A Critical Consumer's Guide to Implementation Science for School Mental Health Services

Author:

Yanchen Zhang, Ph.D., LP, NCSP

Assistant Professor of Psychological & Quantitative Foundations, University of Iowa

A significant proportion of students in the US struggle with social, emotional, and behavioral (SEB) needs (Ghandour et al., 2019). If untreated or treated inadequately, SEB problems can cause various short- and long-term negative outcomes, such as academic failure, disruption to peers' and their own learning, poor relationships with peers and educators, and increased exposure to exclusionary disciplines (e.g., suspension).

Unmet SEB needs also contribute to longstanding disparities for students from historically disadvantaged backgrounds. As a result, educators worldwide consistently rank SEB problems among their top concerns. Often, evidence-based practices (EBPs) are used infrequently or not adopted at all in schools. Even if adopted, about 50-75% of EPBs were implemented with low fidelity or quality.

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Implementation science focuses on the factors, strategies, and processes to translate EBP research effectively and efficiently into routine practices in schools (Williams & Beidas, 2019). In schools, the implementation of EBPs is never an event but an iterative process that requires deliberate attention to factors and strategies that either obstruct or enable the implementation of EBPs (Lyon & Bruns, 2019).

This practice brief focuses on the Consolidated Framework for Implementation Research (CFIR; Damschroder et al., 2022), to support the implementation of EBPs. The CFIR emphasizes the social-ecological system by using "contextual domains" to categorize factors based on their level of influence on the implementation of EBPs (Figure 1).
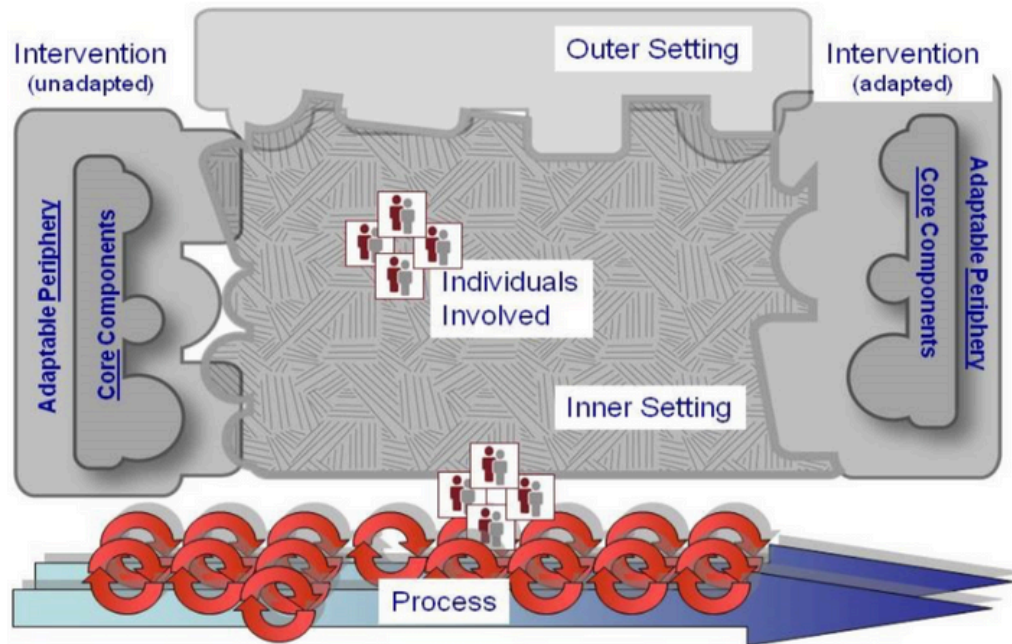

Figure 1. The contextual domains of the Consolidated Framework for Implementation Research (adapted from Muddu et al., 2020)

Specifically, the CFIR contextual domains include (a) outer setting (e.g., policy, finance), (b) inner setting (e.g., leadership, climate), (c) characteristics of individuals (e.g., attitudes, intentions), (d) EBPs (e.g., fidelity, flexibility, acceptability), and (e) implementation process (e.g., implementation stages, implementation strategies). We will base our discussion on three domains (i.e., inner setting, individuals, and EBPs) because they are more relevant and actionable for most school personnel.

Prevention/Identification Strategies

As a fast-growing field, numerous assessments of implementation factors based on the CFIR domains were developed and validated in many child-serving settings (e.g., child welfare, schools). These assessments can help professionals identify important and malleable implementation factors that either facilitate or impede their current efforts to adopt and implement evidence-based practices (EBPs).

Based on the assessment results, schools can select preventive or interventive implementation strategies to improve the identified implementation factors. Below we summarized several widely used, validated, and pragmatic (i.e., cost-effective, free, and easy to use) assessments of selective key factors related to the successful implementation of EBPs for student SEB needs. (For more assessments, see Related Resources).

Implementer-Related Factors

Implementers' (e.g., teachers, social workers, school psychologists) attitudes about a given EBP and their intentions to implement can predict their subsequent implementation behaviors (e.g., actual use of EBPs in work, intervention fidelity), which are crucial for achieving expected student outcomes.

- Evidence-Based Practice Attitudes Scale (Aarons et al., 2007) assesses implementers' attitudes toward a specific or generic EBP. It contains 15 items rated on a 5-point Likert scale, which fall into four subscales: (1) Appeal of EBP, (2) Requirements (to use EBP), (3) Openness (to new EBPs), and (4) Divergence (e.g., one believes EBP are not useful).

- Intentions to Use Scale assesses one's intention to implement a new EBP (Kortteisto et al., 2010). It consists of five items on a 7-point Likert scale ranging from "greatly disagree" to "greatly agree".

EBP-Related Factors

Some common characteristics of an EBP as perceived by school personnel can either promote or jeopardize their adoption and use of an EBP: (1) feasibility, (2) acceptability, (3) appropriateness, and (4) intervention fidelity. Feasibility is the degree to which a new EBP can be properly adopted and delivered by school-based implementers. Acceptability refers to the degree to which an EBP is agreeable or satisfactory for school-based implementers. Appropriateness refers to the perceived fit, relevance, and/or compatibility of an EBP for school mental health.

The Suite of Feasibility, Acceptability, and Appropriateness Scales (Weiner et al., 2017) is a widely used and brief measure, which contains 12 items (four for each factor). Educators can use the suite of measures to assess these three factors together or separately based on their needs.

Adequate intervention fidelity (also known as intervention/treatment integrity, or implementation fidelity) is crucial to expected student outcomes. The most important and relevant dimension of intervention fidelity is implementers' adherence (i.e., deliver all core components of an EBP as intended by the original protocol/manual).

Many EBPs offer accompanying measures of intervention fidelity that are specific to each EBP. Educators can also customize their own fidelity measures by (a) counting the number of core components they have delivered, and then (b) dividing it by the total number of core components of an EBP.

School Inner Setting Factors

School-level leadership and climate that are specific to EBP implementation are critical to fostering a "pro-EBP" working environment for all staff and educators, which can in turn reward and motivate their use of EBPs (Zhang et al., 2022b).

- School-Implementation Leadership Scale (Lyon et al., 2022) assesses educators' perceptions of their school leaders' behaviors relevant to the delivery of EBPs. The scale has 12 items that fall into four subscales: (1) Proactive, (2) Knowledgeable, (3) Supportive, and (4) Perseverant. All items are scored on a 5-point Likert-Scale ranging from 0 (not at all) to 4 (very great extent).

- School-Implementation Climate Scale (Lyon et al., 2018) assesses educators' perceptions of the climate in their schools that strategically support the implementation of EBPs. The scale has 29 items that fall into nine subscales: (1) focus on EBP, (2) educational support for EBP, (3) recognition for EBP, (4) rewards for EBP, (5) selection for EBP, (6) selection for openness, (7) use of data, (8) existing supports to deliver EBP, and (9) EBP integration.

Implementation Strategies

School-based implementation of evidence-based practices (EBPs) often yields lower than desired student social-emotional, and behavioral (SEB) outcomes due to deficits in certain implementation factors (e.g., fidelity, acceptability, leadership). Hence, the main targets of implementation science are implementation factors (or implementation outcomes), which are prerequisites to effective interventions and expected student SEB outcomes.

School-based implementation researchers have adapted a compilation of 75 evidence-based implementation strategies to the school settings that map onto nine categories: (1) use evaluative/iterative strategies, (2) provision of interactive assistance, (3) adapt and tailor to context, (4) develop stakeholder relationships, (5) train and educate stakeholders, (6) support educators, (7) engage consumers, (8) financial strategies, and (9) change infrastructure (School Implementation Strategies, Translating ERIC Resources (SISTER); interested readers please see Cook et al., 2019; Waltz et al., 2015; Gaias et al., 2022).

In this brief, we introduce best practices for decision-making in the selection and delivery of appropriate implementation strategies based on CFIR (Consolidated Framework for Implementation Research) and SISTER to address common needs or implementation factors related to educators' implementation of EBPs.

#1 Preparation

School-based implementation of EBPs relies on collaboration among all stakeholders (e.g., school leaders, mental health professionals, educators, consultants/coaches, students, and family representatives). A school needs to make team-based decisions about which implementation strategy to adopt to enhance their existing implementation efforts for a given EBP. Actively engaging stakeholders can ensure that the identified implementation needs/issues and corresponding strategies align with the actual needs and priorities of the school community, which can ensure wrap-around support.

#2 Identify the delivery format of the target EBP

Different types of EBPs require different levels of implementation strategies. For instance, school-wide positive behavior interventions and supports (SW-PBIS) and universal social-emotional learning curricula require system-wide implementation efforts. So, school teams need to select implementation strategies that target school-level factors (e.g., leadership, climate). Conversely, school-home notes rely on individual participation. Hence, one should use strategies that promote individual-level implementation factors (e.g., teacher buy-in, teacher-family relationship).

#3 Identify the current implementation stage

The school team needs to match implementation strategies to their current implementation stage. Generally, implementation efforts can be divided into four stages: Exploration, Preparation, Implementation, and Sustainment (Moullin et al., 2019). Different stages require different implementation strategies (Zhang et al., 2022a). For instance, if a school plans to test-drive SW-PBIS, they should select pre-implementation strategies that build up the school-wide readiness for SW-PBIS (e.g., training, change commitment, professional learning communities). On the other hand, if a school is already implementing SW-PBIS but lacks fidelity, they should select strategies to improve fidelity (e.g., hiring coaches, performance-based feedback, motivational interviews).

#4 Review school needs and lacking implementation factors

The school team will conduct a needs assessment with implementers and then use validated assessments of implementation factors to identify the gaps in their implementation efforts. The assessment process should follow the CFIR model to cover critical domains based on the school team and implementers' consensus (e.g., implementer-related or inner-setting factors). The school team can then refer to the SISTER, ERIC, or other compilation of strategies (Powell et al., 2015; Cook et al., 2019) to select implementation strategies that pinpoint the identified lacking factors.

#5 Identify implementation-related contextual factors

Consider the contextual factors that may influence the use of the implementation strategy, such as school leadership, climate, policies, existing practices, and the availability of resources required for certain strategies. The school team should assess how feasible each implementation strategy is given their existing infrastructure and resources (e.g., staffing, time, money, material). Then, the school team should work on solutions to identified barriers (e.g., allocate time and incentives for a school team to carry out the identified strategy) (Zhang et al., 2022c).

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#6 Determine implementation strategies, corresponding goals, and action plan

(a) Based on the results of previous steps, the school team will select an ideal implementation strategy and specify their implementation goals (i.e., implementation factors to improve with the selected strategy).

(b) Then the school team will set a schedule to monitor their goals for future data-based decision-making. For instance, if the goal is to increase intervention fidelity of behavioral contracting, the school team can have the counselor conduct monthly structured observations of a teacher's intervention fidelity and provide performance-based feedback.

(c) Last, the school team needs to decide who, when, and where to deliver the selected strategies to achieve their implementation goals. Accountability measures should be taken by the school team to ensure the strategies were carried out with adequate fidelity (i.e., good fidelity of implementation strategy in addition to good fidelity of intervention).

#7 Monitor and make data-based decisions about selected implementation strategies

The school team must use validated and pragmatic measures to continuously monitor the target implementation factors. Periodically, the team will convene to review the progress data to make data-based decisions about whether the selected implementation strategies effectively improved the effectiveness of the EBP and student outcomes.

Key Implications for Practice

In the context of school mental health, implementation science has several implications for how to effectively implement evidence-based practices (EBPs) as part of routine practices in schools.

Without adequate implementation factors and strategies in place, even the most established EBP may not yield expected student social-emotional, and behavioral (SEB) outcomes.

Common factors that either promote or impede the implementation of EBPs in schools can be categorized into five contextual domains (a) outer setting (e.g., policy), (b) inner setting (leadership), (c) characteristics of individuals (e.g., attitudes), (d) EBPs (e.g., fidelity, acceptability), and (e) implementation process (e.g., implementation stages).

There are many validated and pragmatic measures of key implementation factors. School teams can use them to identify the gaps and needs of existing implementation efforts for a given EBP in schools. The results can also be used to inform data-based decision-making about the selection, delivery, and evaluation of implementation strategies for identified gaps or needs in existing implementation efforts.

Schools can use implementation strategies to change implementation factors at individual and/or school levels, which will in turn improve the outcomes of their existing interventions (i.e., student SEB needs and/or academic performance).

To select appropriate implementation strategies, the school team needs to be mindful of (a) their current stage of implementation, (b) the delivery level of their target EBP, and (c) existing implementation factors that are lacking or barriers in their school context.

Related Resources

- UW School Mental Health Assessment, Research, and Training (SMART) Center (Specific to school-based implementation resource)
- Evidence-based Prevention and Implementation Support Center
- Measures for Implementation Research (contains many free and validated measures)
- Consolidated Framework for Implementation Research (details all CFIR domains)
- California Evidence-Based Clearinghouse for Child Welfare
- Evidence-Based Behavioral Practice
- Active Implementation Hub

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