

Empirical Article

Development of
Online Professional
Development
for Teachers:
Understanding,
Recognizing and
Responding to Bullying
for Students with
Disabilities

Education and Urban Society
1-23
© The Author(s) 2023
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/00131245231187370
journals.sagepub.com/home/eus



Dorothy L. Espelage D, Anjali Forber-Pratt², Chad A. Rose³, Katherine A. Graves³, Rachel A. Hanebutt², America El Sheikh⁴, Ashley Woolweaver¹, Tracey Kenyon Milarsky³, Katherine M. Ingram¹, Luz Robinson¹, Angelica M. Gomez⁴, Pam K. Chalfant⁴, Christine Salama⁴, and Phil Poekert⁴

Abstract

Students with disabilities (SWDs) are disproportionately at-risk for bullying victimization and perpetration, yet there is a lack of educator-focused professional development targeting prevention for these students. This

Corresponding Author:

Dorothy L. Espelage, University of North Carolina System, 100 E Cameron Ave, Chapel Hill, NC 27599, USA.

Email: espelage@unc.edu

¹University of North Carolina System, Chapel Hill, USA

²Vanderbilt University, Nashville, USA

³University of Missouri System, Columbia, USA

⁴University of Florida, Gainesville, USA

project sought to address gaps in training through the creation of four online professional development modules: (I) understanding bullying among SWDs, (2) examining risk characteristics, (3) establishing school and classroom prevention strategies, and (4) individual prevention. These modules were iteratively developed with feedback from teachers and staff, incorporating the Multi-Tiered System of Supports (MTSS) framework to focus on interventions rooted in social emotional learning (SEL), and emphasizing the importance of prevention for SWDs.

Keywords

students with disabilities, professional development, MTSS, bullying

School bullying is a pervasive issue that impacts many youths. Bullying is repeated, intentional exposure to unwanted peer aggression through a power imbalance from an individual or group with either higher status or greater strength than the victim (Gladden et al., 2014). Students with disabilities (SWDs) are at an increased risk as victims and perpetrators (Rose et al., 2011; Yell et al., 2016). Blake et al. (2012) found that among elementary and middle school SWDs, 24.5% and 34.1% reported being bullied. Bullying is a social construct grounded in complex social and environmental interactions (Hong & Espelage, 2012). Evidence suggests that students acquire social and communication skills and establish social roles at a young age (Schwartz et al., 1999; Son et al., 2012), and deficits in initiating and maintaining social relationships place students at risk for bullying involvement (Rose & Gage, 2017).

To address this heightened risk for bullying involvement among SWDs, educational professionals must understand how SWDs become disproportionately involved in bullying. Research shows that even after receiving professional development (PD), teachers may have difficulty identifying and intervening in bullying (Chen et al., 2017). For effective intervention, however, teachers report needing additional supports, such as PD focused on SWDs and coaching (Forber-Pratt et al., under review). This study seeks to detail the process of creating comprehensive and intentional PD modules for general and special education elementary school teachers to support their understanding, recognition, and intervention process of bullying, particularly among SWDs.

Educators' Role in Preventing Bullying and Protecting SWDs

Education professionals, particularly teachers, can play a pivotal role in recognizing and intervening in bullying (Rose et al., 2019). Evaluations of

bullying prevention programs have found modest support for teacher and staff PD in increasing their knowledge and competency to intervention in bullying situations (Ttofi & Farrington, 2011; van Verseveld et al., 2019). For example, van Verseveld et al. (2019) conducted a meta-analysis of 13 studies and found antibullying programs had a significant moderate effect on teacher's knowledge and efficacy around intervening (g=0.531), but a significant small to moderate effect on teacher's actual intervention in bullying situations (g=0.390). However, none of the programs evaluated included a focus on SWDs. Although there is significant evidence that PD is beneficial for teachers' understanding of, and impact on bullying, there is a lack of research on the effects of anti-bullying PD for SWDs.

Although teachers have a unique role that positions them to intervene in bullying, these interventions are often ineffective. Holt and Keyes (2004) suggest that teachers may not intervene in bullying due to a lack of training. This aligns with teacher perceptions, with 93% surveyed expressing a desire for additional bullying prevention PD (Kennedy et al., 2012). Providing teachers with evidence-informed PD is linked with improved outcomes for both teachers and students and the school community. Novick and Isaacs (2010) found that PD improved teacher self-efficacy and cultivated teachers' preparedness to intervene, which ultimately prevented bullying. Bradshaw et al. (2007) reported that teachers with high self-efficacy maintain greater confidence in the effectiveness of their intervention strategies.

Theoretical Approach to Module Development

The PD modules created for this project were iteratively designed by intentionally centering teacher and school personnel perspectives within evidencebased practices for adult learning in the PD context by focusing on building self-efficacy by incorporating educator perspectives and expertise in the core features. Specifically, an emphasis on co-created PD respects and values what educators themselves bring to the process of PD and learning (Reilly & Literat, 2012). Furthermore, teacher coaching was included in the design to create an effective PD program. To prepare teachers to intervene in bullying, this project focused on theoretical perspectives pertinent to teacher efficacy and skills related to bullying prevention. For example, Han and Weiss (2005) model for teacher PD includes successful and sustainable programing that maximizes impact on student outcomes and behavior and foregrounds aspects such as acceptability to schools and teachers, effectiveness, feasibility to implement on an ongoing basis, and flexibility. This model highlights the importance of context-relevancy and compatibility with teachers' existing beliefs for effective online PD. Focusing on the importance of contexts specific to SWDs, research has demonstrated that PD with a direct focus on this subset of youth produces a significant decrease in bullying involvement while simultaneously refining teacher competencies in recognizing and addressing bullying (Rose et al., 2015, 2019).

Han and Weiss (2005) model described important elements of the overall design process, whereas Desimone et al. (2002) identified core features essential to maximizing the effectiveness of PD including (a) content focus, (b) active learning, (c) coherence, (d) collective participation, and (e) duration. A content focus can increase teacher self-efficacy, as teachers are more comfortable teaching subjects or implementing interventions (e.g., bullying prevention) that they understand at a deep level (Main & Pendergast, 2015). Regarding active learning, teachers value high-quality, targeted videos recorded in authentic classrooms with real teachers and actionable, concise strategies that can be directly applied to their classroom setting (Marques et al., 2016). Next, coherence is the extent to which teacher learning is consistent with teachers' knowledge and beliefs (Desimone, 2009; Desimone et al., 2002). The alignment of school, district, and state reforms and policies with what is taught in PD is another aspect of *coherence* (Desimone, 2009). Additionally, teachers report valuing participating in professional learning communities (Marques et al., 2016), referred to as collective participation, during which teachers utilize and discuss scenarios from their own or colleagues' experiences with bullying behavior. Another important consideration is allowing for a sufficient duration of PD, including both the period over which the activity is spread (e.g., one day or one semester) and the number of hours spent on the activity (Cohen & Hill, 2001; Fullan, 1993; Supovitz & Turner, 2000). While there is not a precise duration indicated by research, there is evidence-based support for activities that are spread over a semester as opposed to a one-time effort (Desimone, 2009).

Besides these core features, coaching, as used in many adult learning interventions (e.g., Batt, 2010), integrates feedback and encourages reflection on teachers' practices. Lipowsky and Rzejak (2015) argues that input, practice, and reflection must be systematically linked. Additionally, Hadfield and Jopling's (2016) study of highly contextualized teacher PD, including lead teachers as coaches, found that teachers expressed more professional autonomy when given the opportunity to collaborate on learning goals with the lead teachers. Teachers also valued a coaching environment wherein mutual learning occurred, rather than a one-sided expert coaching model (Hadfield & Jopling, 2016). As such, integrating a coach coupled with PD modules must include the ideals of input, practice, and reflection, with a structure conducive for mutual and collaborative learning. Further, coaching has been positioned within the MTSS framework as "an important and promising driver for the

implementation of evidence-based practices within tiered systems of support and the achievement of important student academic and social behavior outcomes" (Freeman et al., 2017, p. 35). Taken together, these elements of incorporating educator perspectives and expertise, along with the role of coaching in effective PD, informed this work.

Current Study

The current study applies these theoretical frameworks to the development of modules aimed at adequately preparing teachers to intervene in bullying, specifically regarding SWDs. The current project's goal was to develop online PD modules focusing on the most current evidence-base of bullying prevention for SWDs. These four modules were created to highlight the following: (1) understanding bullying among SWDs, (2) examining risk characteristics associated with bullying among SWDs, (3) establishing schoolwide and classroom prevention that targets the unique experiences of SWDs, and (4) individualized prevention to maximize the impact of anti-bullying approaches to youth with the most intensive needs.

Methods

Module development involved several distinct activities facilitated by a multi-disciplinary team, including analyzing data from two practicing teacher focus groups and expert review of module content throughout the development process with the advisory board.

Project Team & Advisory Board

The project team consisted of previous general and special education teachers; graduate students in School Psychology, Counselor Education, and Special Education; doctoral-level experts in bullying prevention, SWDs, mental health, and intervention implementation; and specialists in editing and producing online PD. The team, which included members with disabilities, applied expertise in integrating necessary accessibility features (i.e., alt text, voiceovers), and sourcing accurate disability-focused iconography and imagery (i.e., stock photos, line art) representative of students with diverse disabilities and needs. The advisory board consisted of five experts in K-5 special education, PD, teacher preparation, and online learning. Four advisory board members were affiliated with different universities than the PIs.

Focus Groups

Two focus groups were conducted in a Southeastern U.S. urban school district in January and February of 2020 and consisted of 17 participants who were elementary school counselors, general and special education teachers. Focus group questions assessed participants' current knowledge and observations of bullying and victimization among students with and without disabilities, their schools' protocol for reporting bullying and subsequent bullying intervention, and perceptions of quality PD. Insight gained in these focus groups shaped the module scripts and coaching plan in several ways. First, focus group participants demonstrated a solid foundation of knowledge about bullying, allowing for a more succinct overview of bullying in the first module. Second, participants stated that past effective PD was interactive and contained realistic scenarios, which aligns with Desimone et al. (2002) recommendation to include active learning components. Therefore, the research and production team spent considerable time scripting and editing authentic scenarios of bullying and victimization among SWDs portrayed through line art, images, and B-roll. Notably, participants referenced parental misperceptions about bullying while also emphasizing the essential role family members and caregivers play in bullying prevention. This prompted the creation of a targeted resource focused on discussing bullying with caregivers and engaging families in preventing bullying with SWDs, an act in support of coherence between multiple stakeholder groups (e.g., parents, teachers, school leaders). Next, participants agreed that PD with embedded Communities of Practice were key to efficacious PD. When further probed, participants stated that the ability to interact with each other during the learning process was important to them. As a result, discussion boards were requested to be added to the modules, and open office hours were added to the coaching plan. This design feature allows for collective participation within the PD experience, amplifying teachers' exposure to new ideas and additional perspectives. These perspectives suggest teacher support for a greater duration of PD, one that allows for multiple modules spread across time (e.g., a semester or school year). A qualitative analysis of the content from these focus groups is described elsewhere (Forber-Pratt et al., under review).

Module Production Process. Each module was developed over 4 months. The research team first created an outline based on module objectives, evidence supporting objectives, and images and videos in an interactive, web-based storyboard. The storyboard allowed multiple team members to manipulate and add content to individual slides, representing each module visually. These slides were translated to create a digestible, conversational script for a

maximum module length of 90 minutes. Script drafts were iteratively written by the project's principal investigators, production team, and graduate students and then edited by the production team. The team discussed script progress during weekly video conferences. Feedback from advisory board members was incorporated into each script before being sent to the production team for filming. The filming and production process took an additional 2 months for each module. The production process involved a team professionally to record the speakers—actors and/or subject matter experts—for the modules and all related editing. The production team ensured that closed captioning and transcripts would be prepared to adhere to Section 508 compliance for accessibility. For some modules, additional accessible, downloadable materials were created by the research team to support the learners (See Supplemental Appendix A).

A subgroup of the project team formed for biweekly meetings to discuss the coaching plan for the project. Coaches were recruited from a pool of doctoral students with prior teaching experience from the Principal Investigators' institutions. This ensures that the coaches are content matter experts and have the experience needed to assist teachers in creating and implementing a bullying prevention action plan.

Module 1: Understanding Bullying Among Students With Disabilities

Module 1 provides the foundational knowledge needed to understand bullying and distinguish bullying from other forms of aggression, provides a brief overview and importance of Individualized Education Programs (IEPs) and 504 plans, and introduces global risk factors of bullying involvement. Screenshots are located in Supplemental Appendix A. The objectives for Module 1 are: (1) Define characteristics of bullying and role affiliation, (2) Identify global risk factors for bullying involvement among SWDs, (3) Understand special education services and how they are determined, and (4) Recognize bullying involvement of SWDs within the school context.

Definition and Characteristics of Bullying in Schools. Module 1 begins by defining and discussing the different types of bullying and victimization (i.e., cyber, verbal, physical, social, direct, and indirect) and peer aggression (i.e., retaliatory, instrumental, and jostling). Bullying is defined as repeated intentional exposure to unwanted peer aggression through a power imbalance from an individual or group with either higher status or greater strength than the victim (Gladden et al., 2014), while peer victimization is defined as a single physical and/or emotional attack between individual students.

Global Risk Factors. Global risk factors were defined as characteristics, behaviors, or factors that place any student at greater risk for bullying involvement. This section provides an overview of general and disability-specific risk factors that is expanded in Module 2. Examples of disability-specific considerations provided include acquired versus congenital disabilities, visible versus invisible disabilities, and characteristics such as social skills differences and difficulties.

Special Education Services. Because this module centers around SWDs within an educational context, this section delineates the differences between SWDs that have IEPs, SWDs who are eligible for disability services under both the Individuals with Disabilities Education Act (IDEA) and Section 504 of the Rehabilitation Act, and those with 504 plans, who are eligible under Section 504 of the Rehabilitation Act only. This section introduces the differences between IEPs and 504 plans, the accommodations provided by each, and examples of how an IEP can be utilized as a bullying prevention tool.

Value of Understanding Bullying among SWDs. Many teachers are unaware of the prevalence and severity of bullying in their school and do not effectively identify bullying incidents (Bradshaw et al., 2007). Additionally, teachers perceive indirect or relational aggression as less serious and are less likely to intervene when compared to physical and verbal bullying (Maunder et al., 2010). However, research indicates that physical, relational, and verbal victimization have comparable negative long-term consequences (Crosby et al., 2010). One high-quality meta-analysis of bullying prevention programing found that program elements associated with reductions in bullying included classroom management, teacher training, and a whole-school anti-bullying policy (Ttofi & Farrington, 2011), demonstrating the need for bullying prevention programing for teachers. Several meta-analyses show that evidence-based PDs in bullying prevention omits specific reference to teacher preparedness regarding bullying involvement for SWDs (Ttofi & Farrington, 2011), even though research demonstrates they are disproportionately involved (Blake et al., 2012; Rose & Gage, 2017). By providing educators with a foundational knowledge of bullying, they are better equipped to recognize and intervene during bullying. Additionally, providing knowledge on the intricacies of special education services for general education teachers helps create a more informed staff and a key step toward more socially and culturally responsive prevention strategies.

Module 2: Examining Risk Characteristics

Module 2 expands on Module 1 by discussing disability classifications and eligibility criteria covered by IDEA and Section 504, along with risk factors

that increase the likelihood of bullying involvement for SWDs, including social and communication skill differences, disability-specific characteristics and supports, and prejudice associated with their intersectional identities (e.g., race, gender, sexual orientation, socioeconomic status, religious affiliation). This module describes the Child Find process, the plan to proactively identify youth with, or at-risk for, disabilities. The objectives for Module 2 are: (1) Understand diagnostic criteria associated with disability identification, (2) Identify skill deficits associated with common disabilities linked to bullying involvement, and (3) Examine unique risk and protective factors for SWDs within an intersectionality framework.

Diagnostic Criteria. This section begins by outlining the differential eligibility criteria for Individualized Education Programs (IEPs) and 504 plans, highlighting those impairments that impact academic outcomes require an IEP, whereas impairments that impact a major life activity (e.g., breathing, walking) require a 504 plan.

Skill Deficits. This section outlines the social and communications skill domains that increase the risk of bullying involvement, including verbal skills, nonverbal interactions, emotional responses, collaborative skills, self-awareness, and social awareness. This subsection provides the foundational knowledge for individual intervention strategies covered in Module 4.

Risk and Protective Factors. This subsection begins by outlining the importance of understanding intersectionality and compounded risk. Intersectionality was defined as how multiple identities and their associated advantages or disadvantages in society work together to determine how a person experiences the world, while compounded risk was defined as an increased likelihood of experiencing bullying because of the prejudice and oppression associated with having multiple marginalized identities. This section discusses how identities such as disability status, race, ethnicity, gender, sexuality, socioeconomic status, and religion interplay with one another, and the importance of using an intersectional lens in bullying prevention efforts.

Value of Examining Risk Characteristics. Most SWDs are identified while in elementary school; thus, it is crucial that teachers can recognize students atrisk and with disabilities. Before identification, students may not be receiving the services and supports they need to access the general curriculum and school experience. Educating teachers about disability diagnostic criteria is necessary for providing SWDs accommodations and it is important for them to understand disability-specific risk factors that increase the likelihood of

bullying involvement (i.e., disability severity, disability label, disability characteristics, class placement, special education services, disability comorbidity) (Rose et al., 2015). Additionally, skill deficits associated with common disabilities that place students at a heightened risk of bullying involvement are social and communication skills (Bear et al., 2015; Rose et al., 2019), therefore it is important that teachers can identify these skill domains to identify students at-risk or with disabilities and provide the supports and services that decrease the likelihood of bullying involvement. Further, students from minoritized backgrounds with disabilities are at an elevated risk of bullying involvement. One study found that SWDs who are lesbian, gay, bisexual, queer, or questioning are often at the highest risk for peer victimization, followed by SWDs who are: Asian, Mixed Race, or Latino, particularly, Asian girls with a disability (Forber-Pratt et al., 2020). When educators better understand the interplay between various identities, they can be better prepared to intervene and prevent bullying in a holistic, student-centered manner.

Module 3: Establishing School-Wide and Classroom Prevention

Module 3 moves into establishing a protocol for intervention, and teachers begin collaborating with their coaches to develop their personalized bullying prevention plan. The objectives for Module 3 are: (1) Identify school-wide systems and structures for a positive school climate, (2) Plan a school-wide bullying prevention strategy with a focus on social and emotional learning (SEL) and skill development, and (3) Create plans for class-wide and smallgroup strategies that target social and communication instruction with a focus on supporting SWDs. This includes concrete strategies for classroom behavior management and multi-tiered systems of support (MTSS) that can be implemented immediately. These strategies can target specific students, an individual classroom, and/or the whole school; they can also be scaled up to become district policy. The approach for establishing an intervention protocol is based on the recommendations from the National Academies of Sciences, Engineering, and Medicine (National Academies of Sciences Engineering and Medicine [NASEM], 2016). Based on NASEM's (2016) review, it is recommended that interventions have multiple components, establishes a protocol for intervention, and be situated within a multi-tiered framework. Module 3 is designed to address Tier 1-universal level systemsand Tier 2-classroom supports- including five subsections: (1) MTSS and bullying prevention, (2) Creating a school-wide bullying prevention plan, (3) Universal Prevention, (4) Classroom and Small-Group Intervention, and (5) Non-recommended approaches.

MTSS and Bullying Prevention. There are several approaches to establishing school-wide universal systems for implementing a bullying prevention framework. This subsection discusses several strategies within an MTSS and SEL framework. MTSS is discussed using the three-tiered model, where Tier 1 represents universal prevention-services for all students, Tier 2 represents classroom and small-group intervention services for students who need specific targeted support, and Tier 3 represents individualized support (see Module 4). SEL, as defined by the Collaborative for Academic Social and Emotional Learning (CASEL), is interwoven throughout the tiers and includes five core skills: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL, 2020).

Creating a School-wide Bullying Prevention Plan. This section describes three steps for educators to begin planning school-wide interventions: collaboratively creating a stakeholder team, gathering school climate data, and creating the action plan. The goal of the stakeholder team is to provide feedback and offer numerous perspectives for implementing and sustaining bullying prevention efforts at school. Since each community is different, school climate data are used to better understand how bullying occurs at the individual school. The module also provides guiding questions and support from live coaches with a worksheet to help staff create an effective action plan for bullying prevention.

Universal Prevention. Universal prevention, or Tier 1, is meant to provide services for *all* students and serve as the *foundation* for teaching skills and addressing any challenges among the entire student body. This section provides information on protocols the bullying prevention team creates (e.g., reporting and investigating), clear school expectations and routines, and data collection.

Classroom and Small-group Intervention. Along with school-wide systems, classroom supports are instrumental to supporting school climate and culture, as well as reducing bullying. This section includes potential explanations for bullying behaviors to help participants develop proactive interventions and supports. Specific examples of evidence-based classroom interventions are then introduced (e.g., the Good Behavior Game, pre-correcting), and the module describes explicitly how to implement each.

Non-Recommended Approaches. Additionally, educators must understand approaches that are not aligned with best practices. This section outlines non-recommended approaches and describes why they are ineffective or

harmful, including punitive approaches, zero-tolerance policies, peer mediation, teaching youth to fight back, forced apology, and 1-day awareness-raising events or brief assemblies.

Value of Establishing School-Wide and Classroom Prevention. Within a three-tier framework, Tier 1, or the school-wide prevention efforts, serves as the foundation for other tiers. With universal systems in place, teachers can begin to identify students or groups of students who require additional support (Center on Positive Behavioral Interventions and Supports, n.d.). The effects of school-wide supports on student outcomes tend to be highest among at-risk or high-risk children (Bradshaw, 2013). Notably, a longitudinal study found disciplinary and achievement outcomes associated with prevention at the school-wide level when schools implemented universal supports with fidelity (James et al., 2019).

Universal implementation of SEL helps address various forms of inequity and empowers individuals to co-create safe, healthy, and just communities (CASEL, 2020). SEL curriculum positively affects students' academic outcomes, mental health, and social behavior (Blum et al., 2004), and schools see an increase in a positive school climate (Faria et al., 2013). SEL interventions have also demonstrated positive effects on students who are at risk (Jones & Bouffard, 2012). There is growing support for implementing SEL at the school-wide level to reduce bullying (Espelage et al., 2013; Rose & Monda-Amaya, 2012). Follow-up studies on SEL programing found declines in bullying, victimization, and aggressive and argumentative behavior among SWDs (Espelage et al., 2015).

Module 4: Individual Prevention

Along with understanding the risk factors associated with specific subgroups of youth, it is necessary to understand how to implement individual interventions for youth who are chronically involved in bullying (Rose & Monda-Amaya, 2012). Module 4 was designed to introduce educators to individualized, adaptive intervention methods grounded in sound behavioral sciences that they can implement for their students that need more intensive support. This module builds upon prevention strategies and skills from Module 3. The Module 4 objectives are: (1) Develop strategies for intensive individualized interventions for a range of potential bullying scenarios or Tier 3 interventions, (2) Assess the efficacy of interventions within MTSS, and (3) Understand legal obligations for schools and staff to protect and support SWDs who are perpetrators or victims of bullying. Module 4 contains four subsections: (1) Supporting unique needs, (2) Behavior functions and

skill development, (3) Reinforcement and punishment, and (4) Legal obligations.

Supporting Unique Needs. Social and communication skills have been identified as two of the most notable predictors of bullying involvement (Rose et al., 2011). Therefore, it is necessary to assess current functioning to proactively evaluate social skills and identify if youth may be at escalated risk. This subsection of Module 4 provides instruction on creating, implementing, and evaluating IEPs and Behavioral Intervention Plans (BIPs). Not all students who necessitate Tier 3 support qualify for special education services and require IEPs or BIPS. Therefore, this section provides alternative methods of supporting students who receive support in Tier 3 but do not receive special education services. Also, teachers receive guidance on using behavioral screeners. Specifically, behavioral screeners assist in identifying youth who may benefit from targeted or individual interventions (Kilgus et al., 2016).

Behavior Functions and Skill Development. Once students are identified through behavioral screeners, teachers can develop targeted interventions to meet their students' needs. To develop a prescriptive intervention, one must understand the nature of the deficit. This includes understanding the dimensions (e.g., topography, frequency, duration, latency, locus; Alberto & Troutman, 2013) and behavioral function (i.e., gain or avoid attention, gain access, escape task demands, gain or escape self-stimulation; O'Neill et al., 1997). Additionally, to establish individualized interventions, one must understand the nature of the skill deficit, which includes acquisition (i.e., a skill that the student does not possess) and performance or fluency deficits (i.e., the student has the skill but does not use it consistently; Simonsen & Myers, 2014).

Reinforcement and Punishment. Teachers are trained on specific techniques that support behavior development. The participants are taught the clinical definitions of reinforcement, punishment, positive and negative stimuli and techniques for combining approaches to facilitate specific social skill development. These behavioral strategies, coupled with understanding the nature of the deficit, allow teachers to establish adaptive interventions based on individual needs. Further, interventions and their implementation are presented for teachers to use as Tier 3 strategies (e.g., attention signaling, social narratives, and planned ignoring).

Legal Obligations. Module 4 concludes with an overview of federal laws related to bullying prevention, especially pertaining to SWDs, with details on where information for specific state laws can be located.

Value of Individual Prevention. Individual prevention and intervention—or Tier 3—targets 2% to 5% of a school's population. One method of implementing Tier 3 is using BIPs. Effective BIPs include interventions that focus on encouraging the prevention of problem behavior and reaction to it (Sugai et al., 1999). To be effective, school-based personnel must be able to create and implement BIPs that are logical and reasonable within the educational setting. The creation of functional behavior assessments (FBA) and BIPs is complex and requires explicit training. There is a need demonstrated by Scott et al. (2005), who found that school-based teams that had been mediated by a trained FBA facilitator still tended to gravitate toward more negative and exclusionary strategies.

Targeted individual prevention leads to increased academic engagement, significant improvement in on-task behavior, and decreased aggression and other problem behaviors (Nahgahgwon et al., 2010; Ross & Horner, 2009). One study evaluated social validity ratings by teachers, indicating a strong preference for function-based individualized interventions rather than the previously used classroom practices (Nahgahgwon et al., 2010). Further, incorporating Tier 3 prevention allows for a systematic approach to selecting interventions. Students with needs not met by a universal bullying or behavior intervention require this individualization based on an assessment of behaviors and their related functions (Bradshaw, 2013).

Discussion

This project sought to address the gap in existing training by providing general and special education teachers with targeted PD intended to support their understanding, recognition, and intervention in instances of bullying, particularly among SWDs. Reilly and Literat's (2012) report of effective PD case studies showcases a diverse group of perspectives pertaining to designing PD and instructional support collaboratively with teachers. Relevant to the study's theoretical frameworks (i.e., Desimone et al., 2002), Reilly and Literat (2012) build upon core features of effective PD—coherence and collective participation—by recommending the incorporation of teacher working groups and other participatory models that embrace teachers within the design process and value teacher expertise as essential to effective PD. Truly embracing teacher participation in PD design requires transitioning from developing "teacher training" to creating opportunities for co-facilitated and co-created learning (Reilly & Literat, 2012, p. 100).

Despite the importance of teacher intervention in bullying, we are unaware of any interventions that specifically educate teachers on how to understand, recognize, and respond to bullying among SWDs. Charmaraman et al. (2013)

conducted focus groups asking teachers to reflect on their experiences of PD regarding bullying. General education teachers who indicated they received training, disclosed that they initiated the training on their own and wanted more training. Regarding bullying prevention training focused on SWDs specifically, much of the available guidance focuses on strategy and intervention overview and connected targeted skills but does not outline the delivery and implementation of these interventions and strategies within an applied setting. For example, a 2011 resource assisting schools and IEP teams, commissioned by the Massachusetts Department of Elementary and Secondary Education (2011), addresses the critical need for intervention in this space, but provides only key principles that training should include and best practices (e.g., role-playing, social stories, pragmatic instruction, and speech therapy) for teaching SWDs about bullying prevention and intervention.

While many have argued that MTSS, including Positive Behavioral Interventions and Supports (PBIS), is a promising framework for addressing bullying, especially among SWDs (Rose et al., 2019; NASEM, 2016), PD in intervention and strategy implementation and evaluation is necessary. Gage et al. (2019) found that implementation of PBIS at fidelity alone did not significantly decrease perceptions of bullying among school-aged youth compared to student perceptions in schools without PBIS. The authors argued for the promise of the framework, but reiterated that MTSS, including PBIS, is a framework; not an intervention, which necessitates PD, training, monitoring, and support for intervention implementation specific to bullying prevention. Therefore, this PD aligns with Gage et al. (2019) recommendation, designed to embrace a promising and widely supported framework, while providing teachers with specific and systematic information for intervention implementation.

This PD is novel because it is generalizable to general and special education teachers across the US. About two-thirds of SWDs spend 80% or more of their school day in general education classrooms (National Center for Education Statistics, 2019), therefore, the inclusion of general education teachers in PD about SWDs is imperative. All school personnel play a role in the lives of SWD and may witness or are aware of bullying, however, we focused our training on general and special education teachers. That said, this training may have broader implications for other school personnel who work with SWDs, such as school counselors, school psychologists, bus drivers, administrative leadership, cafeteria workers, and aides. The incorporation of a coaching component to support module delivery is also notable, as coaching within the MTSS framework functions as a bridge between the "knowing" and "doing" (Freeman et al., 2017). Additionally, SWD-centered PD may help ensure that SWDs receive their legal right to a free and appropriate

education in the least restrictive environment. By engaging teachers in the iterative process, we leveraged the benefits of a co-constructed design to create several succinct and comprehensive learning modules. Educators can then use these modules to build self-efficacy and foundational knowledge that will allow them to understand and recognize nuances related to bullying, disability classifications, and the interplay between these two concepts resulting in better responses to bullying involving SWDs. Teachers who participated in bullying training significantly raised their perceived seriousness of bullying situations, empathy for victims, and self-efficacy in handling bullying situations (Dedousis-Wallace et al., 2013). Finally, by pairing this virtual PD with support from live one-on-one coaching sessions, teachers can reflect upon their learning while receiving support from a dedicated professional.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported by Institute of Education Sciences (#R324A190238) to Dr. Dorothy Espelage (PI).

ORCID iD

Dorothy L. Espelage Dhttps://orcid.org/0000-0003-0658-2067

Supplemental Material

Supplemental material for this article is available online.

References

- Alberto, P., & Troutman, A. C. (2013). Applied behavior analysis for teachers.

 Pearson
- Batt, E. G. (2010). Cognitive coaching: A critical phase in professional development to implement sheltered instruction. *Teaching and Teacher Education*, 26(4), 997–1005. https://doi.org/10.1016/j.tate.2009.10.042
- Bear, G. G., Mantz, L. S., Glutting, J. J., Yang, C., & Boyer, D. E. (2015). Differences in bullying victimization between students with and without disabilities. *School Psychology Review*, 44, 98–116. https://doi.org/10.17105/spr44-1.98-116
- Blake, J. J., Lund, E. M., Zhou, Q., Kwok, O. M., & Benz, M. R. (2012). National prevalence rates of bully victimization among students with disabilities in the United States. *School Psychology Quarterly*, 27(4), 210–222. https://doi. org/10.1037/spq0000008

Blum, R. W., Libbey, H. P., Bishop, J. H., & Bishop, M. (2004). School connectedness—strengthening health and education outcomes for teenagers. *The Journal* of School Health, 74(7), 231–235. https://doi.org/10.1111/j.1746-1561.2004. tb08278.x

- Bradshaw, C. P. (2013). Preventing bullying through positive behavioral interventions and supports (PBIS): A multitiered approach to prevention and integration. *Theory Into Practice*, *52*(4), 288–295. https://doi.org/10.1080/00405841.2013.8 29732
- Bradshaw, C. P., Sawyer, A. L., & O'Brennan, L. M. (2007). Bullying and peer victimization at school: Perceptual differences between students and school staff. School Psychology Review, 36(3), 361–382. https://doi.org/10.1080/02796015. 2007.12087929
- Center on Positive Behavioral Interventions and Supports. (n.d). *Getting Started*. https://www.pbis.org/pbis/getting-started
- Charmaraman, L., Jones, A. E., Stein, N., & Espelage, D. L. (2013). Is it bullying or sexual harassment? Knowledge, attitudes, and professional development experiences of middle school staff. *Journal of School Health*, 83(6), 438–444. https://doi.org/10.1111/josh.12048
- Chen, L. M., Sung, Y. H., & Cheng, W. (2017). How to enhance teachers' bully-ing identification: A comparison among providing a training program, a written definition, and a definition with a checklist of bullying characteristics. *The Asia-Pacific Education Researcher*, 26(6), 351–359. https://doi.org/10.1007/s40299-017-0354-1
- Cohen, D. K., & Hill, H. C. (2001). Learning Policy: When state education reform works. Yale University Press.
- Collaborative for Academic, Social, and Emotional Learning. (2020). What is SEL? https://casel.org/what-is-sel/
- Crosby, J. W., Oehler, J., & Capaccioli, K. (2010). The relationship between peer victimization and post-traumatic stress symptomatology in a rural sample. *Psychology in the Schools*, 47(3), 297–310. https://doi.org/10.1002/pits.20471
- Dedousis-Wallace, A., Shute, R., Varlow, M., Murrihy, R., & Kidman, T. (2013). Predictors of teacher intervention in indirect bullying at school and outcome of a professional development presentation for teachers. *Educational Psychologist*, 34(7), 862–875. https://doi.org/10.1080/01443410.2013.785385
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181–199. https://doi.org/10.3102/0013189x08331140
- Desimone, L. M., Porter, A. C., Garet, M. S., Yoon, K. S., & Birman, B. F. (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation and Policy Analysis*, 24(2), 81–112. https://doi.org/10.3102/01623737024002081
- Espelage, D. L., Low, S., Polanin, J. R., & Brown, E. C. (2013). The impact of a middle-school program to reduce aggression, victimization, and sexual violence. *Journal of Adolescent Health*, 53, 180–186. https://doi.org/10.1016/j.jadohealth.2013.02.021

- Espelage, D. L., Rose, C. A., & Polanin, J. R. (2015). Social-emotional learning program to reduce bullying, fighting, and victimization among middle school students with disabilities. *Remedial and special education*, 36(5), 299–311. https://doi.org/10.1177/0741932514564564
- Faria, A. M., Kendziora, K., Brown, L., O'Brien, B., & Osher, D. (2013). PATHS implementation and outcome study in the Cleveland Metropolitan School District, American Institutes of Research. https://www.air.org/sites/default/files/downloads/report/Evaluation of PATHS in CMSD final report 6 2413 0.pdf.
- Forber-Pratt, A. J., Merrin, G. J., & Espelage, D. L. (2020). Exploring the intersections of disability, race, and gender on student outcomes in high school. *Remedial and Special Education*, 42(5), 290–303. https://doi.org/10.1177/0741932520941201
- Freeman, J., Sugai, G., Simonsen, B., & Everett, S. (2017). MTSS coaching: Bridging knowing to doing. *Theory Into Practice*, 56(1), 29–37. https://doi.org/10.1080/0 0405841.2016.1241946
- Fullan, M. G. (1993). Why teachers must become change agents. *Educational Leadership: Journal of the Department of Supervision and Curriculum Development*, N.E.A, 50(6), 1–13.
- Gage, N. A., Rose, C. A., & Kramer, D. A. (2019). When prevention is not enough: Students' perception of bullying and school-wide positive behavior interventions and supports. *Behavioral Disorders*, 45, 29–40. https://doi. org/10.1177/0198742918810761
- Gladden, R. M., Vivolo-Kantor, A. M., Hamburger, M. E., & Lumpkin, C. D. (2014). Bullying surveillance among youths: Uniform definitions for public health and recommended data elements, version 1.0. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention and U.S. Department of Education.
- Hadfield, M., & Jopling, M. (2016). Problematizing lesson study and its impacts: Studying a highly contextualized approach to professional learning. *Teaching and Teacher Education*, 60, 203–214. https://doi.org/10.1016/j.tate.2016.08.001
- Han, S. S., & Weiss, B. (2005). Sustainability of teacher implementation of school-based mental health programs. *Journal of Abnormal Child Psychology*, 33(6), 665–679. https://doi.org/10.1007/s10802-005-7646-2
- Holt, M. K., & Keyes, M. A. (2004). Teachers' attitudes toward bullying. In D. L. Espelage & S. M. Swearer (Eds.), *Bullying in American schools: A social-ecological perspective on prevention and intervention* (pp. 121–139). Lawrence Erlbaum Associates Publisher.
- Hong, J. S., & Espelage, D. L. (2012). A review of research on bullying and peer victimization in school: An ecological system analysis. *Aggression and Violent Behavior*, 17, 311–322. https://doi.org/10.1016/j.avb.2012.03.003
- James, A. G., Noltemeyer, A., Ritchie, R., Palmer, K., & University, M. (2019). Longitudinal disciplinary and achievement outcomes associated with school-wide PBIS implementation level. *Psychology in the Schools*, 56(9), 1512–1521. https://doi.org/10.1002/pits.22282
- Jones, S. M., & Bouffard, S. M. (2012). Social and emotional learning in schools: From programs to strategies and commentaries. *Social Policy Report*, 26(4), 1–33.

Kennedy, T. D., Russom, A. G., & Kevorkian, M. M. (2012). Teacher and administrator perceptions of bullying in schools. *International Journal of Education Policy and Leadership*, 7(5), 1–12. https://doi.org/10.22230/ijepl.2012v7n5a395

- Kilgus, S. P., Eklund, K., von der Embse, N. P., Taylor, C. N., & Sims, W. A. (2016). Psychometric defensibility of the social, academic, and emotional behavior risk screener (SAEBRS) teacher rating scale and multiple gating procedure within elementary and middle school samples. *Journal of School Psychology*, 58, 21–39. https://doi.org/10.1016/j.jsp.2016.07.001
- Lipowsky, F., & Rzejak, D. (2015). Key features of effective professional development programmes for teachers. *Ricercazione*, 7(2), 27–51.
- Main, K., & Pendergast, D. (2015). Core features of effective continuing professional development for the middle years: A tool for reflection. *Research in Middle Level Education*, *38*(10), 1–18. https://doi.org/10.1080/19404476.2015.11658177
- Marques, M. M., Loureiro, M. J., & Marques, L. (2016). The dynamics of an online community of practice involving teachers and researchers. *Professional Development in Education*, 42(2), 235–257. https://doi.org/10.1080/19415257. 2014.997396
- Massachusetts Department of Elementary and Secondary Education. (2011). Addressing the needs of students with disabilities in the IEP and in school bullying prevention and intervention efforts. https://www.doe.mass.edu/sfs/bullying/considerations-bully.html#II
- Maunder, R. E., Harrop, A., & Tattersall, A. J. (2010). Pupil and staff perceptions of bullying in secondary schools: Comparing behavioural definitions and their perceived seriousness. *Educational Researcher*, 52(3), 263–282. https://doi.org/ 10.1080/00131881.2010.504062
- Nahgahgwon, K. N., Umbreit, J., Liaupsin, C. J., & Turton, A. M. (2010). Function-based planning for young children at risk for emotional and behavioral disorders. *Education and Treatment of Children*, 33(4), 537–559. https://www.jstor.org/stable/42900569
- National Academies of Sciences, Engineering, and Medicine. (2016). *Preventing bullying through science, policy, and practice*. https://www.nap.edu/catalog/23482/preventing-bullying-through-science-policy-and-practice
- National Center for Education Statistics. (2019). Digest of education statistics, 2018 (NCES 2020-009), Chapter 2.
- Novick, R. M., & Isaacs, J. (2010). Telling is compelling: The impact of student reports of bullying on teacher intervention. *Educational Psychologist*, 30(3), 283–296. https://doi.org/10.1080/01443410903573123
- O'Neill, R. E., Horner, R. H., Albin, R. W., Sprague, J. R., Storey, K., & Newton, J. S. (1997). Functional assessment and program development for problem behavior. Brooks/Cole Publishing Company.
- Reilly, E., & Literat, I. (2012). *Designing with teachers: Participatory approaches to professional development in education*. USC Annenberg Innovation Lab. https://www.slideshare.net/amandafo/pd-working-groupv5a
- Rose, C. A. (2017). Bullying among youth with disabilities: Predictive and protective factors. In: C. Bradshaw (Ed.), *The Handbook on bullying prevention: A lifecourse*

- perspective (113–123). Washington, DC: National Association of Social Workers (NASW) Press.
- Rose, C. A., Monda-Amaya, L. E., & Espelage, D. L. (2011). Bullying perpetration and victimization in special education: A review of the literature. *Remedial and Special Education*, 32(2), 114–130. https://doi.org/10.1177/0741932510361247
- Rose, C. A., & Monda-Amaya, L. E. (2012). Bullying and victimization among students with disabilities: Effective strategies for classroom teachers. *Intervention in School and Clinic*, 48(2), 99–107. https://doi.org/10.1177/1053451211430119
- Rose, C. A., Stormont, M., Wang, Z., Simpson, C. G., Preast, J. L., & Green, A. L. (2015). Bullying and students with disabilities: Examination of disability status and educational placement. *School Psychology Review*, 44(4), 425–444. https://doi.org/10.17105/spr-15-0080.1
- Rose, C. A., & Gage, N. A. (2017). Exploring the involvement of bullying among students with disabilities over time. *Exceptional Children*, 83(3), 298–314. https://doi.org/10.1177/0014402916667587
- Rose, C. A., Hopkins, S., McGillen, G., & Simpson, J. (2019). Current trends in bully prevention: Maintaining a positive school climate and culture. In D. Bateman, J. Cline, & M. Yell (Eds.), *Current trends and legal issues in special education* (pp. 155–174). Newbury Park, CA: Corwin Press.
- Ross, S. W., & Horner, R. H. (2009). Bully prevention in positive behavior support. Journal of Applied Behavior Analysis, 42(4), 747–759. https://doi.org/10.1901/jaba.2009.42-747
- Schwartz, D., McFadyen-Ketchum, S., Dodge, K. A., Pettit, G. S., & Bates, J. E. (1999). Early behavior problems as a predictor of later peer group victimization: Moderators and mediators in the pathways of social risk. *Journal of Abnormal Child Psychology*, 27(3), 191–201. https://doi.org/10.1023/a:1021948206165
- Scott, T. M., McIntyre, J., Liaupsin, C., Nelson, C. M., Conroy, M., & Payne, L. D. (2005). An examination of the relationship between functional behavior assessment and selected intervention strategies with school-based teams. *Journal of Positive Behavior Interventions*, 7(4), 205–215. https://doi.org/10.1177/109830 07050070040201
- Simonsen, B., & Myers, D. (2014). Classwide positive behavior interventions and supports: A guide to proactive classroom management. Guilford Publications.
- Son, E., Parish, S. L., & Peterson, N. A. (2012). National prevalence of peer victimization among young children with disabilities in the United States. *Children and Youth Services Review*, 34, 1540–1545. https://doi.org/10.1016/j.childyouth.2012.04.014
- Sugai, G., Horner, R. H., & Sprague, J. R. (1999). Functional-assessment-based behavior support planning: Research to practice to research. *Behavioral Disorders*, 24(3), 253–257. https://doi.org/10.1177/019874299902400309
- Supovitz, J. A., & Turner, H. M. (2000). The effects of professional development on science teaching practices and classroom culture. *Journal of Research in Science Teaching*, *37*(9), 963–980. https://doi.org/10.1002/1098-2736(200011) 37:9<963::aid-tea6>3.0.co;2-0

Ttofi, M. M., & Farrington, D. P. (2011). Effectiveness of school-based programs to reduce bullying: A systematic and meta-analytic review. *Journal of Experimental Criminology*, 7(1), 27–56. https://doi.org/10.1007/s11292-010-9109-1

- van Verseveld, M. D., Fukkink, R. G., Fekkes, M., & Oostdam, R. J. (2019). Effects of antibullying programs on teachers' interventions in bullying situations. A meta-analysis. *Psychology in the Schools*, *56*(9), 1522–1539. https://doi.org/10.1002/pits.22283
- Yell, M. L., Katsiyannis, A., Rose, C. A., & Houchins, D. E. (2016). Bullying and harassment of students with disabilities in schools: Legal considerations and policy formation. *Remedial and Special Education*, 37(5), 274–284. https://doi. org/10.1177/0741932515614967

Author Biographies

Dorothy L. Espelage, Ph.D., is a William C. Friday Professor of Education at the University of North Carolina at Chapel Hill. She has authored over 200 peer-reviewed articles, 7 edited books, and 70 chapters on bullying, homophobic teasing, sexual harassment, dating violence, and gang violence. Her research focuses on translating empirical findings into prevention and intervention programming.

Anjali Forber-Pratt, Ph.D., is a Fellow of the American Psychological Association, the Director of the National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR) within the Administration for Community Living in the Department of Health and Human Services, and Chair of the Interagency Committee on Disability Research. As a principal investigator, her expertise relates to disability identity development and is trained in qualitative methodologies.

Chad A. Rose, Ph.D., is an Associate Professor and the Director of Graduate Studies in the Department of Special Education at the University of Missouri, Columbia, where he also serves as the Director of the Mizzou Ed Bully Prevention Lab. Rose earned his Ph.D. from the Department of Special Education at the University of Illinois at Urbana-Champaign in 2010. Rose's research focuses on the intersection of disability labels and special education services within the bullying dynamic, predictive and protective factors associated with bullying involvement among students with disabilities, and bully prevention in a multitiered framework.

Katherine A. Graves is a doctoral student in the Department of Special Education at the University of Missouri, where she serves as a coordinator in the Mizzou Ed Bully Prevention Lab. Her research interest explores juvenile justice, restraint and seclusion, and educational policy. Graves is currently a graduate fellow on the Preparing Special Education Scholars to Address Problem Behaviors in High Need Schools, which is funded by the Office of Special Education Programs.

Rachel A. Hanebutt, Ed.M., M.A., is currently a PhD Student at Vanderbilt University, in the Community Research and Action program at Peabody College. Her academic scholarship focuses on adolescent identity and relationship formation, sexual assault, and violence prevention in online spaces.

America El Sheikh is a graduate student in Counselor Education at the University of Florida. Her research interests include multicultural psychology and counseling, protective factors for minorities, post-traumatic growth, prevention science, the connections between mental and physical health, and understanding barriers and enablers for seeking mental health treatment and services.

Ashley Woolweaver, M.P.S., is the research coordinator for the Espelage RAVE lab. She has a Masters of Professional Studies in Criminal Justice Policy and Administration. Her research interests include improving social systems to better support youth and families to increase their quality of life as well as to reduce risky criminal behaviors and involvement in the justice system.

Tracey Kenyon Milarsky, M.A.T., is currently a PhD candidate at the University of Missouri, in the Special Education—Behavior Disorders program in the College of Education and Human Development. Her research interests include disability identity formation starting in early childhood, especially in relation to young students identified with educational disabilities.

Katherine M. Ingram is a Doctoral Candidate in School Psychology at the University of North Carolina at Chapel Hill completing predoctoral internship at the Johns Hopkins School of Medicine/Kennedy Krieger Institute Center for Child and Family Traumatic Stress. Her research and clinical interests include using basic psychological and psychophysiological processes to inform evidence-based ways of fostering healthy relationships, managing aggression, and preventing suicide in the context of traumatic stress.

Luz Robinson is a graduate student in School Psychology at the University of North Carolina at Chapel Hill. Her research interests include school-based violence prevention, school safety, mental health promotion, social—emotional learning, and resilience among Latinx and other marginalized youth.

Angelica M. Gomez serves as a Coordinator for Learning Enrichment at the Lastinger Center for Learning. In her role, Angie utilizes her teaching background and expertise in online learning to facilitate the creation of dynamic online professional development for educators. Angie holds a Bachelor of Arts in Education and Master of Education degree from the University of Florida.

Pam K. Chalfant serves as an assistant director of academics at the Lastinger Center for Learning. Pam leads the academics team in creating and providing online and face-to-face, job-embedded, and evidence-based professional development for leaders and educators. Pam has more than 30 years of experience working in the early learning field as a teacher, director, and family childcare home provider. She has also worked as an elementary school teacher and literacy coach. Pam is driven by a mission to provide high-quality online professional development to all teachers and leaders, especially those who serve our communities in most need. She holds a Ph.D. in special education from the University of Florida with an emphasis on reading intervention.

Christine Salama serves in the role of Learning Sciences Coordinator at the Lastinger Center for Learning. Christine draws upon her experience in developing education services and systems as well as soliciting funding to support a wide range of innovative initiatives at Lastinger. Her work is primarily focused on large-scale research initiatives and partnerships with faculty members at UF and other renowned universities. Christine leverages her bachelor's in psychology and master's degree in education technology to advance our services for teachers and learners.

Phil Poekert is the Director and a Clinical Professor at the University of Florida Lastinger Center for Learning. Beginning his career in the classrooms of New York, California, and Florida, Phil has led over 150 funded projects in research, practice, and policy to improve student success at scale through technology-enhanced, competency-based learning for students and educators.