Researching Evidence-Based Interventions and Practices

Virginia divisions and schools must constantly implement effective programs and seek continuous improvement in the pursuit of contributing to the commonwealth's larger vision of "maximiz[ing] the potential of all learners" and mission of "advanc[ing] equitable and innovative learning."[1] As they work toward this objective, divisions and schools should consistently assess student outcomes and organizational performance to see if their current practices are having their intended effects and to determine if any areas of less-than-ideal student outcomes or weak organizational performance exist.[2] Likewise, **divisions and schools must identify and deploy evidence-based interventions and practices (EBIPs) that will drive progress toward systemic and community goals and, ultimately, improve student outcomes and organizational operations and performance.**[3]

Benefits of Using EBIPs

Increased likelihood of positive outcomes	Increased accountability to community
Greater buy-in and community support	Fewer wasted resources and less wasted time

Source: IRIS Center, Vanderbilt University[4]

Before a given division or school is able to effectively examine EBIPs to potentially adopt and implement, **their leaders must have an intimate and thorough understanding of current organizational performance and student outcomes and an awareness of existing resource physical, monetary, and human resources capacity.**[5] This understanding and awareness is typically achieved via the comprehensive needs assessment (CNA) process, whereby divisions and schools examine available data and engage stakeholders to determine their organization's current levels of performance, identify areas of need, prioritize identified needs, and catalog existing resources and assets.[6] While CNAs may vary in the specific parameters of their planning, timing, and execution, their core purpose is to "support the [division's or school's] ongoing strategic planning and ensure that its program designs and services are well suited to the populations it serves."[7]

As a division or school completes their CNA, they may acquire knowledge of concerning trends or inequities in student performance driven by one or more root causes that will need to be addressed via EBIPs.[8] Data and insights around needs acquired via the CNA are integral to divisions and schools knowing what changes must occur and setting a foundation from which to investigate evidence-based solutions to those needs.[9] Indeed, completion of a CNA is necessary to ensure that research into, selection of, and implementation of EBIPs is clearly aligned with defined areas of improvement rather than characterized by random actions oriented around a generalized theme of improvement.[10]

Transitioning from Needs Assessment Results to Targeted Research Around Potential Solutions

I. ANALYZE THE NEED TO BE ADDRESSED BY THE INTERVENTION OR PRACTICE

Use available data sources, artifacts, and stakeholder input (e.g., surveys, focus groups) to determine:
- The stakeholder populations impacted by the need;
- The specific consequences for those directly affected and the broader community;
- Personal and environmental factors to be influenced;
- The factors that cause or maintain the need (i.e., root cause);
- The conditions that must change for the need to be addressed; and
- The level at which to address the need (e.g., by individuals, by school), and whether the organization has capacity to influence change.

II. SET GOALS AND OBJECTIVES FOR WHAT "SUCCESS" WOULD LOOK LIKE

In collaboration with stakeholders, compose the following items:
- A description of what success would look like;
- Those goals the selected EBIPs are expected to accomplish; and
- The specific objectives the EBIP will achieve (i.e., the outcomes that will change, including by how much and by when).

III. IDENTIFY AND ASSESS EBIPS THAT COULD HELP ADDRESS THE NEED

In collaboration with stakeholders, investigate the following items:
- Potential or promising EBIPs that may address the need using various available databases and aggregate lists of EBIPs;
- How strong the evidence is that each potential EBIP caused the observed improvement;
- Whether the EBIP under consideration could achieve the desired results in the division and/or school; and
- Whether the conditions (e.g., time, human capital) that affect success for the EBIP are present.

Source: Community Tool Box | Center for Community Health and Development, University of Kansas [11]

Notably, in reviewing and studying potential interventions, **divisions and school should prioritize the presence of an evidence base aligned with the four tiers of evidence outlined by the Every Student Succeeds Act (ESSA).**[12] This requires division and school leaders—as well as individual K-12 practitioners—to carefully consider the results of experimental studies and foundational theories driving a given EBIP alongside their immediate needs and objectives.[13] The primary purpose of using such a lens is to ensure identification, selection, and implementation of EBIPs that are most likely to "improve student outcomes and increase the return on education investments."[14] At the same time, divisions, schools, and practitioners must consider dynamics such as the following:[15]

- The limits of research in investigating the full and varying temporal impacts of a given EBIP;
- The potential lack of EBIPs at the higher ESSA tiers of evidence to address a given need;
- The potential for new innovations with little empirical evidence to have positive impacts; and
- The ongoing need for continued evaluation of and research into "proven" approaches to confirm their effectiveness (e.g., with different student populations, under different conditions).

ESSA Tiers of Evidence

DETERMINANT	TIER 1: STRONG EVIDENCE	TIER 2: MODERATE EVIDENCE	TIER 3: PROMISING EVIDENCE	TIER 4: DEMONSTRATES A RATIONALE
Study Design	Well-designed and implemented <u>experimental</u> study that *meets WWC standards <u>without</u> reservations**	Well-designed and implemented <u>quasi-experimental</u> study *that meets WWC standards <u>with</u> reservations***	Well-designed and implemented <u>correlational</u> study that statistically controls for selection bias	Well-defined logic model based on rigorous research
Study Results	Statistically significant positive effect on a relevant outcome	Statistically significant positive effect on a relevant outcome	Statistically significant positive effect on a relevant outcome	An effort to study the effects of the intervention is planned or currently underway
Related Studies	No strong negative findings from experimental or quasi-experimental studies	No strong negative findings from experimental or quasi-experimental studies	No strong negative findings from experimental or quasi-experimental studies	*Not applicable*
Sample Size and Setting	At least 350 participants conducted in more than one district or school	At least 350 participants conducted in more than one district or school	*Not applicable*	*Not applicable*
Match	Similar population <u>and</u> setting to the investigating district	Similar population <u>or</u> setting to the investigating district	*Not applicable*	*Not applicable*

* *Meets WWC standards without reservations* means in most cases that a study was a randomized controlled trial (RCT) that was deemed by experts to be well-designed and well-implemented and that did not have problems with attrition.
** *Meets WWC standards with reservations* means that a study has some potential issues that require caution. It may be a strong quasi-experimental study with comparison groups that are similar at the baseline or an RCT that is not as well implemented or has issues with attrition.

Source: Regional Educational Laboratory Midwest, American Institutes for Research and What Works Clearinghouse | Institute for Education Sciences [16]

Contextualizing the Need for EBIPs

Educators often use the well-established and commonly used practices and strategies that they have seen others use, never questioning whether these practices are supported by evidence. In fact, some of these practices have been shown to be ineffective or have no data to support them. To improve the quality of instruction students receive and the outcomes that students achieve, the field of education has been making great efforts for a number of years to implement EBIPs. An EBIP is one whose effectiveness is supported by rigorous research (i.e., research shows that the practice or program works).

Source: IRIS Center, Vanderbilt University[17]

When investigating EBIPs, **divisions and schools should leverage the research expertise of leaders and staff and publicly available and proprietary tools to identify EBIPs** that "have been tested and shown [to be] effective" in addressing the target need or achieving a desired outcome.[18] Research procedures can include a diverse strategies such as:[19]

- Conducting targeted searches using online search engines or academic databases;
- Reviewing websites specifically dedicated to identifying and reviewing EBIPs;
- Seeking guidance and recommendations from specialists with expertise in the area of need;
- Soliciting recommendations from other districts facing similar challenges; and
- Leveraging technical assistance available through state education and other agencies.

Sample Web Resources to Support Research Into EBIPs

RESOURCE	PUBLISHER	URL	QR CODE
Blueprints for Healthy Youth Development[20]	Institute of Behavioral Science, University of Colorado Boulder	https://www.blueprintsprograms.org/	
Description: This website presents a "registry of scientifically proven and scalable interventions that prevent or reduce the likelihood of antisocial behavior and promote a healthy course of youth development and adult maturity," which are filterable by outcomes, target population, specifics of implementation, and the risk and protective factors they address. EBIPs are rated as *Promising*, *Model*, or *Model Plus*.			
Evidence for ESSA[21]	Center for Research and Reform in Education, Johns Hopkins University	https://www.evidenceforessa.org/	
Description: This website was developed to give educators "a simple, straightforward way to identify programs and practices that meet the ESSA evidence standards." It provides information such practical descriptions, costs, and the associated ESSA tier of evidence for each EBIP. Major search categories include: reading; math; social-emotional; attendance; science; and writing.			
National Center on Intensive Intervention[22]	American Institutes for Research	https://intensiveintervention.org/	
Description: This website presents tools and resources for division and school leaders, instructional coaches, trainers, and teachers to research and implement effective EBIPs to address the needs of students facing intensive learning and/or behavioral challenges.			
Social Programs That Work[23]	Arnold Ventures	https://evidencebasedprograms.org/	
Description: This website identifies EBIPs in prenatal/early childhood, K-12 education, and postsecondary education, as well as in other areas of social wellness and welfare. It emphasizes programs and practices based on the results of RCTs rather than other forms of evidence.			
What Works Clearinghouse (WWC)[24]	National Center for Educational Evaluation and Regional Assistance, Institute for Education Sciences	https://ies.ed.gov/ncee/wwc/	
Description: This website reviews existing programs, products, practices, and policies under a number of organizing labels and topical foci: literacy; mathematics; science; behavior; children and youth with disabilities; English learners; teacher excellence; charter schools; early childhood (Pre-K); Kindergarten to 12th Grade; path to graduation; and post-secondary. Reviewed programs, products, practices, and policies are rated as *meeting WWC standards without reservations*, *meeting WWC standards with reservations*, or *does not meet WWC standards*.			

Source: QR Code Generator[25]

Selecting Evidence-Based Interventions and Practices

As they collect information about and investigate the evidence-base for potential EBIPs, **divisions and schools should emphasize the relevance and applicability of EBIPs in addressing established needs and priorities—as identified via the CNA—as well as the feasibility of implementing the EBIPs under review with fidelity.**[26] In particular, divisions and schools must weigh the potential impacts of using a given EBIP—as suggested by its existing evidence base and past use in settings and with target populations similar to one's own—alongside the resource expenditures (e.g., money, time, human capital, materials) required to implement the EBIP with fidelity.[27] The primary focus should be identifying, selecting, and implementing those EBIPs with the greatest potential for having their intended and anticipated impacts (i.e., EBIPs backed by robust or promising evidence to address a given need that the division or school also has the appropriate human capital, financial capital, and material resources to implement with fidelity and sustain over time).[28]

Questions for Conducting Utility and Feasibility Checks on Potential EBIPs

UTILITY CHECKS	• Has the EBIP been implemented successfully with the same or a similar population? In what ways have past recipient populations differed from the intended target population? Are any population differences likely to compromise the results? • Has the EBIP been delivered in a setting similar to the considering division and/or school? In what ways have past contexts differed? Are the differences likely to compromise the EBIP's effectiveness? • Is the EBIP culturally responsive and sustaining? Did members of culturally diverse groups participate in developing it? • Are materials (e.g., manuals, procedures), training, and technical assistance available to guide EBIP implementation? • Are monitoring or evaluation tools available to help track implementation quality?
FEASIBILITY	• Is the EBIP *culturally* feasible, given the values of the implementing division and/or school? • Is the EBIP *politically* feasible, given the local power structure and priorities of the implementing division and/or school? • Is the EBIP *administratively* feasible, given the policies and procedures of the implementing division and/or school? • Is the EBIP *technically* feasible, given staff capabilities, time commitments, and program resources? • Is the EBIP *financially* feasible, given the estimated costs of implementation (e.g., purchase of materials, training)?

Source: Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services[29]

In addition to evaluating the evidence for a given EBIP and organizational capacity to support implementation, **divisions and schools must consider which EBIPs are most likely to garner support from impacted and implementing stakeholder groups (e.g., staff, families).**[30] Essentially, division and school leaders should communicate transparently with stakeholders about the potential benefits of a proposed EBIP—as well as the costs of and timeline for implementing it—to inform their perceptions accurately and promote buy-in.[31] Indeed, division and school leaders need to consult and collaborate with those individuals and groups who will be involved in the implementation of specific EBIPs (e.g., teachers, instructional coaches), as well as those who will be impacted (e.g., students, families).[32] Such efforts will improve the likelihood that an EBIP achieves its intended outcomes and reduces the likelihood that stakeholders will obstruct implementation.[33]

Online Learning Modules: Selecting and Implementing Educational Programs

Vanderbilt University's IRIS Center hosts three modules—hyperlinked via the shortened URLS and QR codes below—to divisions and schools in selecting, implementing, and monitoring implementation of EBIPs.

| Part 1: Identifying and Selecting a Practice or Program	Part 2: Implementing a Practice or Program with Fidelity	Part 3: Evaluating Learner Outcomes and Fidelity
https://qrgo.page.link/76KNc	https://qrgo.page.link/fEstH	https://qrgo.page.link/ucQ2G

Source: QR Code Generator[34] and IRIS Center, Vanderbilt University[35]

Guiding Questions for Selecting an EBIP

FOCUS AREA	GUIDING QUESTIONS
Evidence and Justification	• Is there research to support use of the EBIP with a particular student population? • Is the measured effect size of the EBIP sufficient to help the division or school address its need? • Is it cost-effective to implement the EBIP, or is there something less expensive that yields similar results? • Is there a fidelity checklist or tool that can be used to monitor implementation of the EBIP?
Stakeholder Buy-In and Support	• Does the division or school have the data that supports the need to be addressed by EBIP? • Do division or school leaders, staff, families, and community stakeholders support and buy-in to the EBIP? • Does this EBIP support one or more school improvement goals? • Can data associated with the EBIP be communicated to students, parents, staff, and others? • Is there a system in place to evaluate the data to determine outcomes? • Are there competing initiatives that may dilute the potential impacts of the EBIP?
Implementation and Progress Monitoring	• Is there clarity about where the initiative fits in the tiered system of supports or continuous improvement plan? • Is there sufficient time in school schedules to implement the EBIP with fidelity? • Is there time and money for adequate training and coaching to implement the EBIP with fidelity? • Has the coach or expert on the EBIP been identified as a primary assistant and communicator? • Is the technology department able to support implementation of the EBIP, if needed? • Is the EBIP easily replicated given the division's or school's current climate, resources, and performance levels? • Have staff members been selected to implement the EBIP? • Are there data specific to the EBIP that can serve as a component of progress monitoring? • What are the metrics for measuring progress? • Is there an established system for monitoring the implementation of EBIP?

Source: Virginia Department of Education[36]

Supplemental Resources

The following resources provide additional information on effective strategies, procedures, and tools to help division and school leaders identify, investigate, and select impactful EBIPs to address the needs and priorities of their organizations and stakeholders.

RESOURCE	PUBLISHER	SHORTENED URL	QR CODE
Driving Continuous School Improvement Toolkit[37]	Hanover Research and Utah Leading through Effective, Actionable, and Dynamic Education	**https://qrgo.page.link/5XEPT**	
Description: This toolkit—while developed to support principals in the state of Utah—features an array of content that can support Virginia principals and other school leaders in conducting needs assessments and selecting strategies to address identified needs. Toolkit content covers topics such as the broader principles of improvement science and encouraging innovation and targeted actions to address needs.			
Evidence-Based Improvement: A Guide for States to Strengthen Their Frameworks and Supports Aligned to the Evidence Requirements of ESSA[38]	Regional Educational Laboratory West, WestEd	**https://qrgo.page.link/DgfCm**	
Description: While this resource is directed toward state leaders, many of the included tools can be used by division and school leaders in their efforts to research, select, and implement EBIPs. These tools include the "LEA Inventory of Practice," "LEA Guidance for Evidence-Based Interventions," "Intervention Evidence Review," and "Comparing Evidence-Based Interventions."			
ESSA Action Guide: Selecting Evidence-Based Practices for Low-Performing Schools[39]	American Institutes for Research	**https://qrgo.page.link/sNGMt**	
Description: This guide presents strategies that division and school leaders can apply to identify organizational needs, find and study EBIPs to potentially address those needs, and ultimately, select those EBIPs that are the best fit for their communities and students.			

RESOURCE	PUBLISHER	SHORTENED URL	QR CODE
Four Domains for Rapid School Improvement: A Systems Framework[40]	Center on School Turnaround, WestEd	https://qrgo.page.link/XTvRX	
Description: This framework describes four critical domains of research and action—turnaround leadership, talent development, culture shift, and instructional transformation—that divisions and schools can leverage to drive improvement and orient investigations into and implementation of EBIPs.			
How to Select an Evidence-Based Intervention: A Guide[41]	Planning Realistic Implementation and Maintenance by Educators	https://qrgo.page.link/HdvjP	
Description: This guide outlines and describes four action steps that divisions, schools, and individual educators can follow when investigating and selecting potential EBIPs to address one or more needs or priorities.			
Needs Assessment Guidebook: Supporting the Development of District and School Needs Assessments[42]	State Support Network, American Institutes for Research	https://qrgo.page.link/bJo57	
Description: This guidebook reviews key elements needed to conduct a successful needs assessment, outlines a process for implementing the key elements, and provides information about how divisions can support schools in conducting needs assessments.			
Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments[43]	U.S. Department of Education	https://qrgo.page.link/J96Yf	
Description: This guidance supports divisions, schools, and individual educational leaders and practitioners by suggesting strategies for identifying and analyzing interventions, practices, and programs relative to the four ESSA evidence tiers. It also presents and reviews decision-making steps to orient selection of EBIPs.			
Scan of the Evidence Provisions in the Every Student Succeeds Act (ESSA)[44]	Results for America	https://qrgo.page.link/Bb29H	
Desription: This resource highlights specific textual excerpts from ESSA and paraphrases them so that readers can better undersand the evidence-oriented provisions of the federal law.			
Understanding the ESSA Tiers of Evidence[45]	Regional Educational Laboratory Midwest, American Institutes for Research	https://qrgo.page.link/4RMCg	
Description: This video describes the four tiers of evidence outlined in ESSA and provides an explanation about how the tiers can be applied by divisions and schools to evaluate EBIPs and their potential effectiveness for their communities.			
Using Needs Assessments for School and District Improvement: A Tactical Guide[46]	Council of Chief State School Officers and Center on School Turnaround, WestEd	https://qrgo.page.link/jHk2o	
Description: This guide presents specific directions and recommendations to support divisions and schools in planning and conducting needs assessments. Specific content addressed in the guide includes differentiation of the needs assessment process to organizational contexts, key steps in conducting needs assessments, and enacting changes based on the completed needs assessment's findings.			

Source: QR Code Generator[47]

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