coaches support data-driven decision-making and "the extent to which these efforts are associated with improvements in teaching and student achievement" (pg. 873). Data support was one of many activities to which coaches devoted their time. Coaches spent time administering and coordinating assessments, working with individual teachers, managing resources and materials, as well as working with groups of teachers. They also, in some cases, devoted time to non-coaching tasks such as substitute teaching or performing "duties" such as lunch duty or bus duty. More experienced coaches spent more time in supporting data-driven decision-making. A positive relationship was found between data analysis and student achievement (pg. 898).

Matsumura, L. C., Garnier, H. E., & Spybrook, J. (2013). Literacy coaching to improve student reading achievement: A multi-level mediation model. *Learning and Instruction*, *25*, 35-48.

The authors conducted a group-randomized trial in which schools within one district received a content-focused coach (CFC) and other schools continued with literacy coaching that was standard practice in the district (pg. 38). The CFC coaches helped teachers become more proficient at planning, teaching, and reflecting on their lessons and emphasized the Questioning the Author (QtA) approach which is a discussion-based approach to reading comprehension (pg. 37). Coaches met with teachers in weekly grade level teams and monthly in their classrooms. The study found that the CFC program had a positive effect on the quality of classroom discussions and "by the end of that academic year, students in the CFC schools demonstrated significantly higher reading achievement than their comparison group peers" (pg. 44). In addition, the CFC program helped to close the gap between ELL and non-ELL students in the study (pg. 44).

Schacter, J., & Thum, Y. M. (2005). TAPping into high quality teachers: Preliminary results from the Teacher Advancement Program comprehensive school reform. *School Effectiveness and School Improvement*, *16*(3), 327-353.

This study investigated whether schools implementing the Teacher Advancement Program (TAP) outperformed comparable schools on an annual basis, outperformed its controls, whether fidelity to implementation influenced student achievement and teacher satisfaction with the program (pg. 334). "By aggressively recruiting new teachers, providing a career continuum, introducing teacher-led professional development, implementing rigorous teacher accountability, and paying teachers based on their position, teaching skills and how much their students achieve, TAP schools change their organizational structure to support and reward

high-quality instruction" (pg. 327). The student achievement in TAP schools grew significantly when compared to the controls although the magnitude of the gains varied by school and fidelity of implementation (pg. 327).

Scoring Guide Area 5: Creating a Positive School Climate and Culture

Anderson, S., Leithwood, K., & Strauss, T. (2010). Leading data use in schools: Organizational conditions and practices at the school and district levels. *Leadership and Policy in Schools*, *9*(3), 292-327.

This study examined a model designed to support school improvement efforts by emphasizing youth development, parent and family engagement and support, health and social services and community partnerships (pg. 192). The authors looked at the types of capacity-related innovations developed to support the model, whether school-level perceptions improve throughout implementation, and whether or not school-level indicators of academic achievement improve over the course of implementation. The study found that roles and responsibilities of staff changed to focus on the model and that innovations occurred that resulted in the use of data for planning. There was an improvement in the perception of the school climate and in academic motivation and implementation resulted in increased student achievement (pg. 198).

Tichnor-Wagner, A., & Allen, D. (2016). Accountable for Care: Cultivating Caring School Communities in Urban High Schools. *Leadership and Policy in Schools*, 1-42.

The authors of this study examined the caring practices in two higher performing and two lower performing urban high schools. It was found that "higher performing schools demonstrated caring communities, where interpersonal relationships and high academic expectations were prevalent throughout the school" (pg. 406). Factors such as "strong leadership support, caring as a core school value, and abundant curricular and extracurricular structures" (pg. 406) were less prevalent in lower performing schools that had only isolated instances of care.

Kraft, M. A., & Papay, J. P. (2014). Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. *Educational Evaluation and Policy Analysis*, *36*(4), 476-500.

The authors examined whether a supportive professional environment is associated with teacher improvement over time (pg. 476). The professional environment included factors such as the extent to which the school was a safe environment and order prevailed, the opportunity for peer collaboration, the support of the principal, the opportunity for teachers to participate in professional development, the respect, openness, and commitment to student achievement and a teacher evaluation process that provided teachers with meaningful feedback which could be used to improve instruction (pg. 480). The study concluded that teachers "working in more supportive professional environments improve their effectiveness more over time than teachers working in less supportive environments" (pg. 476).

Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

The practice guide recommends providing "visible improvements early in the turnaround process" (pg. 22). These can include making improvements to the physical environment such as painting, ensuring the school building and grounds are clean, and fixing anything that is broken (pg. 25). In addition, establishing a safe and orderly environment by implementing an

approach to discipline that demonstrates the presence of administrators and safety officers, involves parents, and provides a means of dispensing discipline swiftly and fairly can also impact student learning and be implemented fairly quickly.

Appendix B. Theory of Action and Sample Logic Model

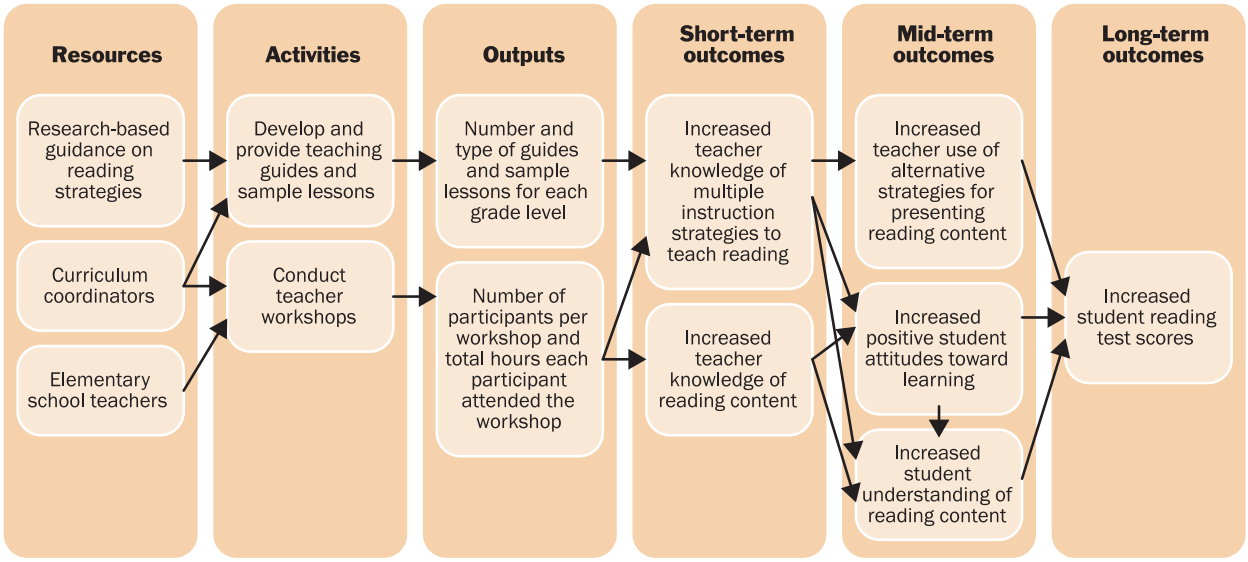
It is important that a strong theory of action and a logic model be in place when choosing interventions to utilize in schools needing comprehensive or targeted support. This is particularly important when using studies that fall under "demonstrates a rationale" level of evidence. A theory of action may be described as follows:

- Aligns intended theory with the realities of work within an actual organization.
- Connects strategy to the actions and relationships critical to good instruction and student learning.
- Identifies the mutual dependencies that are required to get the complex work of…improvement done.
- Grounded in research or evidence-based practice.
- Begins with a statement of a causal relationship between what I/we do and what constitutes a good result in the organization.
- High leverage for achievement and equity.
- Powerful enough to transform programs and practices.
    - Adapted from *Instructional Rounds in Education* – Elizabeth A. City, Richard F. Elmore, Sarah E. Fiarman and Lee Teitel, 2009

The development of a theory of action may help educators consider the rationale behind their choice of interventions and convey the thinking behind the decisions they make. A general theory of action can be the basis for the creation of a more specific logic model.

Logic models are helpful in planning and monitoring evaluations of interventions. They can guide those working with the interventions develop a clear and complete understanding of the activities involved in the intervention along with the intended outcomes. They can also help those involved in the implementation of the intervention to think through the details of Implementation systematically. In addition, a logic model may help educators formulate evaluation questions and ensure that the general evaluation questions are clear, specific, and actionable. An example of a logic model developed by the Regional Educational Laboratory Pacific is below:

Figure B1. Sample logic model for a teacher training program on alternative reading strategies



Source: Kekahio, W., Cicchinelli, L., Lawton, B., & Brandon, P. R., 2014.

Resources:

Institute of Education Science: http://ies.ed.gov/pubsearch/pubsinfo.asp?pubid=REL2015057

REL Pacific: http://relpacific.mcrel.org/resources/elm-app/

W.K. Kellogg Foundation: http://www.smartgivers.org/uploads/logicmodelguidepdf.pdf

References

Anderson, S., Leithwood, K., & Strauss, T. (2010). Leading data use in schools: Organizational conditions and practices at the school and district levels. *Leadership and Policy in Schools*, *9*(3), 292-327.

Anderson-Butcher, D., Iachini, A. L., Ball, A., Barke, S., & Martin, L. D. (2016). A University–School Partnership to Examine the Adoption and Implementation of the Ohio Community Collaboration Model in One Urban School District: A Mixed-Method Case Study. *Journal of Education for Students Placed at Risk (JESPAR)*, 1-15.

Antoniou, P., & Kyriakides, L. (2011). The impact of a dynamic approach to professional development on teacher instruction and student learning: Results from an experimental study. *School Effectiveness and School Improvement*, *22*(3), 291-311.

Bifulco, R., Cobb, C. D., Bell, C. (2008). *Do magnet schools outperform traditional public schools and reduce the achievement gap?* The case of Connecticut's interdistrict magnet school program. Occasional Paper No. 167. New York: National Center for the Study of Privatization in Education.

Blank, R. K., Dentler, R., Baltzell, D. C., Chabotar, K (1983). *Survey of magnet schools. Analyzing a model for quality integrated education*. Final Report of a National Study 10-11 (U.S.Dept. of Ed.).

Borman, G. D., Hewes, G. M., Overman, L. T., & Brown, S. (2003). Comprehensive school reform and achievement: A meta-analysis. *Review of educational research*, *73*(2), 125-230.

Corbett, J. (2015). Chartering Turnaround: Leveraging Public Charter School Autonomy to Address Failure. *National Alliance for Public Charter Schools*.

Early, D. M., Berg, J. K., Alicea, S., Si, Y., Aber, J. L., Ryan, R. M., & Deci, E. L. (2016). The Impact of Every Classroom, Every Day on High School Student Achievement: Results From a School-Randomized Trial. *Journal of Research on Educational Effectiveness*, *9*(1), 3-29.

Foorman, B., Espinosa, A., Jackson, C., Wu, T. (2016b). *Evaluating the screening accuracy of the Florida Assessments for Instruction in Reading (FAIR).* (REL 2013-008). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs/regions/southeast/pdf/REL_2013008.pdf.

Foorman, B., Kershaw, S., Petscher, Y. (2013). *Using computer-adaptive assessments of literacy to monitor the progress of English learner students.* (REL 2016-149). Washington DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Education Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs/regions/southeast/pdf/REL_2016149.pdf.

Gamoran, A. (1996). Student achievement in public magnet, public comprehensive, and private city high schools. Educational Evaluation and Policy Analysis 18, 1–18.

Heck, R. H., & Hallinger, P. (2009). Assessing the contribution of distributed leadership to school improvement and growth in math achievement. *American Educational Research Journal*, *46*(3), 659-689.

Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE #2009-4067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

Herman, R. (2012). Scaling school turnaround. *Journal of Education for Students Placed at Risk (JESPAR)*, *17*(1-2), 25-33.

Herman, R., Dawson, P., Dee, T., Greene, J., Maynard, R., Redding, S., and Darwin, M. (2008). *Turning Around Chronically Low-Performing Schools: A practice guide* (NCEE #2008-4020). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from http://ies.ed.gov/ncee/wwc/publications/practiceguides.

Kahlenberg, R. D. (2009). *Turnaround schools that work: Moving beyond separate but equal*. Century Foundation.

Kekahio, W., Cicchinelli, L., Lawton, B., & Brandon, P. R. (2014). *Logic models: A tool for effective program planning, collaboration, and monitoring*. (REL 2014–025). Washington, DC: U.S. Depart-ment of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Pacific. Retrieved from http://ies.ed.gov/ncee/edlabs.

Kraft, M. A., & Papay, J. P. (2014). Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. *Educational Evaluation and Policy Analysis*, *36*(4), 476-500.

Lockwood, J. R., Jennifer Sloan McCombs, and Julie Marsh. "Linking reading coaches and student achievement evidence from Florida middle schools." *Educational Evaluation and Policy Analysis* 32.3 (2010): 372-388.

Louis, K. S., Leithwood, K., Wahlstrom, K. L., Anderson, S. E., Michlin, M., & Mascall, B. (2010). Learning from leadership: Investigating the links to improved student learning. *Center for Applied Research and Educational Improvement/University of Minnesota and Ontario Institute for Studies in Education/University of Toronto*, *42*, 50.

Marsh, J. A., McCombs, J. S., & Martorell, P. (2010). How Instructional Coaches Support Data-Driven Decision Making. *Educational Policy*, *20*(10), 1-37.

Matsumura, L. C., Garnier, H. E., & Spybrook, J. (2013). Literacy coaching to improve student reading achievement: A multi-level mediation model. *Learning and Instruction*, *25*, 35-48.

May, H., & Supovitz, J. A. (2006). Capturing the cumulative effects of school reform: An 11-year study of the impacts of America's Choice on student achievement. *Educational Evaluation and Policy Analysis*, *28*(3), 231-257.

Osborne-Lampkin, L. T., Folsom, J. S., & Herrington, C. (2015). *A Systematic Review of the Relationships between Principal Characteristics and Student Achievement*. (REL 2016-091). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Southeast. Retrieved from http://ies.ed.gov/ncee/edlabs.

Player, D., & Katz, V. (2016). Assessing School Turnaround: Evidence from Ohio. *The Elementary School Journal*, *116*(4), 000-000.

Poppell, J. and Hague, S. (2001). Examining indicators to assess the overall effectiveness of magnet schools: A study of magnet schools in Jacksonville, Florida. Paper presented at the American Educational Research Association, Seattle, Washington, 10-14.

Saunders, W. M., Goldenberg, C. N., & Gallimore, R. (2009). Increasing achievement by focusing grade-level teams on improving classroom learning: A prospective, quasi-experimental study of Title I schools. *American Educational Research Journal*, *46*(4), 1006-1033.

Schacter, J., & Thum, Y. M. (2005). TAPping into high quality teachers: Preliminary results from the Teacher Advancement Program comprehensive school reform. *School Effectiveness and School Improvement*, *16*(3), 327-353.

Strunk, K. O., Marsh, J. A., Hashim, A. K., & Bush-Mecenas, S. (2016). Innovation and a Return to the Status Quo A Mixed-Methods Study of School Reconstitution. *Educational Evaluation and Policy Analysis*, DOI: 0162373716642517.

Tichnor-Wagner, A., & Allen, D. (2016). Accountable for Care: Cultivating Caring School Communities in Urban High Schools. *Leadership and Policy in Schools*, 1-42.

U.S. Department of Education, (2016). *Non-regulatory guidance: using evidence to strengthen education investments*. Washington, DC.

van Geel, M., Keuning, T., Visscher, A. J., & Fox, J. P. (2016). Assessing the Effects of a School-Wide Data-Based Decision-Making Intervention on Student Achievement Growth in Primary Schools. *American Educational Research Journal*, DOI: 0002831216637346.

van Kuijk, M. F., Deunk, M. I., Bosker, R. J., & Ritzema, E. S. (2016). Goals, data use, and instruction: the effect of a teacher professional development program on reading achievement. *School Effectiveness and School Improvement*, *27*(2), 135-156.

What Works Clearinghouse. (n.d.). http://ies.ed.gov/ncee/wwc/default.aspx.

Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. L. (2007). Reviewing the Evidence on How Teacher Professional Development Affects Student Achievement. Issues & Answers. REL 2007-No. 033. *Regional Educational Laboratory Southwest (NJ1)*.

Ysseldyke, J., Spicuzza, R., Kosciolek, S., Teelucksingh, E., Boys, C., & Lemkuil, A. (2003). Using a curriculum-based instructional management system to enhance math achievement in urban schools. *Journal of Education for Students Placed at Risk*, *8*(2), 247-265.