White Paper

Why Implementation Matters

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Executive Summary

Policy and districts mandate the use of evidence-based practices in schools, but often, the research-practice gap presents implementation challenges. That gap prevents educators from accessing research that applies to their students and their classrooms. There is a communication gap and distrust from educators of educational research and evidence-based practices. Demonstrating effectiveness in research does not always translate well into effective implementation in schools. Fidelity of implementation is often an issue and frustrated teachers and students are not able to meet the expectations defined in the research. Lack of fidelity may be attributed to a lack of adequate professional development, implementation planning, and proper evaluation of effectiveness. While research may produce exciting possibilities for the students engaged in the research, without good implementation, those studies do not transfer to the typical school setting. Thoughtful implementation is essential for adopting quality educational practices. Many districts adopt new practices or procedures on a large scale without careful implementation planning, which results in a failed application. Phasing the adoption of new practices, careful planning, and the use of technology may lead to improved adoption particularly with larger scale implementation. This paper highlights how schools can build evidence-based practices that meet their needs are feasible and manageable, and result in improved student performance.

KEYWORDS

Evidence-based practices, Implementation Science, Fidelity of Implementation, Behavioral Skills Training, Student Outcomes, Research-Practice, Implementation Planning

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Evidence-Based Practices

A treatment or a teaching tool is considered an evidence-based practice (EBP), when multiple research studies support it, using high-quality experimental research designs that demonstrate effective outcomes in a meaningful way (Cook & Odom, 2013). In addition, EBPs must be operationally defined and replicable so that educators know which practices to adopt and teachers can implement these practices with fidelity (Cook & Cook, 2011). Researchers must also clearly identify with whom the practices are likely to work and in what settings, as well as the expected outcomes and qualifications necessary to implement the EBP with fidelity (Horner, Sugai, and Anderson, 2010). Student performance is known to improve when EBPs are used (Cook, Smith, & Tankersley, 2012) although it is often unclear how to implement EBPs in schools.

Student performance is known to improve **when evidence-based practices are used.**

The What Works Clearinghouse (2011) and other sources have shed some light on what is considered to be an EBP, but teachers struggle to apply the practices in their own classrooms. In addition, although research may demonstrate that something is an EBP, that doesn't mean that it will work for every student or in every classroom (Cook & Odom, 2013). Although more schools are embracing EBPs, the term may be overused and inappropriately used, often referring more to popular practices than to EBPs (Cook & Cook, 2011). There appears to be confusion regarding the distinction between best-practices and EBPs. Many educators define EBPs as their own personal experiences, information gathered from other educators, or their own instincts or pedagogy (Nelson, Leffler, & Hansen, 2009). This lack of understanding of EBPs may be a factor in the paucity of research translating into practice in schools.

The Research-Practice Gap

Some practices that have been demonstrated to be effective in research studies do not necessarily transfer easily into a school environment. This is what is commonly called the research-practice gap. Although many schools are embracing the idea of EBPs, the gap still exists and does not seem to be improving much over time (Cook & Odom, 2013).

While access to research has increased, **implementation of evidence-based practices and student outcomes have not improved.**

Just because something works well in research does not mean that it will work outside of the research setting. There are many reasons that the research-practice gap exists in schools (Stahmer, et al., 2015). One possible reason is that teachers receive limited, if any, training in specific practices. In many cases, teachers attend a training and are expected to implement the practice without ongoing coaching or consultation; coaching is necessary for successful implementation (Cornett & Knight, 2009). For special education especially, another reason is that many EBPs regarding intervention were designed for clinic settings and not schools and may be too difficult for teachers to use (Stahmer, Suhrheinrich, Reed, Bolduc, & Schreibman, 2011). Administrators may require teachers to use an EBP but teachers may not be invested in that particular practice or may feel that it's not a good fit for their students or their classroom (Dingfelder & Mandell, 2011). Another potential barrier for using EBPs in schools is that many educators are distrustful of research (Nelson, Leffler, & Hansen, 2009) and consider EBPs to be just another trend (Cook & Cook, 2011) or they believe that research can be manipulated to support anything and so do not believe in research results (Nelson, Leffler, & Hansen, 2009).

Today, teachers have access to research through the internet, social media, and various resources, but this can add confusion as teachers must filter the legitimacy of the

content. The volume of available research content and the way in which it is presented is not valuable to many educators and they often feel that it does not apply to their unique situation (Nelson, Leffler, & Hansen, 2009). Both educators and policy makers agree that research needs to be presented in a manner that is more accessible. For instance, using simple, straight forward brief reports and data that both relates to their local population and includes case studies rather than just large-scale research studies would assist them in taking research seriously and putting it into practice in their own schools (Nelson, Leffler, & Hansen, 2009). Part of the research-practice gap is also trying to identify what practices are actually being used in schools (Cook & Schirmer, 2006) and identifying if teachers are actually using EBPs (Cook & Cook, 2011). Despite the fact that policy mandates that schools use EBPs (No Child Left Behind (2001), Individuals with Disabilities Education Act (2004), and Every Student Succeeds Act, (2015), it's still not clear if schools are implementing EBPs, particularly in special education. While access to research has increased, implementation of EBPs, and student outcomes have not improved (Greenway, McCollow, Hudson, Peck, & Davis, 2013). The fact that rigorous, high-quality research studies are extremely time-consuming and may take years for the outcomes to become available to educators is another huge barrier in closing the research-practice gap (Cook & Odom, 2013). The focus must shift toward actually using EBPs in schools in a realistic manner instead of identifying more and more EBPs that will get stuck in the research-practice chasm.

Implementation Science

Research in education has shifted gears over the years to evaluating not only what practices are effective, but also how to effectively implement practices in schools. In other words, how do we overcome the research-practice gap and get the results with students that we are all trying to achieve? It is one thing to choose to adopt an EBP, it is a completely

different thing to implement it in a school environment (Fixsen, Blase, Horner, & Sugai, 2009). No matter how effective an intervention may be: without effective implementation, it will not result in improved student outcomes (Cook & Odom, 2013). Implementing fast and at a large scale is likely to result in failure as has been demonstrated in many districts (Bryk, Gomez, Grunow, & LeMahieu, 2016). But, how do we know if an EBP can or will be effectively implemented into the natural environment and how do we plan for effective implementation? Answering this question is the objective of Implementation Science.

Improving Fidelity of implementation has repeatedly been shown to lead to better student outcomes.

Implementation Science can be defined as the scientific evaluation of research on EBP and how it translates into real-world implementation (Eccles & Mittman, 2006). One of the biggest lessons to take away from research in this area is that the "train and hope" model does not work (Cook & Odom, 2013). Initiating an educational reform and assuming that demonstrated efficacy in research will result in the same outcomes in the natural environment is foolhardy. Educating teachers about EBPs and basic training are insufficient for successful implementation (Fixsen et al., 2005). Beyond just looking at how to get successful implementation, the field of Improvement Science looks specifically at what people do in their jobs and the processes and tools that they are actually using, and how the structure and policies of their organization may impact implementation (Bryk, Gomez, Grunow, & LeMahieu, 2016). This level of implementation detail allows administrators and policy makers to evaluate how a proposed EBP is expected to improve outcomes for students. This area of science also looks at how to scale-up EBPs by looking closely at meaningful data points such as usage, failures, successes, and student outcomes. Improvement Science is meant to be used by administrators and policy makers and people

who are directly involved in the adoption of educational practices and is not limited to researchers.

The primary components of Improvement Science in education as recommended by Bryk, Gomez, Grunow, & LeMahieu (2016) include: 1) Focusing on specific problems from the point of view of the users; 2) Focusing on positive outcomes for a variety of students and teachers in a variety of settings; 3) Focusing on how practices are actually being used in classrooms or schools; 4) Focusing on the measurement of not only outcomes but also systems, fidelity of implementation, and social validity (i.e. acceptance of practices by educators, students, and families); 5) Focusing on the identification of problems on a regular basis and addressing problems regularly; and 6) Using networks of experts to work together to achieve these objectives.

Educational reform is constant in the United States yet the desired outcomes have not been achieved. Students, teachers need the tools, training, support, and systems to allow them the opportunity to implement EBPs with fidelity.

Fidelity of Implementation in the Classroom

`Fidelity of implementation refers to how well someone adheres to the protocol for implementing a particular practice (Schoenwald et al., 2010). Improving fidelity of implementation has repeatedly been shown to lead to better student outcomes (Durlak & DuPre, 2008) and teachers are generally required to implement practices with fidelity (Marrongelle, Sztajin, & Smith, 2013).

There are proven strategies that when done consistently, can lead to successful implementation. Fixsen, et al. (2005) refers to these as “implementation drivers.” First and foremost, teachers must have the competency to achieve fidelity of implementation. To

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achieve this, according to Fixen, et al. (2005), one must consider staff selection; in other words, who will do the implementation? Do they have the qualifications and how do districts identify those individuals within their system that are qualified? Districts also need to be sure to provide effective training. Only about 5-10% of those trained in particular practices in education actually use those practices. So, professional development clearly needs to be comprehensive and accessible to result in practices actually being implemented. Ongoing coaching must be available to address specific issues for each teacher. Performance assessments of educational staff need to include fidelity of implementation and ongoing evaluation of the tools or practices. The authors also state that organizational supports such as data-based decision making and data systems, strong leadership supporting a well-defined implementation plan and focusing on student outcomes, and system interventions that plan for how the organization can support teachers through successful implementation.

Consultative Supports/Coaching

Professional development is critical to implement practices with fidelity (Hochberg & Desimone, 2010). Unfortunately, commonly used workshop models for training are insufficient for preparing teachers to implement new practices into their instruction (Riel, Lawless, & Brown, 2017). While initial basic training can help teachers become more knowledgeable and understand basic components of a new tool or new practice (Riel, Lawless, & Brown, 2016b), ongoing professional development with hands-on learning

allows for building implementation skills over time (Lawless & Pellegrino, 2007). Teachers are far more likely (about 13 times more likely) to implement practices with fidelity when they have effective training and ongoing supports such as consultation or coaching (Driscoll, et al., 2013). Without ongoing consultation or supports, teachers less likely to implement classroom practices with fidelity (Sanetti, et al., 2015). In addition, teachers report having better self-efficacy and confidence when ongoing support is available (Wenz-Gross & Upshur, 2012). Some EBPs consider ongoing consultation to be an essential component of the education model; for instance, multi-tiered Response to Intervention (RTI) models (Knotek, 2007).

On-demand and easily accessible professional development and technology may offer solutions to assist teachers with ongoing, iterative improvements in their implementation.

One of the biggest predictors of successful implementation is teachers' self-efficacy (e.g. Anderson, Groulx, & Manninger, 2011). Self-efficacy is the person's opinion about how well they are able to perform a particular task and people tend to work harder and more effectively when their self-efficacy is high (Bandura, 2006). Effective training and professional development, as well as on-going support and consultation, are essential for building self-efficacy. Components that make coaching effective for teachers include performance feedback (Reinke, Stormont, Herman, & Newcomer, 2013), collaborative consultation (Kelleher, Riley-Tillman, & Power, 2008), modeling, role-playing, and implementation planning (Reinke, et al., 2012). Giving teachers a choice in what classroom practices to use with the help of a consultant has also been shown to be an effective model (Johnson, et al., 2013). Another variable that makes the consultative model so effective is that skill-building is ongoing for teachers, which may greatly impact student outcomes (Fixen, et al., 2005). Wilkinson (2007) suggested a 4-phase coaching

model where teachers are initially interviewed in Phase I to identify target problems and functions of behavior, to establish goals for behavior change, and to determine how outcomes will be measured. In Phase II, baseline data is analyzed, antecedents and consequences are identified, and a treatment plan is developed. In Phase III, the program is implemented and data is collected at regular intervals. In Phase IV, adjustments are made to improve fidelity of implementation including monitoring data and providing feedback or additional training as needed. In the final Phase V, Wilkinson recommends evaluating the effectiveness of the treatment or program, assessing social validity and the perceived effectiveness of the consult, and planning for continuation or modification of the program.

Implementation should not be considered to be a single event, rather, it is a process that continues and adjusts systematically over a 2-4 year time frame.

Ongoing consultation or coaching can be extremely time-consuming and expensive (Sanetti, Chafouleas, Fallon, & Jaffrey, 2014), but many technology-based solutions have been shown to be effective tools for ongoing coaching (e.g. Reed, Codding, Catania, & McGuire, 2010) and some technology-based solutions may decrease the need for several of the steps in the consultation cycle and increase teacher independence. On-demand and easily accessible professional development and technology may offer solutions to assist teachers with ongoing, iterative improvements in their implementation (Riel, Lawless, & Brown, 2017) and online modules combined with in-person consultation models have been shown to be effective (Motoca, et al., 2014).

Implementation Planning

While it is important to utilize evidence-based practices, the key to effective consultation is having an implementation plan that is compatible with the teachers'

environment, resources, students, and abilities (Sanetti, Collier-Meek, Long, & Kratochwill, 2015). This plan must also include a strategy for getting buy-in from the teachers, as well as from the principal and other support staff. Teachers are incentivized more by strong ties with their colleagues than by any financial incentives (Bryk, Gomez, Grunow, & LeMahieu, 2016). Getting everyone on the same page in terms of implementation is essential to reduce conflicting advice, confusion, and lack of understanding about expectations (Bryk, Gomez, Grunow, & LeMahieu, 2016). Setting up an implementation plan that allows teachers to work together and support one another, and including other key players such as the principal, paraprofessionals, behavior analysts, speech language pathologists, or special education directors, will improve the outcomes for the teachers as well as for the students.

Options for training that do not require or that reduce the need for a qualified trainer **may be more practical and realistic for schools.**

Implementation should not be considered to be a single event; rather, it is a process that continues and adjusts systematically over a 2-4 year time frame (Bertram, Blase, & Fixsen, 2015). There are 4 phases (Bertram, Blase, & Fixsen, 2015) through this process including the exploration and adoption phase where the research is evaluated, as well as available resources, types of students, skills and abilities of teachers. During the adoption phase, an implementation plan should include the identification of who will participate in which activities, a theoretical basis for activities or elements of instruction or intervention, a theory of change (i.e. how the activities will produce better outcomes), which types of participants are likely to benefit (e.g. behavioral, cultural, or other factors that may impact responsiveness), and a rationale for why other models or programs were not chosen (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). The next phase of

implementation is the installation phase (Bertram, Blase, & Fixsen, 2015) where staff training and selection, frequency and specific objectives for consultation, identification and procurement of resources needed, integration with existing technology or programs, policies and procedures, and how fidelity of implementation will be measured are all carefully defined. In the the third phase, initial implementation, ongoing staff training and evaluation of competencies and fidelity are needed, as well as identifying any mistakes or challenges and systematically adjusting the program as needed (Bertram, Blase, & Fixsen, 2015). Resistance to change, frustration, or confusion may occur during this phase of implementation and it is essential to have strong leadership in place and ongoing support and training for staff. In the final phase of full implementation, the implementation drivers discussed above (e.g. coaching, training, etc.) (Fixsen, et al., 2005) have been consistently in place and most teachers are using the program regularly and with fidelity.

Behavioral Skills Training

Choosing an evidence-based model is important but is insufficient for effective behavior change (Wickstrom, Jones, LaFleur, & Witt, 1998). Similarly, traditional professional development training consisting primarily of didactic workshops does not result in behavior change or effective implementation (e.g. Parsons, Rollyson, & Reid, 2012). However, behavior change models have been shown to work well in schools (Long & Maynard, 2014; Sanetti, et al., 2015).

Behavioral Skills Training (BST) includes modeling, instruction, rehearsal, and feedback, and has been shown to be more effective and results in better maintenance of skills over time (e.g. Miller, Crosland, & Clark, 2014). BST has been shown to be an effective technique for training teachers to implement various instructional practices and

interventions. For instance, BST has shown to be a good method for training teachers to implement Discrete Trial Training (DTT) (Sarokoff & Stormey, 2004) and for training teachers to implement guided compliance (i.e. gradually increasing prompt intensity when the student is not compliant) (Reisener, Gadke, Ho, & Jostad, 2014).

Technology solutions increase efficiencies and decrease costs.

Unfortunately, implementing BST requires significant resources including teacher time, training time, trainer competency, and coordinating times that both are available for training. This resource intensity can negatively affect implementation in classrooms (Karsten, Axe, & Mann, 2015). Options for training that do not require or that reduce the need for a qualified trainer may be more practical and realistic for schools (Nottingham, Vladescu, Giannakakos, & Schnell, 2017). Although rehearsal and practicing with students in the natural environment is a key component, many of the components of BST can be delivered via technology solutions. For instance, instruction can be delivered using e-learning or video presentations, and modeling can be demonstrated using video or animation (e.g. Nottingham, Vladescu, Giannakakos, & Schnell, 2017). The advantage of this type of delivery is that the training is on-demand and the teacher can do it at their own pace or repeat instructions or videos when needed for maintenance of fidelity of implementation. Technology may also offer a solution for ongoing feedback. Using media such as Facetime or Google Chat or similar platforms, a supervisor could observe a teacher remotely and provide feedback without stepping into the classroom (e.g. Giannakakos, Vladescu, Kisamore, & Reeve, 2015). Teachers can also videotape interactions and meet for feedback outside of student hours, allowing the teacher more time to interact with students. These solutions increase efficiencies and decrease costs.

Evaluating Effectiveness of Implementation

Once teachers are trained and implementation has launched, it's critical to measure the effectiveness of the implementation, assessing student outcomes and the fidelity of implementation on an ongoing basis. One model of Implementation Science reviews 4 variables that are most likely to result in significant impacts on student outcomes. The RE-AIM Model (Glasgow, Vogt, & Boles, 1999) looks at how many people will be affected by the EBP (i.e. Reach), the success rate of the EBP with good fidelity of implementation (i.e. Efficacy), how many people adopt the practice (i.e. Adoption), how many educators implement the practice with fidelity (i.e. Implementation), and how the practice is implemented and maintained over time (i.e. Maintenance). By measuring each of these variables and using the formula R x E x A x I x M = Impact, one can determine the overall implementation effectiveness. So, if only a few teachers adopt a new practice (Adoption) then that will reduce the Impact score, or if the practice is only appropriate for a small number of students in the target population (Reach), that would negatively affect the Impact score.

Many researchers measure Fidelity of Implementation by measuring adherence to the protocol, dosage/exposure, quality of implementation, student outcomes or responsiveness, and program differentiation (Dane & Schneider, 1998; Durlak, 2010). The most common measures are dosage and adherence, although research studies have produced mixed results regarding how these variables affect student outcomes (Mendive & Snow, 2015). Prescribing specific dosage requirements and guidelines for effective adherence may improve fidelity of implementation greatly (Mendive & Snow, 2015; Weiland & Yoshikawa, 2013).

McKenna, Flower, & Ciullo (2014) recommend using behavioral observations with operational definitions of skills needed for implementation (e.g. fidelity checklist). These observations should be conducted by experts in the instructional practice or intervention that is being implemented. The authors also recommend a self-assessment of implementation by the teachers which gives them the opportunity to self-reflect and figure out which parts of implementation they may need more training on. Permanent products such as student selfmonitoring, reward charts, etc. should also be used to assess fidelity of implementation (McKenna, Flower, & Ciullo 2014). Teachers can review their practice to make sure they executed procedures appropriately throughout the day. Technology provides a reliable permanent. When teachers enter data into the system, supervisors or coaches can identify if the teacher is implementing instruction consistently and as prescribed. Similarly, when using on-demand training, supervisors or trainers can review which components of training the teachers or other professionals have completed as well as identify the areas in which teachers are experiencing success and what areas may need additional professional development. A big advantage of technology with systematic review and support is that it is possible to not only look at the fidelity of implementation of an individual, but also, to look at implementation across a school, across grades, or across a district.

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Conclusions

Evidence-based practices are essential and required in classrooms today. Students deserve access to a high quality education. Unfortunately, the Research-Practice gap results in many teachers not using evidence-based practices, or not using them with the fidelity of implementation. Evidence-based practices are not always available to teachers due to limited resources and sufficient professional development. Also, what works in a research study may not translate well into a particular classroom. Implementation Science reduces the Research-Practice gap and improves the implementation of evidence-based practices in real-world settings. Educational reform often introduces a new practice into the school system but often neglects to carefully plan implementation. Having a solid Implementation Plan that includes resources, training, implementation phases, and a road map over the course of 2-4 years for refining the instructional practices, is the key to bridging the Research-Practice gap. Within the Implementation Plan, it's important to specifically outline how staff will be trained. Didactic workshops have repeatedly been shown to not be effective in training staff to work with students in classrooms. One approach that has been shown to be effective is Behavioral Skills Training which utilizes modeling, instruction, rehearsal, and feedback. Unfortunately, this approach is expensive and time-consuming and it may be difficult to find sufficient trainers to work with each teacher. Technology-based solutions such as remote instruction, video modeling, and remote feedback may offer more availability of these kinds of training procedures, and offer flexibility for teachers for training. Ongoing assessment is an essential component of the fidelity of implementation to ensure teachers are building the necessary skills. There are various methods for measuring implementation including observation, self-assessment, and permanent products. Again, technology offers a good solution for tracking usage of instructional practices, and allows

for assessing individual staff, as well as implementation success across schools, grades, or districts. Simply launching an evidence-based practice, no matter how effective that practice has been shown to be in the research, leads to wasted efforts. Implementation planning and measurement of success over time is the most effective way to ensure good fidelity of implementation on a larger scale.

References

Anderson, S.E., Groulx, J.G., and Manninger, R.M. (2011). Relationships among pre- service teachers' technology-related abilities, beliefs, and intentions to use technology in their future classrooms. Journal of Educational Computing Research, 45(3), 321-338.

Bertram, R.M., Blase, K.A., and Fixsen, D.L. (2015). Improving programs and outcomes: Implementation frameworks and organizational change. Research on Social Work Practice, 25(4), 477-487.

Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares & T. Urdan (Eds), Self-efficacy beliefs of adolescents (volume 5), pp. 307-337. Greenwich, CT: Information Age Publishing.

Bryk, A.S., Gomez, L.M., Grunow, A. and LeMahieu, P.G. (2016). Learning to improve: How America's schools can get better and getting better. Cambridge, MA: Harvard Education Press.

Cook, B. G., & Cook, S. C. (2011). Unraveling evidence-based practices in special education. Journal of Special Education, 47(2), 71-82.

Cook, B.G. and Odom, S.L. (2013). Evidence-based practices and implementation science in special education. Council for Exceptional Children, 79(2), 135-144.

Cook, B. G., Smith, G. J., and Tankersley, M. (2012). Evidence-based practices in education. In K. R. Harris, S. Graham, & T. Urdan (Eds.), APA educational psychology handbook, volume 1 (pp. 495–528). Washington, DC: American Psychological Association.

Cornett, J. and Knight, J. (2009). Research on coaching. In: Knight, J., editor. Coaching: approaches and perspectives. (pp. 192-216). Thousand Oaks: Corwin Press.

Cook, B. G., and Schirmer, B. R. (Eds.). (2006). What is special about special education: The role of evidence-based practices. Austin, TX: PRO-ED.

Dane, A. and Schneider, B.H. (1998). Program integrity in primary and secondary prevention: Are implementation effects out of control? Clinical Psychology Review, 18, 23-45.

Dingfelder, H.E., Mandell, D.S., and Marcus, S.C. (2011). Classroom climate program fidelity & outcomes for students with autism. Paper presented at the 10th annual International Meeting for Autism Research; San Diego. 2011.

Driscoll, K. C., Wang, L., Mashburn, A. J., & Pianta, R. C. (2011). Fostering supportive teacher–child relationships: Intervention implementation in a state-funded preschool program. Early Education and Development, 22, 593–619.

Durlak J.A., and DuPre E.P. (2008). Implementation matters: A review of research on the influence of implementation on program outcomes and the factors affecting implementation. American Journal of Community Psychology, 41, 327–350.

Durlak, J.A. (2010). The importance of doing well in whatever you do: A commentary on the special section "Implementation Research in Early Childhood Education." Early Childhood Research Quarterly, 25, 348-357.

Eccles, M. P., and Mittman, B. S. (2006). Welcome to Implementation Science. Implementation Science, 1(1), 1–3. Every Student Succeeds Act, Pub.L. No. 114-95, § 1177 Stat. (2015).

Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). Implementation research: A synthesis of the literature. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, The National Implementation Research Network (FMHI Publication #231). Retrieved from http://nirn.fpg.unc.edu/resources/implementation-research-synthesis-literature

Fixsen, D., Blase, K., Horner, R., & Sugai G. (2009). Concept paper: Developing the capacity for scaling up the effective use of evidence-based programs in state departments of education. Retrieved from http://ea.niusileadscape.org/docs/FINAL_PRODUCTS/LearningCarousel/DevelopingCapacity.pdf

Giannakakos, A.R., Vladescu, J.C., Kisamore, A.N., and Reeve, S.A. (2015). Using video modeling with voiceover instruction plus feedback to train staff to implement direct teaching procedures. Behavior Analysis in Practice, 9, 126-134.

Glasgow, R., Vogt, T., and Boles, S. (1999). Evaluating the public health impact of health promotion interventions: The RE AIM framework. American Journal of Public Health, 89, 1322–1327.

Greenway R., McCollow M., Hudson R. F., Peck C., Davis C. A. (2013). Autonomy and accountability: Teacher perspectives on evidence-based practice and decision-making for students with intellectual and developmental disabilities. Education and Training in Autism and Developmental Disabilities, 48, 456–468.

Hochberg, E.D. and Desimone, L.M. (2010). Professional development in the accountability context: Building capacity to achieve standards. Educational Psychologist, 45(2), 89-106.

Horner, R. H., Sugai, G., & Anderson, C. M. (2010). Examining the evidence base for school-wide positive behavior support. Focus on Exceptional Children, 42(8), 1–14.

Individuals with Disabilities Education Improvement Act of 2004, P.L. No. 108-446, 20 U.S.C.

Johnson, L.D., Wehby, J.H., Symons, F.J., Moore, T.C., Maggin, D.M., and Sutherland, K.S. (2013). An analysis of preference relative to teacher implementation of intervention. Journal of Special Education, 48(3), 214-224.

Karsten, A.M., Axe, J.B., and Mann, C.C. (2015). Review and discussion of strategies to address low trainerstaff ratios. Behavioral Interventions, 30, 295-313.

Kelleher, C., Riley-Tillman, T.C., and Power, T.J. (2008). Partnership-based consultation: Intervention design and its impact on treatment integrity. Journal of Educational and Psychological Consultation, 18, 294-324.

Knotek, S.E. (2007). Consultation within response to intervention models. In Jimerson, S.R., Burns, M.K., and VanDerHeyden, A.M. (Eds). Handbook of response to intervention: The science and practice of assessment and intervention (pp.53-64). New York, NY: Springer Science + Business Media.

Lawless, K. and Pellegrino, J. (2007). Professional development in integrated technology into teaching and learning: Knowns, unknowns, and ways to pursue better questions and answers. Review of Educational Research, 77(4), 575-614.

Long, A.C. and Maynard, B.R. (2014). Treatment integrity as adult behavior change: A review of models. In Sanetti, L.M.H. and Kratochwill, T.R. (Eds). Treatment integrity: Conceptual, methodological, and applied considerations for practitioners. Washington DC: American Psychological Association.

Marrongelle, K., Sztajin, P. and Smith, M. (2013). Scaling up professional development in an era of Common Core standards. Journal of Teacher Education, 64(3), 202-211.

Mendive, S., Weiland, C., Yoshikawa, H., and Snow, C.E. (2015). Opening the black box: Intervention fidelity in a randomized trial of a preschool teacher professional development program. Journal of Educational Psychology, 108(1), 130-145.

Miller, I., Crosland, K., & Clark, H. B. (2014). Behavioral skills training with teachers: Booster training for improved maintenance. Child and Family Behavior Therapy, 36, 19–32.

Motoca, L.M., Farmer, T.W. Hamm, J.V., Byun, S., Lee, D.L., Brooks, D.S., Rucker, N., and Moohr, M.M. (2014). Directed consultation, the SEALS model, and teachers' classroom management. Journal of Emotional and Behavioral Disorders, 22(2), 119-129.

Nelson, S. R., Leffler, J. C., & Hansen, B. A. (2009). Toward a research agenda for understanding and improving the use of research evidence. Portland, OR: Northwest Regional Educational Laboratory. Retrieved from http://educationnorthwest.org/sites/default/files/toward-a-research-agenda.pdf

No Child Left Behind Act of 2001, 20 U.S.C. 7801 § 9101 [37] (2001).

Nottingham, C.L., Vladescu, J.C., Giannakakos, A.R., and Schnell, L.K. (2017). Using video modeling with voiceover instruction plus feedback to train implementation of stimulus preference assessments. Learning and Motivation, 58, 37-47.

Parsons, M.B., Rollyston, J.H., & Reid, D.H. (2012). Evidence-based staff training: A guide for practitioners. Behavior Analysis in Practice, 5, 2-11.

Reed, F.D., Codding, R., Catania, C.N., and McGuire, H. (2010). Effects of video modeling on treatment integrity of behavioral interventions. Journal of Applied Behavior Analysis, 43(2), 291-295.

Reinke, W. M., Stormont, M., Webster-Stratton, C., Newcomer, L., & Herman, K. C. (2012). The Incredible Years Teacher Training: Using coaching to support generalization to real world classroom settings. Psychology in the Schools, 49, 416–428.

Riel, J., Lawless, K.A., and Brown, S.W. (2016b). Completion, time-in-intervention, and movement: Relationships between dimensions of participation in oTPD and knowledge growth. American Educational Research Association 2016 Annual Meeting, Washington D.C. Retrieved from http://doi.org/10.13140/RG.2.1.3452.7123.

Riel, J., Lawless, K. A., & Brown, S. W. (2017). Defining and designing responsive online professional development (ROPD): A framework to support curriculum implementation. In Kidd, T. & Morris, L. R. (Eds.) Encyclopedia of Instructional Systems and Technology. Hershey, PA: IGI Global.

Reinke, W.M., Stormont, M., Herman, K.C., and Newcomer, L. (2013). Using coaching to support teacher implementation in classroom-based interventions. Journal of Behavioral Education, 23, 150-167.

Reisener, C.D., Gadke, D.L., Ho, T.Q., and Jostad, C.M. (2014). The effects of behavioral skills training on teachers' implementation of guided compliance. Journal of Psychology and Behavioral Science, 2 (3&4), 01-16.

Sanetti, L.M.H., Chafouleas, S.M., Fallon, L.M. and Jaffrey, R. (2014). Increasing teachers' treatment integrity when implementing a class-wide intervention through performance feedback provided by a schoolbased consultant: A case study. Journal of Educational and Psychological Consultation, 24, 239-260.

Sanetti, L.M., Collier-Meek, M.A., Long, A.C.J., Byron, J. and Kratochwill, T.R. (2015). Increasing teacher treatment integrity of behavior support plans through consultation and implementation planning. Journal of School Psychology, 53, 209-229.

Sarokoff, R.A., & Sturmey, P. (2004). The effects of behavioral skills training on staff implementation of discrete-trial teaching. Journal of Applied Behavior Analysis, 37(4), 535-538.

Schoenwald, S.K., Garland, A.F., Chapman, J.E., Frazier, S.L., Sheidow, A.J., and Southam-Gerow, M.A. (2010). Toward an effective and efficient measurement of implementation fidelity. Administration and Policy in Mental Health and Mental Health Services Research, 38(1), 32–43.

Stahmer, A.C., Reed, S., Lee, E., Reisinger, E.M., Connell, J.E., and Mandell, D.S. (2015). Training teachers to use evidence-based practices: Examining procedural implementation fidelity. Psychological Science, 52(2), 181-195.

Stahmer, A., Suhrheinrich, J., Reed, S., Bolduc, C., and Schreibman, L. (2011). Classroom Pivotal Response Teaching: A guide to effective implementation. New York: Guilford Press.

Weiland, C. & Yoshikawa, H. (2013). The impacts of an urban public prekindergarten program on children's mathematics, language, literacy, executive function, and emotional skills: Evidence from Boston. Child Development, 84, 2112-2130.

Wenz-Gross, M., & Upshur, C. (2012). Implementing a primary prevention social skills intervention in urban preschools: Factors associated with quality and fidelity. Early Education and Development, 23, 427–450.

What Works Clearinghouse. (2011). Procedures and standards handbook (Version 2.1). Retrieved from https://ies.ed.gov/ncee/wwc/

Wickstrom, K. F., Jones, K. M., LaFleur, L. H. & Witt, J. C. (1998). An analysis of treatment integrity in schoolbased behavioral consultation. School Psychology Quarterly, 13, 141-154.

Wilkinson, L.A. (2007). Assessing treatment integrity in behavioral consultation. International Journal of Behavioral Consultation and Therapy, 3(3), 420-432.

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About Us

Rethink Ed was founded on a simple, yet powerful idea: To re-think education. To make it better and easier. To unburden school districts and empower educators. To improve outcomes and elevate accountability. To promote collaboration and inspire learning. And most importantly, to make a difference in the school day for everyone – administrators, educators, and students.

The Rethink Ed solution is part of Rethink First, a global company that is transforming behavioral healthcare. Similar to Rethink First's other solutions that are innovating and improving outcomes for clinicians and employers globally, Rethink Ed is pioneering EdTech with our relentless pursuit of innovative methods that put evidenced-based, data-informed, digitally delivered instruction and assessments into the hands of educators, clinicians, and parents who share our singularly minded focus: To power the potential of all children and to work together to help them succeed.

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