CASE STUDIES ON EMPIRICALLY VALIDATED INSTRUCTIONAL PRACTICES FOR IMPROVING BEHAVIORAL OUTCOMES

Edited by Bryan G. Cook
and Timothy J. Landrum

ADVANCES IN LEARNING AND BEHAVIORAL DISABILITIES

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EDITED BY

BRYAN G. COOK
University of Virginia, USA

AND

TIMOTHY J. LANDRUM
University of Louisville, USA

United Kingdom – North America – Japan
India – Malaysia – China

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CONTENTS

LIST OF CONTRIBUTORS

Nicole Baird	Granite School District, USA
Lydia A. Beahm	Clemson University, USA
Catherine P. Bradshaw	University of Virginia, USA
Shannon Budin	Buffalo State University, USA
Felicia Bush	Harmony House, USA
Bryan G. Cook	University of Virginia, USA
Francis Corr	University of Virginia, USA
Gabriella Lyth Donofrio	University of Missouri, USA
Kathy Doody	Buffalo State University, USA
Molly M. Dwyer	Granite School District, USA
Robin Parks Ennis	University of Alabama, USA
Jacqueline Hersh	Appalachian State University, USA
Elizabeth A. Hicks	Michigan State University, USA
Brenda Hughes	Denmark-Olar Middle School, USA
Ana Kesler	Utah State University, USA
Jennifer L. Kilgo	University of Alabama at Birmingham, USA
Angus Kittelman	University of Missouri, USA
Timothy J. Landrum	University of Louisville, USA
Erica Lembke	University of Missouri, USA
Gabriella Loewer	Buffalo State University, USA
Larry Maheady	Buffalo State University, USA
Megyn Martin	University of Missouri, USA
Suzanne McClain	University of Virginia, USA
Clare McKeone	Buffalo State University, USA
A. Reiley Morgan	University of Missouri, USA
Milad Najafichaghabouri	Utah State University, USA
Amanda Nguyen	University of Virginia, USA
Robert E. O'Neill	University of Utah, USA
Jessica F. Olson	Granite School District, USA
Julianna Owczarczak	Buffalo State University, USA

Paloma Perez University of Virginia, USA
Emma Preston Utah State University, USA
Lisa Rafferty Buffalo State University, USA
Charissa Richards University of Missouri, USA
Kristen R. Rolf Utah State University, USA

CASE STUDIES ON EMPIRICALLY VALIDATED INSTRUCTIONAL PRACTICES FOR IMPROVING BEHAVIORAL OUTCOMES: AN INTRODUCTION TO THE VOLUME

Bryan G. Cook[a,1] and Timothy J. Landrum[b,2]

[a]*University of Virginia, USA*
[b]*University of Louisville, USA*

ABSTRACT

In this volume, chapter authors report case studies describing the implementation of instructional practices and programs that have been validated by experimental research as improving behavioral outcomes of students with and at risk for disabilities. In this chapter, the authors introduce the volume by describing how case studies can help bridge the research-to-practice gap in special education and related fields. The authors suggest that case studies can provide practice-based evidence, communicating critical contextual details about implementing evidence-based practices grounded in the realities of school and classrooms. The authors conclude with a preview of the case studies featured in the volume.

Keywords: Case studies; research-to-practice gap; practice-based evidence; special education; behavioral outcomes

Tremendous resources have been expended researching the effectiveness of instructional practices for improving the learning and behavioral outcomes of students with and at risk for disabilities by conducting experimental studies.

[1]https://orcid.org/0000-0001-9294-0873
[2]https://orcid.org/0000-0001-9448-8737

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This is for good reason: the growing experimental research base has provided the field with an improved understanding of which practices are generally effective (e.g., Cook et al., in press). However, the longstanding gap between research and practice persists, resulting in students with and at risk for disabilities not achieving their potential due, at least in part, to educators (a) using ineffective practices and (b) not implementing generally effective practices (Cook & Farley, 2019). Two (of many) factors underlying this research-to-practice gap in special education are the dearth of information sources that (a) report research findings in ways that practitioners find easy to understand and persuasive and (b) explicate practical, contextual details about implementing evidence-based practice (e.g., for which specific groups of learners and under what specific conditions is a practice effective and ineffective? How can an evidence-based practice be adapted?). Case studies, the focus of this chapter and featured throughout this volume, can help address both of these factors. In this chapter, we (a) provide a brief overview of the research-to-practice gap in special education and how case studies can help to bridge it and (b) preview the case studies that comprise the remainder of this volume.

USING CASE STUDIES TO HELP BRIDGE THE RESEARCH-TO-PRACTICE GAP IN SPECIAL EDUCATION

Before previewing the case studies in this volume, we briefly describe evidence-based practices, challenges related to the dissemination of evidence-based practices that contribute to the gap between research and practice, and how case studies can help to address some of those challenges.

Evidence-Based Practices and the Research-to-Practice Gap

Experimental research (e.g., randomized controlled trials, single-case designs) is designed to examine causal relations between variables, enabling researchers to address questions such as "does an instructional practice cause improved learner outcomes?" (Cook & Cook, 2016b). Although no single research study is perfect, converging evidence from multiple, high-quality, experimental studies can be used to identify evidence-based practices that educators can trust as being generally effective for improving learner outcomes (Cook et al., 2020). The growing list of evidence-based practices (i.e., instructional practices shown to have meaningfully positive effective on learner outcomes across multiple, high-quality, experimental studies) has the potential to meaningfully improve the outcomes of learners with and at risk for disabilities if these practices are implemented regularly and appropriately. However, evidence-based practices are not self-implementing (Cook & Cook, 2013). Indeed, a gap between research knowledge and typical practice exists in many fields, including special education (see Cook & Farley, 2019).

The gap between research and practice plays out in two main ways. First, many effective practices supported as effective by research are not commonly

implemented in classrooms. For example, the relatively straightforward practice of providing behavior-specific praise has been documented as both being generally effective for increasing desired behaviors (see Ennis et al., 2020; Royer et al., 2019, for reviews) and as occurring rarely in typical classrooms (Floress et al., 2022; Garcia-Salas et al., 2023; Markelz et al., 2022). Second, instructional practices that have little or no support in the research base regarding their effectiveness, including practices shown to be ineffective, are used regularly. For example, research does not support reprimanding students as an effective strategy for reducing disruptive behavior in the long run, and indeed, it may be associated with negative behavioral outcomes (see Caldarella et al., 2021; Downs et al., 2019). Nonetheless, reprimands are regularly observed in typical classrooms (Caldarella et al., 2020; Floress et al., 2022). The consequence of the research-to-practice gap is lost opportunities for improved learning and behavior among learners with and at risk for disabilities.

The research-to-practice gap is complex and multifaceted, with causes such as insufficient administrator support, staff buy-in, training, and resources underlying it (Pinkelman et al., 2015). Two additional factors contributing to the ongoing gap are (a) research reports being inaccessible and unpersuasive to practitioners (the individuals who decide which practices are implemented in classrooms) and (b) lack of clarity in the research base regarding practical issues such as the boundaries of intervention effectiveness (e.g., identifying for which specific groups of learners and under what instructional conditions a practice is and is not effective) and adapting evidence-based practices to meet the unique needs of learners.

Practitioners tend not to find reports of research particularly impactful, at least in part, because most educational practitioners have not received advanced training in research. This is not a criticism of practitioners; their training is appropriately focused on providing effective instruction and intervention. Most practitioners, then, are unable to critically interpret and apply information from research reports and syntheses, which are full of statistics and technical terms. Additionally, most people who are not experts in research do not find research reports persuasive. Data and statistics are technical, emotionless, and sterile; simply put, boring and unpersuasive to most readers (Jones & Crow, 2017). In contrast, stories, perhaps especially stories featuring people in similar situations to the reader, can create an emotional connection with readers that is more memorable and persuasive than data (Landrum et al., 2007). Humans appear to be natural story tellers and communicating through stories is a highly effective approach for making messages stick (Heath & Heath, 2008). As such, disseminating research findings, about effective instructional practices for example, in a narrative, story-like format can be an effective approach for reaching non-researchers (Cook et al., 2013).

Although educational researchers have been focused on identifying evidence-based practices for decades (see Slavin, 2002), less attention and effort has been devoted to practical issues such as establishing the boundaries of intervention effectiveness and whether and how to adapt evidence-based practices (Cook et al., in press). Importantly, this is exactly the type of information

educators tend to be most interested in. Although research has established many practices that are generally effective for improving different types of outcomes (see Hume et al., 2021; Rowe et al., 2021), we know much less about the specific groups of learners and the specific conditions for which practices are effective. Special educators tend to be less concerned about whether an instructional practice is generally effective but care very much about whether a practice is going to work for the students they teach and under the conditions in their classrooms. As Simons et al. (2003) suggested, educators are focused on situated generalization; that is, do research findings apply to their situation? Additionally, special educators often need to adapt evidence-based practices to meet the unique needs of their learners (Leko et al., 2015), but typical research reports only describe how to implement the intervention being studied in a standard fashion. Thus, research reports seldom address issues most directly relevant to the concerns of practitioners. Disseminating information about evidence-based practices in a way that addresses these practical issues could be persuasive for practitioners and help to bridge the research-to-practice gap.

Using Case Studies to Help Bridge the Research-to-Practice Gap

A case study is "a research approach that is used to generate an in-depth, multi-faceted understanding of a complex issue in its real-life context" (Crowe et al., 2011, p. 1). Although researchers use many different approaches to conduct case studies (e.g., quantitative, qualitative, mixed methods), "the central tenet" of these studies "to explore an event or phenomenon in depth and in its natural context" (p. 1). As opposed to experimental research, which is used to investigate the effectiveness of instructional practices, case studies typically do not involve complex statistical analyses but rather provide rich descriptions of the case(s) being studied. As such, case studies provide the opportunity for authors to share detailed accounts of issues about evidence-based practices (e.g., boundaries of effectiveness, adaptation) in ways that speak to the concerns of practitioners.

Information told from a personal perspective, especially in the form of stories, has been suggested as an effective way to disseminate research findings in special education (Cook et al., 2013; Landrum et al., 2007). Although case studies are not necessarily reported as stories, per se, Dredge et al. (2016) noted that storytelling is one of the key roles that case studies can serve. In this way, case studies can provide compelling accounts of evidence-based practices that special educators can relate to rather than relying on sterile statistics to convince readers of a practice's effectiveness. Importantly, case studies also emphasize context and therefore provide special education practitioners with the practical and contextual details (e.g., learner characteristics, resources required, type of setting, approaches to adaptation) that are largely ignored in experimental studies. Given the potential of case studies to disseminate information on evidence-based practices in effective ways, we concur with Grunke et al. (2021) that more case studies should be featured in the special education research base to help bridge the gap between research and practice.

Although case studies have many strengths as a tool for disseminating information regarding evidence-based practices, they also have important limitations. Fundamentally, case studies are about one or a small number of cases. As such, they are not meant to generalize. That is, although a case study might report that an evidence-based practice was effective for the students in a specific classroom or that the way a teacher adapted an evidence-based practice was effective, without additional evidence readers should not assume that those outcomes will apply to other learners and contexts. Indeed, a case study could be an outlier and report on the success of a generally ineffective and discredited instructional practice. Because of this concern, we thought it was important for authors of chapters in this volume to focus their case studies on one or more target practices supported as effective by robust research bases for improving important outcomes for children and youth with learning and behavioral disabilities. We also asked authors to summarize the research supporting the instructional practices featured in each chapter. As such, readers can be assured that the instructional practices about which they read in the case studies in this volume are research based.

We envisioned this volume of case studies as providing practice-based evidence to support the dissemination and application of evidence-based practices (see Cook & Cook, 2016a). Cook and Cook argued that traditional reports of experimental studies and research syntheses, which are critical tools for establishing evidence-based practices, are not designed to speak to and influence practitioners and other nonresearchers. Practitioners are more interested in practice-based evidence, which may not establish a causal relation between an instructional practice with improved learner outcomes but is grounded in the realities and details of real-world classrooms and instruction. As Green (2008) suggested, if we want more evidence-based practice, we need to develop effective practice-based evidence that appeals to practitioners. It is our hope that the chapters featured in this and the companion volume on case studies for improving behavioral outcomes will provide readers with practice-based evidence that imparts situated information related to the implementation and benefits of evidence-based practices to inform and enrich their instructional decision-making.

PREVIEW OF CHAPTERS IN THIS VOLUME

In this section, we provide a brief preview of each of the eight case studies that comprise this volume. The case studies in this volume focus on training, programs, and practices aimed at improving behavioral outcomes. See Cook and Landrum (2025) for eight additional case studies targeting improved academic and communication outcomes.

Token economies are an evidence-based intervention for improving student behavior that can be used with whole classrooms, small groups, or individual students. In their chapter, Kesler and colleagues (this volume) report a case study of the implementation of a token economy in a first-grade class with five students selected because of their nonresponsiveness to the core, Tier-1 behavioral program.

In this case, the token economy was developed and implemented by a paraeducator in the class (the lead author of the case study). After describing (a) the design and implementation of the token economy and (b) how they collected, graphed, and made decisions based on student outcome data (on-task behavior), the authors discuss barriers they faced (e.g., the paraeducator not being in control of the class, other behavior management systems being used at the same time, interruptions to data collection) and facilitators that helped make the token economy successful (e.g., positive relationship between the paraeducator and teacher, similarity of the token economy to previously used interventions, adaptability of token economies). The chapter concludes with recommendations gleaned from the authors' experiences.

Disruptive student behavior is associated with loss of instructional time, low student engagement, and academic underachievement for both the student engaging in disruptive behavior and their classmates. Unfortunately, many teachers are not adequately trained to manage disruptive behavior effectively. McClain and Corr (this volume) examine functional behavioral assessments (FBAs), a method for gathering information that identifies the function of, or reason for, the problem behavior as well as the events that predict (antecedents) and maintain (consequences) its occurrence. Due to its intensive nature, FBAs are typically performed with students receiving intensive and individualized services (i.e., tier 3 in a multi-tier system of support). Despite evidence that function-based interventions, which are based on the findings of FBAs, are effective at improving behavior, typical school personnel often struggle to carry out FBAs and develop function-based interventions appropriately. Following a detailed description of FBAs, the authors present a case study of implementing an FBA in a special education classroom based on their own experiences as special education teachers.

As explored in the previous chapter, FBAs are an effective but intensive approach for better understanding the function of challenging behavior and developing effective interventions to replace that behavior in ways that address the underlying function. Olson and colleagues (this volume) describe the use of the Prevent-Teach-Reinforce (PTR) model to collaboratively develop function-based interventions for three kindergarten students exhibiting challenging behavior in three urban schools. As part of the PTR process, they used the Interview Informed Synthesized Contingency Analysis (IISCA) to conduct functional analyses. The authors provide detailed descriptions of using the IISCA to conduct FBAs, engaging in the PTR model to develop and implement function-based interventions, the positive effects of the function-based interventions on student behavior, and the positive perceptions of school personnel regarding the IISCA/PTR procedures (i.e., social validity). They conclude the chapter with a discussion of how important district support was to the success of this case, as well as insights and recommendations based on their experiences.

Positive behavior supports are proactive strategies that promote positive behaviors and foster a safe, positive environment conducive to learning. Importantly, positive behavior supports are provided at multiple levels of intensity depending on student need. Tier 1 or core interventions are for all students, Tier-2 supports are for some students who need additional support,

and Tier-3 supports are for students who need intensive, individualized interventions. Richards and colleagues (this volume) provide descriptions of, recommendations for, and vignettes regarding multiple empirically validated practices that can be used when providing intensive, function-based, Tier-3 supports to students. Specifically, the authors target visual supports, reinforcement, progress monitoring of student performance, and monitoring the fidelity of intervention implementation. The authors selected these practices because they used them when they were classroom teachers, and the vignettes are based on their actual experiences.

Ennis and Kilgore (this volume) provide a case study of a 3-tiered positive behavior support framework in an inclusive early childhood education program, which has been successfully maintained over a 6-year partnership with a university faculty member (the lead author). The positive behavior supports program includes program-wide expectations, a validated social skill curriculum, three prioritized instructional strategies (i.e., precorrection, instructional choice, and behavior-specific praise), and ongoing training and coaching. The mixed-method case study involves surveys, interviews, and materials reviews. Findings indicate higher levels of implementation over time and the case study identified perceived strengths (helpful professional development, consistency and a common language, family involvement, versatile strategies, and teamwork and collaboration), perceived needs (ongoing training, more consistent shift away from a punitive approach, greater mastery of recommended practices), and key benefits (positive environment, improved child behavior, improved emotional regulation in children, and independent use of strategies by children). The authors conclude with recommendations for further strengthening the framework and its procedures.

Rural students have unique needs and rural environments can provide unique challenges for delivering effective supports for students' behavior and mental health. Beahm and colleagues (this volume) focus on *Coping Power-Rural,* a transdiagnostic program (i.e., a single program that addresses processes underlying multiple issues) adapted specifically to support rural students' behavioral and mental health needs. The program builds on the original evidence-based program, *Coping Power,* developed by Lochman and Wells (2004). After providing an overview of the program structure and content of *Coping Power-Rural,* the authors describe two case studies that highlight implementer voices and personal perspectives from two rural schools in different states that were among the early adopters of the program. The cases describe successes related to implementation and outcomes, as well as steps taken by program developers to address challenges and adaptations identified from implementers' feedback. The authors conclude the chapter with lessons learned from the rural implementers regarding *Coping Power-Rural*. The authors provide links to program content for interested readers.

Low academic performance is common for students with emotional and behavioral disabilities. Digitally mediated interventions (i.e., interventions delivered via digital technology), the focus of the chapter by Hicks (this volume), have been shown to improve outcomes for students with co-occurring behavioral and academic needs. After reviewing digitally mediated interventions, Hicks presents a comparative case study that contrasts the experiences of two

middle-school students with reading difficulties and challenging behaviors who were introduced to a digitally mediated reading intervention. Data sources included lesson observations, student questionnaires regarding their experience with reading (given at pre- and postintervention), and a semi-structured interview with each student conducted postintervention. For one student, the digitally mediated intervention resulted in increased motivation, engagement, and reading performance. This student was able to experience and recognize small successes working with the highly predictable, digitally mediated reading program, and the private setting allowed him to feel less self-conscious about his reading skill level. However, it was unsuccessful for the second student, who was reinforced by social interactions and was therefore not motivated by the isolated digitally mediated intervention. The author concludes with a discussion of lessons learned, including the importance of behavioral supports; the interaction of interventions with classroom reward systems; and the importance of individualizing interventions, including digitally mediated interventions, for students with emotional and behavioral disorders.

Efforts to bridge the research-to-practice gap often focus on ways to make research have a greater influence on practice. In their chapter, Loewer and colleagues (this volume) propose that research and practice should be bi-directionally related. In other words, research should inform practice, but practice should also inform and shape research. With this orientation in mind, the authors provide a case study of three early career teachers collaboratively engaging in a nine-step process taught in their master's program for developing, implementing, evaluating, adapting, and sharing an evidence-based practice that addresses a problem of practice in their classrooms. In the case study, the authors designed and implemented an independent group contingency with mystery motivators (which they called Writing Rockstars) with the aim of improving on-task performance during writing instruction in which the intervention (B phase), was introduced after a baseline phase (A phase), then withdrawn, and then reintroduced an inclusive second-grade class. The authors used an ABAB withdrawal design to examine the effects of the intervention on three students selected because they exhibited the greatest behavioral challenges. The single-case graphs indicated that the intervention caused improved on-task performance for the students and no adaptations were needed. The team administered two social validity surveys, one for teachers and one for students, which indicated strong acceptance of the intervention. After reflection, the authors produced practice-based evidence, including this case study, to help share and promote their intervention and the nine-step process to inform both practitioners and researchers of the potential of this approach for bridging the research-to-practice gap.

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