CASE STUDIES ON EMPIRICALLY VALIDATED PRACTICES FOR IMPROVING ACADEMIC AND COMMUNICATION OUTCOMES

Edited by Bryan G. Cook
and Timothy J. Landrum

ADVANCES IN LEARNING AND BEHAVIORAL DISABILITIES

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

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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 academic and communication 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; academic and communication outcomes

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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. 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 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 to improving academic and communication outcomes. See Cook and Landrum (2025) for eight additional case studies targeting improved behavioral outcomes.

Teaching students to read fluently and with comprehension is one of the core tasks of schools. Yet assessments continue to show worrisome reading outcomes, especially for students with disabilities. In their chapter, Rolf and colleagues (this volume) report a case study involving a charter school that has used Reading Mastery as a component of its tiered literacy instruction in grades K-3 to achieve exemplary reading performance. Reading Mastery is an elementary literacy program aligned with the science of reading and based on the principles of Direct Instruction (e.g., curriculum content analysis, scaffolded instruction, gradual release of instructional control, careful sequencing of instruction, frequent practice, high student engagement) that is supported as effective by decades of research. In their case study, the authors describe both the school- and classroom-level implementation of Reading Mastery as the core literacy program used in all kindergarten through third grade classes, including discussion of student grouping, common expectations, a game to reinforce appropriate student behavior, and tracking words to practice for each student. More intensive supports provided to students at tiers 2 and 3 are also described, as well as teacher training, assessment, instructional decision-making processes, and pacing. The authors conclude the chapter with discussions of (a) facilitators (i.e., a school-level directive, access to materials, available time and space, effective training) and barriers (resource-intensive nature of the intervention, teachers seeking to adapt the intervention in ineffective ways) encountered and (b) recommendations for effective implementation of Reading Mastery.

Teaching students to read effectively and teaching pre-service teachers how to provide effective, scientifically-based reading instruction are as critically important as they are challenging. Smith and colleagues (this volume) provide a case study of a novel and intriguing school–university partnership focused on implementing research-based reading instruction and intervention aligned with the science of teaching reading. After reviewing the literature on (a) research-based reading instruction and systems and (b) school–university partnerships involving service learning, the authors present a case study focusing on the first 2 years of an ongoing school–university partnership centered on the science of teaching reading. The authors provide the perspectives of the faculty mentor, the classroom teacher, a graduate student, and two undergraduate students involved in the partnership across key areas of consideration (e.g., planning instruction and intervention, implementing multi-tier systems of supports). The chapter concludes with the authors providing lessons learned and recommendations based on their experiences as part of the school-university partnership.

As Smith and colleagues (this volume) found, effective, science-based reading instruction does not just happen but needs to be effectively supported. The volume therefore includes multiple case studies on how to effectively support effective instruction in reading. In their chapter, Payne and colleagues (this volume) explore the use of the AIM Coaching model, an adaptive coaching framework that provides differentiated support to teachers based on data regarding implementation fidelity and their willingness to engage in coaching, for social studies teachers in a rural middle school. AIM Coaching has three stages. Stage 1 involves all teachers receiving a standardized protocol of support

(planning, in-class support, debriefing, and at least two check-ins with their coach). Stage 2 consists of individualized coaching interventions based on the results of observations assessing teachers' implementation fidelity and teachers' perceived willingness to engage in coaching. Coaches spend most of their time working with teachers who exhibit low fidelity but are willing to be coached. In Stage 3, fidelity and willingness to engage in coaching is re-assessed and new individualized coaching interventions are initiated (e.g., using the growing number of high-fidelity teachers to mentor and engage with low-fidelity, low-willingness teachers). In this case, the intervention of focus (PACT Plus) is a modified version of the Promoting Adolescents' Comprehension of Text (PACT) intervention, an empirically validated intervention associated with improved content knowledge, vocabulary, and reading comprehension (Vaughn et al., 2013). In their detailed case study, the authors describe the context of the rural school, its teachers, and its students; the challenges of intervening in rural schools; the process of establishing buy-in from teachers; providing continuing support to teachers; and working with teachers at each stage of the AIM coaching model. The authors conclude with key lessons learned from this research institution–rural school partnership.

Also focused on efforts to support the application of the science of reading in schools, Conner and colleagues (this volume) describe the Virginia Language & Literacy Screening System (VALLSS) and how it is being used to promote literacy in Virginia. VALLSS is a new literacy screener administered to kindergarten through third-grade students in Virginia. Based on the science of reading, the screener identifies students who are at high risk for developing reading difficulty and serves as a basis for developing a Student Reading Plan for those students. The authors describe Student Reading Plans and professional development resources and training developed to support the rollout of the VALLSS and Student Reading Plans, including supports for students with disabilities. The chapter includes a discussion of barriers and facilitators for implementing VALLSS and Student Reading Plans successfully as communicated in focus groups of early implementers. The authors conclude the chapter with a case study based on teachers' real experiences using the VALLSS to plan instruction, including creating Student Reading Plans.

In their chapter, Chiu and colleagues (this volume) stress that bilingualism is an asset, not a deficit. Still, it is important for special educators to recognize and address the unique learning needs of emergent bilingual students with disabilities. The authors focus on three key areas that will benefit the learning of emergent bilingual students with disabilities: vocabulary development, academic engagement, and parent collaboration. For each of these areas, the authors discuss its importance, describe special considerations when teaching emergent bilingual students with disabilities, consider challenges and obstacles frequently encountered by emergent bilingual students with disabilities and their families, describe and provide steps for implementing evidence-based practices that improve each outcome, and provide a case study based on their own experiences to illustrate key content in the context of a school and classroom. The authors note that

although the home language of students in the case study is Spanish, the practices discussed are effective across languages.

This volume features three case studies that explore evidence-based practices for improving language and communication outcomes for learners with and risk for disabilities. Thompson and colleagues (this volume) describe adapting the Nuffield Early Language Intervention (NELI) – originally developed, implemented, and validated in the United Kingdom – for use in the United States. NELI is a scripted, 20-week intervention targeting language skills that is delivered by classroom assistants. The original version involves working with students identified as at risk in small groups and individually; a Whole Class version was subsequently developed as a core or tier-1 program. Led by a local Literacy Leadership Team, a district in Montana decided to expand their multi-tier system of support to include language screening and intervention for young students. NELI Whole Class was selected as the Tier-1 intervention and the original NELI program was selected as the Tier-2 intervention. The authors describe how these interventions were adapted and implemented in the United States and describe positive educator feedback and student outcome data. The authors stress the importance of ongoing feedback and the engagement of the local community when adopting new programs.

In their chapter, Mercado Baez and colleagues (this volume) provide a case study on integrating the Picture Exchange Communication System (PECS) into a classroom of students with complex communication needs. After an overview of augmentative and alternative communication and PECS, the authors provide a detailed case study that occurred in a diverse university demonstration classroom. The case study includes a description of classroom materials, the creation of books and pictures, coaching provided to staff, preference assessments, PECS implementation, outcome and treatment fidelity data collection, and instructional decision making. Once PECS was successfully being used by students, the authors then provided parent coaching so that PECS could be used at home as well. That training as well as parent–teacher conferences are described. The chapter concludes with student cases, which provide an overview of the outcomes attained for specific students and lessons learned and recommendations to inform other educators seeking to integrate PECS into their classrooms.

Eiser Hess (this volume) focuses her case study on adapting an effective emotional competence intervention for a novel population of learners. The author worked previously as a speech and language pathologist with young children with extensive support needs who used augmentative and alternative communication. She saw the need for improving the emotional competence of the learners she was working with but could not identify any evidence-based practices validated for this population. Eiser Hess describes the process of searching for an empirically validated intervention for her target students, finding an intervention validated for other learners, and adapting that practice to meet the unique needs of her students while maintaining the intervention's core elements. Given the unique learning needs of students with and at risk for disabilities, the process of adapting empirically validated interventions that Eiser Hess describes is a common challenge for special educators. As a clinician not affiliated with a university