Journal of Special Education Preparation

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From the Editor

It is our pleasure to publish the first issue of the *Journal of Special Education Preparation* (*JOSEP*). The team at *JOSEP* believes this journal is acutely needed to fill a gap in the dissemination and consumption of evidence-based practices in special education teacher preparation. It is our hope that an open-access journal, solely focused on research-to-practice articles, will allow special education faculty across higher education settings to share their innovations in teacher preparation. Subsequently, special education faculty can also read *JOSEP* to improve their own educational practices to meet the growing demands and challenges of the field.

In 2017, the Council for Exceptional Children (CEC) published a set of 22 HLPs that "represent the essence of effective practice in special education" (p. 11). Since then, considerable effort has gone into the development and distribution of resources promoting HLPs regarding special education teacher efficacy (e.g., https://highleveragepractices.org/; https://iris.peabody.vanderbilt.edu/). As special education teacher preparation conversations increasingly include the integration of HLPs, we felt like JOSEP could contribute to these discussions and that HLPs in teacher preparation would be an appropriate special issue topic. Therefore, for this inaugural issue, we invited scholars to contribute an article on the topic of integrating and practicing HLPs in teacher education.

The first article by Markelz et al. approaches HLPs holistically and discusses how teacher preparation programs can systematically identify, integrate, and evaluate HLPs. The authors present a decision-making matrix when identifying and integrating HLPs in preparation programs. The authors also emphasize the importance of data-based decision making regarding the evaluation of HLP integration, not only for programmatic decisions, but for the field of teacher preparation at large. To continue the conversation around HLPs, the authors provide suggestions that university programs should take to start identifying, integrating, and evaluating HLPs, steps that individual instructors can take to unpack evidence-based kernels of HLPs, and future research directions for the field.

The second article by Ackerman and Horn focuses on HLPs 8 and 22 (provide positive and constructive feedback to guide students' learning and behavior).

In this article, the authors use a scaffolded approach to present how teacher educators can craft experiences for their preservice teachers to practice HLPs 8 and 22 while offering rich coursework experiences, practice-based opportunities, and aligned clinical placements.

In the article by Budin et al., the authors propose that HLPs can serve as a solid foundation for teacher preparation regardless of modality, and offer five tips for how teacher educators can prepare candidates to use HLPs across modalities. Using a scenario to emphasize implementation tips, the authors focus on HLP 7 (create a learning environment that is consistent, organized, and respectful) and HLP 18 (use strategies that actively engage their learners). Even though HLPs 7 and 18 are used as examples, the authors' tips and strategies are applicable to all 22 HLPs and are necessary to prepare teacher candidates for their future teaching roles which may include instruction in a range of modalities (i.e., face-to-face, remote-synchronous, remote-asynchronous, hybrid).

The article by Morano and Riccomini focuses on HLP 16 (use explicit instruction) and explains how to develop preservice teachers' expertise in the evaluation and adaptation of mathematics lesson plans with the elements of explicitness to better support students with disabilities. The authors provide example activities and assignments that are anchored in the context of a university math methods course.

The next article by Taylor and Bhana exclusively focuses on incorporating HLP 7 (establish a consistent, organized, and respectful learning environment) in classroom/behavior management courses. The authors provide support for *why* topics should focus on HLP 7 and *how* topics of structure, culturally responsive teaching, student-teacher relationship development, and social emotional learning should be included in classroom/behavior management courses in special education training programs.

The final article in this inaugural edition by Chitiyo and Dzenga is *JOSEP*'s first *International Spotlight* article. Within every issue of *JOSEP*, we hope to publish an article that explores the preparation of special educators outside the United States. It is our aim to present readers of *JOSEP* with a greater understanding of international special education teacher preparation. In this

article, Chitiyo and Dzenga review special education policy, special education teacher professional development, and challenges to successful special education practice in five Southern African countries: Zimbabwe, Zambia, Malawi, Botswana, and Namibia.

In closing, we would like to thank the contributing authors for partaking in this endeavor, submitting quality articles, and meeting explicit deadlines. We also extend appreciation to our board of reviewers who embrace the mission of *JOSEP* and are willing to commit their time to this journal, even in its infant stage. Thank you, Dr. Sarah Nagro, for overseeing a host of guest reviewers including Christopher Claude, Kevin Monnin, Katherine Szocik, Clarissa Buch, Morgan Strimel, Gino Binkert, Margot Gerry, and Jamie Day. You all completed timely and thorough reviews and contributed greatly to the production of this issue.

The creation and production of *JOSEP* would not be possible without the support of Ball State University's Office of Digital Research and Publishing. Lastly, thank you Micah Gjeltema for your technical expertise and production skills. The editorial board is grateful for this partnership and looks forward to the publication of many issues to come.

We hope *JOSEP* contributes to the quality of special education teacher education and invite authors to consider submitting manuscripts in the future. A second special issue of *JOSEP* will be published in December 2021 on the topics of diversity, equity, and inclusion in teacher preparation. It is our intention to open *JOSEP* up to public submission in January 2022.

Sincerely,
Andrew M. Markelz
Founder & Editor of JOSEP
Ball State University

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Systematic Identification, Implementation, and Evaluation of High-Leverage Practices in Teacher Preparation

Andrew Markelz, Benjamin Riden, and Lawrence Maheady

Abstract

An emphasis on practice-based teacher education has led the Council for Exceptional Children (CEC) to develop 22 high-leverage practices (HLPs). Each HLP is research-based, used frequently in classrooms, and applicable across age, grade, and content area. In this article, we discuss the importance of a systematic process for teacher preparation programs to consider when identifying, implementing, and evaluating HLPs. The extent and quality that HLPs are integrated within preparation programs will affect graduating teachers' professional readiness and their ability to immediately affect student outcomes. It is our intent that this article supports teacher educators and scholars to continue the conversation around HLPs in teacher preparation. In addition, we encourage preparation programs to consider data-based decision making when identifying, implementing, and evaluating HLPs within program curricula.

Keywords

high-leverage practices, special education, teacher preparation

An era of practice-based teacher education (PBTE) is upon us (Leko et al., 2015; McDonald et al., 2013). The PBTE movement emerged initially from the National Council for Accreditation in Teacher Education (NCATE) blue ribbon panel's recommendation to turn teacher education "upside down" by embedding preparation in clinical practice (NCATE, 2010). It was fueled by internal and external criticism of teacher education's limited impact on teacher practice and student learning (Farkas & Duffett, 2010; Lignugaris/Kraft et al., 2014); a proliferation of alternative paths to certification and licensure (Sindelar et al., 2014); and rapid changes in accountability and accreditation policies and standards (CAEP, 2017). The movement was also stimulated by better *evidence* to support teachers' positive effects on student learning. States and colleagues (2012) noted that more credible support can be found in research using (a) effect sizes (Forness, 2001; Dunst et al., 2020; Hattie, 2009), (b) value-added modeling (Rowan, 2004), and (c) randomized controlled trials (Nye et al., 2004). Other potential contributors to PBTE included (a) state and national policies linking teacher evaluation to student learning gains (Maheady et al., 2013), (b) positive effects of coaching and performance feedback on instructional practice (Kretlow & Bartholomew, 2010), and (c) the emergence of a "practice-based evidence"

approach to applied research (Barkham & Margison, 2007; Cook & Cook, 2016).

Practice-based teacher education refers to an approach to preparation that makes teaching practice– what teachers *do* instructionally–the central element of the curriculum (Zeichner, 2012). PBTE programs are characterized by clinically rich field experiences and strong school-university partnerships (Hauser & Kavanaugh, 2019) and their implementation is changing the nature, structure, and function of teacher preparation. PBTE has prompted substantive curricular and pedagogical changes (Pugach et al., 2014); spurred on the creation and/or expansion of P-12 school-university partnerships (CAEP, 2017); and increased calls for more rigorous, classroom-based research addressing problems of "practice" (Belfiore & Lee, 2016). One interesting area of change has been the development of high leverage practices (HLPs).

Windschitl and colleagues (2012) defined HLPs as, "a set of practices that are fundamental to support student learning, and that can be taught, learned, and implemented by those entering the profession" (p.880). These practices focus directly on instruction or behavior, are research-based, used frequently in classrooms, and applicable across content areas, age- and grade-levels. HLPs can also serve as a core curriculum for teach-

er preparation and graduation requirements for beginning teachers (Ball & Forzani, 2009; Grossman et al., 2009; Windschitl et al., 2012).
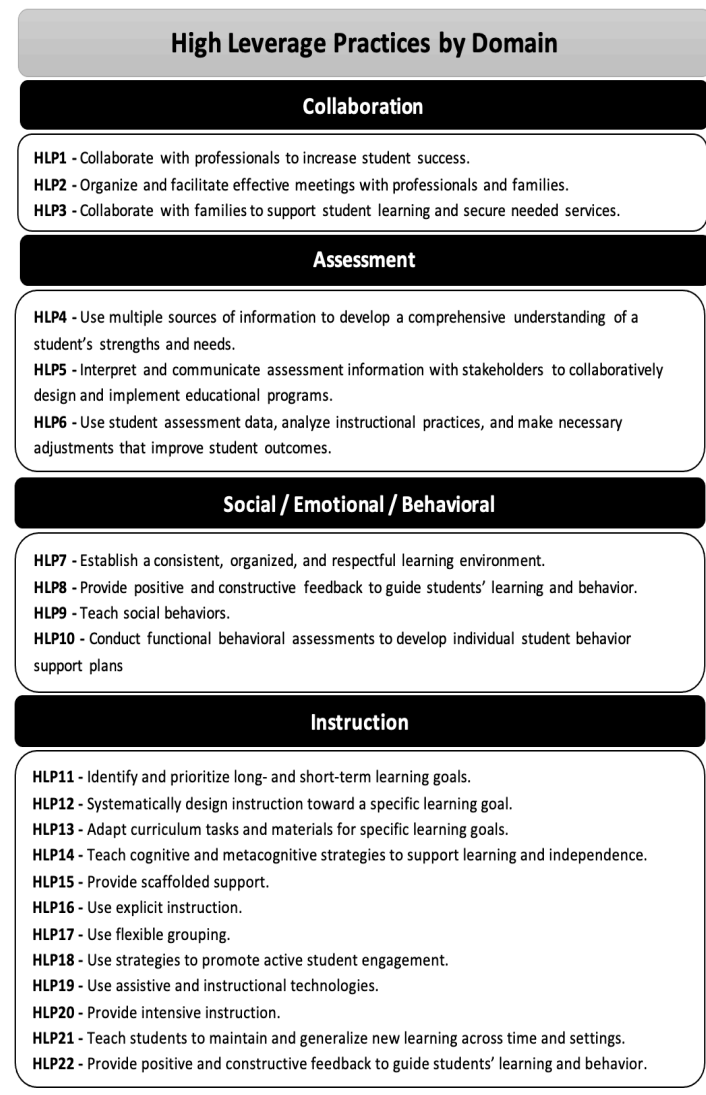
While PBTE and HLPs are laudable developments, the devil remains in the details about how teacher educators should proceed. For example, which HLPs and how many should be adopted? On what basis should they be selected? How can they be aligned with existing accreditation standards and program requirements? How should HLPs be taught, and can they be used for initial preparation and/or professional development (Bryk, 2009; McLeskey & Billingsley, 2008)? Can HLPs be implemented with integrity, examined with rigor, and sustained over time? If so, how? These are just a few questions confronting teacher educators.

This article addresses some of these concerns using three broad questions: (a) How can teacher preparation programs systematically identify which HLPs to teach? (b) How can preparation programs teach and implement them well? and (c) How can preparation programs evaluate the identification and implementation of HLPs? We used CEC's (2017) HLPs as a focus of discussion and describe events surrounding their development. We offer potential selection options and a decision-making matrix to facilitate discussion. How to systematically identify HLPs is discussed in terms of (a) identifying important and common sub-components and subskills, and (b) describing a decision-making matrix to assist in implementation. Finally, we discuss a method of progress monitoring that allows for nuanced analysis of HLP implementation and provides useful data for preparation programs and researchers.

Identifying High Leverage Practices to Teach

The CEC (2017) published a set of 22 HLPs that "represent the essence of effective practice in special education" (p. 11). Each HLP is described as applicable and important to the everyday work of special education teachers (SETs) and they are organized around four domains: (a) collaboration, (b) assessment, (c) social/emotional/behavioral, and (d) instruction (CEC, 2017; See Figure 1). The implication for teacher educators is that beginning SETs should acquire these practices with some degree of proficiency prior to exiting preparation programs.

Figure 1. List of HLPs by Domain

High Leverage Practices by Domain

Collaboration

HLP1 - Collaborate with professionals to increase student success.
HLP2 - Organize and facilitate effective meetings with professionals and families.
HLP3 - Collaborate with families to support student learning and secure needed services.

Assessment

HLP4 - Use multiple sources of information to develop a comprehensive understanding of a student's strengths and needs.
HLP5 - Interpret and communicate assessment information with stakeholders to collaboratively design and implement educational programs.
HLP6 - Use student assessment data, analyze instructional practices, and make necessary adjustments that improve student outcomes.

Social / Emotional / Behavioral

HLP7 - Establish a consistent, organized, and respectful learning environment.
HLP8 - Provide positive and constructive feedback to guide students' learning and behavior.
HLP9 - Teach social behaviors.
HLP10 - Conduct functional behavioral assessments to develop individual student behavior support plans

Instruction

HLP11 - Identify and prioritize long- and short-term learning goals.
HLP12 - Systematically design instruction toward a specific learning goal.
HLP13 - Adapt curriculum tasks and materials for specific learning goals.
HLP14 - Teach cognitive and metacognitive strategies to support learning and independence.
HLP15 - Provide scaffolded support.
HLP16 - Use explicit instruction.
HLP17 - Use flexible grouping.
HLP18 - Use strategies to promote active student engagement.
HLP19 - Use assistive and instructional technologies.
HLP20 - Provide intensive instruction.
HLP21 - Teach students to maintain and generalize new learning across time and settings.
HLP22 - Provide positive and constructive feedback to guide students' learning and behavior.

Which HLPs to Embed in Curriculum?

There are many ways to proceed in selecting and embedding HLPs in preparation programs. Options can range from making *systemic* programmatic changes by embedding all 22 HLPs across coursework and clinical experiences, to identifying a "core" set of HLPs to infuse in some courses (e.g., methods & student teaching), to infusing one or a few HLPs into individual courses taught by interested and motivated faculty. Ultimately, decisions about how to proceed will be made based on local, contextual factors (e.g., faculty skill sets, availability, and interest/institutional support on campus and in P-12 schools). The intent here is to explore possible consequences associated with different options.

It is likely—but not yet documented—that various HLPs are already being taught and practiced to some degree in existing preparation programs and/or courses; a predictable consequence of PBTE and the broad dissemination of HLPs products and resources (e.g., CEC,

2017). Initially, preparation programs should conduct baseline assessments to determine the extent to which HLPs are being taught and/or developed in existing coursework and clinical experiences. The Collaboration for Effective Educator Development, Accountability, and Reform (CEEDAR) Center has developed important tools and resources (i.e., practice guides and clinical planning templates) to assist teacher educators in pedagogical redesign around the use of HLPs (Benedict, Foley et al., 2016; Benedict, Holdheide, 2016). Information derived from baseline assessments can inform decision-making regarding HLP use.

Holistic Approach

A holistic approach to program redesign promotes the adoption and embedding of all 22 HLPs throughout the curriculum and clinical experiences. This approach is comprehensive in that it targets important skill sets across all practice domains (collaboration, assessment, instruction, and social/emotional/behavior development), infuses HLPs throughout the curriculum and clinical experiences, and engages most, if not all, faculty in the delivery and evaluation of HLPs. Building preparation around all 22 HLPs should increase program coherence and better align the program with certification/licensure and accreditation standards (i.e., discussed later). A holistic approach may prove challenging to implement, however, given competing curricular demands, limited time frames, and conflicting faculty views on PBTE and HLPs. It may also be overwhelming for faculty to teach and preservice SETs to learn all 22 HLPs while meeting other certification and/or accreditation requirements.

Signature Set of Practices

A second option to consider in program redesign is to adopt and embed a smaller number of core or signature practices (e.g., 5 to 10) and maximize SET opportunities to use them throughout the curriculum. A set of high priority HLPs can be identified based on *importance* and *relevance* within the local context and targeted with more intense implementation (Maheady & Patti, 2020). During clinical experiences, for example, preservice SETs can learn to work collaboratively to plan and deliver high quality lessons (HLPs 10 & 11), use strategies that actively engage students (HLP 17), provide positive and corrective feedback (HLP 21), and use student assessment data to monitor student progress (HLP 5). These skill sets can be practiced and/or expanded in subsequent clinical experiences throughout the program.

The core approach highlights the importance of a signature set of skills and allocates additional time for their development and refinement. Programmatic decisions must be made regarding which HLPs to prioritize, where they will be embedded in the program, and how they will be taught and evaluated. Teaching SETs to use fewer HLPs at greater depth may be a more pragmatic and feasible approach, but care must be taken to ensure exposure to other important but nonprioritized HLPs.

Individualized Approach

Some teacher educators may find themselves in programs where they have limited influence over the curriculum and/or few colleagues interested in using HLPs in programs and/or courses. In these instances, they can experiment by using one or more (i.e., signature) HLPs in their own courses. Individual efforts to move HLPs from theory into practice–if done and documented with rigor–may provide useful implementation models and fill an empirical void in teacher preparation literature (see for example, Patti et al., 2021).

Role of Professional Teaching Standards

Many special education programs look to CEC's initial preparation standards to ensure accreditation requirements are being met. CEC's Performance-Based Initial Preparation Standards define what a candidate must know and be able to do to begin teaching (CEC, 2015). More recently, CEC released the 2020 Initial Practice-Based Professional Preparation Standards for Special Educators (CEC, 2020a). With updated standards and component statements, the 2020 revisions include a narrowed focus on preparing educators who will be working with students in kindergarten through 12th grade. Acknowledging that SET preparation programs use CEC standards for accreditation, and the increasing emphasis of HLPs, CEC created a "cross-walk" between CEC standards and HLPs (CEC, 2020b). This cross-walk is another tool that preparation programs can use to identify where CEC standards and HLPs are already addressed and/or are missing. The cross-walk tool can be found here https://highleveragepractices. org/standards/cross-walks.

When and Where to Embed HLPs in Programs

While HLPs are being identified, questions regarding when and where they are taught can be addressed. Should *all* HLPs be at least introduced in one or more semesters and covered minimally? Can specific HLPs

(e.g., signature practices) be interwoven into relevant courses and clinical experiences? How can core HLPs be embedded repeatedly throughout coursework and clinical experiences? Should some HLPs be infused in campus-based instruction and others during clinical experiences? Given time constraints in most preparation programs these questions and others must be addressed based on local contextual factors (e.g., faculty interests and skill sets). Generally, HLPs should be introduced as early as possible in the preparation program, interwoven through coursework and clinical experiences, include multiple opportunities to practice, and receive performance-based feedback as often as possible (Maheady et al., 2019).

Figure 2. Decision-Making Model on When and Where to Implement HLPs

Figure 2 offers a decision-making matrix that teacher educators might use when considering when and where to introduce and/or teach selected HLPs. The two main components—*effort* and *impact*—represent variables that practitioner can weigh in the decision-making process. Effort refers to the amount of resources (e.g., time, money, and skills) needed to implement specific HLPs. For example, a preparation program that already has a course on assistive technology and partners with local schools that serve students with assistive technology needs would probably require less effort to implement HLP 19—*use assistive and instructional technologies*—than a program that has neither in place. Similarly, it may take less effort to teach SETs to lead effective meetings (HLP 2) than to prepare them to create consistent, organized, and respectful learning environments (HLP 7).

Impact refers to the potential effects that HLPs have *directly* on preservice SETs practice and *indirectly* on the academic and/or behavioral performance of students with disabilities. Impact will vary as a function of important HLP (a) features (e.g., complexity, extent of empirical support, and importance and relevance to local context), (b) skill sets and beliefs of those who teach and use them, and (c) how well they are taught. Some HLPs, for example, may be easier to teach and learn because they are less procedurally complex (e.g., HLP 11—*identify and prioritize long and short-term objectives*—versus HLP 20—*provide intensive instruction*); some may have bigger impact because they have more empirical support (e.g., HLP 18—u*se strategies that promote active student engagement*—versus HLP 5—*interpreting and communicating assessment information with stakeholders*); and some HLPs may produce greater change in SET practice and student learning because they are more important and relevant to local needs. The goal is to select the most impactful HLPs and teach them in the most effective ways.

Effort and impact exist on a continuum between low and high which creates four domains for programmatic decision-making around HLPs selection. These domains can assist programs in making decisions about when and where to embed HLPs throughout a program. An extensive discussion of the nature and functions of effort and impact and possible outcomes associated with their interactions is beyond the scope of this paper. However, we offer some general guidelines and examples.

In theory, "low effort" HLPs require less time, money, and support (i.e., professional development) and fewer curricular and pedagogical changes to implement, than "high effort" HLPs which necessitate additional time, money, training, and/or programmatic changes. Some HLPs may also require less effort to implement because they—or their primary components—already exist in curriculum; are consistent with faculty and program goals and vision; and/or are delivered collaboratively with school-university partners (Maheady et al., 2019). High impact HLPs would produce noticeable changes in SET practice and/or student learning, while those with low impact would show little or no change(s) in teaching practice and/or student learning.

Ideally, teacher educators would select and use low effort/high impact HLPs as much as possible and avoid practices that require high effort yet yield little impact. High impact/high effort HLPs would also be preferable

over those practices requiring high effort but producing little impact. We assume that effort and impact will vary considerably depending on local context, however, offer a few examples for illustrative purposes.

Consider HLP 18—u*se strategies to promote active student engagement*—SETs can learn about various strategies in university settings (e.g., choral responding, peer assisted tutoring, and response cards) and role-play scenarios with their peers. This may be seen as high effort (using valuable instructional time) but low impact if preservice teachers "practice" without authentic experiences. Implementing these strategies in front of K-12 students during field experiences, however, may have greater impact on SET's practice and improve "real" students' learning. In addition, research suggests that providing SETs with positive and constructive feedback during authentic practice experiences facilitates skill acquisition and progress through subsequent learning phases (Cornelius & Nagro, 2014).

In contrast, HLP 5—*interpret and communicate assessment information with stakeholders to collaboratively design and implement educational programs*—may be more appropriately implemented (i.e., low effort and high impact) in a structured university course with prescribed case studies. The acquisition and fluency of this HLP may benefit from scaffolded instruction where instructors pause assignments and reflect on teachable moments (high impact), as opposed to real-time, authentic, meetings with stakeholders (high effort).

How to Implement High Leverage Practice

To become skilled users of HLPs, preservice SETs will require structured and repeated opportunities to apply their knowledge in authentic settings while receiving performance feedback (Leko et al., 2015). Although many preparation programs have developed clinical experiences over the years, too often teacher educators had limited influence over the (a) quality of those placements and/or (b) types of skills preservice SETs learned in them (McDonald et al., 2013; McLeskey & Brownell, 2015). As such, Ericsson (2014) argued for more *deliberate practice*; that is, carefully designed practice opportunities that increase in complexity and decrease in level of candidate support. Although the exact number and nature of these experiences has not been well-articulated, Ericsson suggested that teaching opportunities should be (a) sequenced developmentally to allow candidates to assume greater instructional responsibilities as they proceed through the program; (b)

linked to P-12 student needs whenever possible; and (c) monitored regularly for fidelity of implementation and impact on student learning.

How can teacher educators target critical components of HLPs to foster proficient use by preservice SETs? Here, we suggest that HLPs contain *evidence-based kernels* to varying degrees and that they should be the focus of instruction. A better understanding of behavioral kernels is fundamental to effective HLP use and effectiveness and the identification of preparation practices that facilitate their acquisition and application.

Evidence-Based Kernels

Evidence-based kernels are any indivisible procedures shown through experimental evaluation to produce reliable effects on behavior (Embry, 2004). The term derived from a series of meetings where several prevention scientists and policy leaders sought to denominate the 'active ingredients' fundamental to an intervention's effectiveness (Embry & Biglan, 2008). The unit of a kernel, according to Embry and Biglan, is indivisible, and if any of its components are eliminated, the practice would prove ineffective. Examples of evidence-based kernels identified through research included self-monitoring (Agran et al., 2005; Hughes et al., 2002), timeout (Fabiano et al., 2004; Kazdin, 1980), overcorrection (Maag et al., 1986), and peer tutoring (Maheady et al., 1988).

We suggest that evidence-based kernels exist within each HLP and that they should be the focus of teaching. For example, HLP 21—*teach students to maintain and generalize new learning across time and settings*—describes multiple strategies to achieve these outcomes (e.g., program common stimuli and train sufficient exemplars), yet no one strategy will work all the time with every student. We propose that systematic programming for generalization is a behavioral kernel within the HLP and teaching SETs to actively program for generalization will increase the probability that student skills will generalize. Instructionally, teacher educators would emphasize systematic planning for generalization as the kernel and the use of one or more specific generalization strategies as exemplars. It is true that knowing each generalization strategy is important and likely the first step in teaching HLP 21. The evidence-based kernel of HLP 21, however, is the intentional planning skills required to implement any generalization strategy.

Consider HLP 17—*use flexible grouping*—as an-

other example. The authors write, "Teachers assign students to homogenous and heterogeneous groups based on explicit learning goals, monitor peer interactions, and provide positive and corrective feedback to support productive learning" (CEC, 2017, p. 82). While SETs learn to implement homogeneous (i.e., same ability) and heterogeneous (i.e., mixed ability) groups, it is critical that they understand when and where to use each grouping strategy. Homogeneous grouping, for example, appears to be more effective for high performing and/or gifted learners (Vogl & Preckel, 2014), while heterogeneous groups are more beneficial for low and average performers (Hattie, 2009). An evidence-based kernel for effective flexible grouping, therefore, is the intentionality of achieving specified learning objectives. One way to teach this HLP would be to practice creating and implementing flexible grouping objectives.

Evaluating the Success of Identifying and Implementing HLPs

The decision-making matrix (Figure 2) may also assist in identifying effective and efficient ways to prepare SETs to implement HLPs. While evidence-based kernels can guide the content of HLP instruction (i.e., what is taught), ongoing evaluation and analysis are required to determine the efficacy of preparation practices. There are at least two benefits to evaluating (i.e., progress monitoring) HLP implementation. First, teacher educators can make more informed decisions as to whether identification and implementation are progressing as effectively as possible, and second, educational researchers can document preparation practices that facilitate HLP implementation. Luckily, teacher educators do not have to begin from scratch.

Dunst and colleagues (2020) recently completed extensive meta-analyses that examined the impact of 14 different types of preparation practices (e.g., methods of course delivery, teaching method of instruction, and clinical experiences) on two different measures of teacher quality (i.e., teacher behavior and performance appraisals). They reported that findings were consistent with practice-based approaches to teacher education that emphasized active and extended preservice teacher learning opportunities, faculty and supervisor coaching with performance feedback, and repeated opportunities to refine core teaching practices (e.g., use of HLPs). To provide a more fine-grained analysis, we propose a systematic method to document intervention effectiveness and isolate independent variables for functional analyses.

Component Analysis vs. Treatment Packages

Researchers face a paradox when conducting intervention science (Riden et al., 2020). On one hand, they want to enact change for the betterment of participants. Whether an intervention is introduced to promote social skills of students with autism or HLPs are taught to increase SETs instructional readiness, interventions are designed to affect positive change. Interventions are built upon evidence-based practices or kernels (sometimes in combination) to produce the greatest amount of change. Conducting a 60-min professional development session to prepare SETs to use effective classroom management strategies, for example, may result in positive change. However, combining that training with daily self-monitoring procedures and positive/constructive feedback (i.e., multi-component intervention package) may strengthen intervention effects. The downside is that these intervention packages are often more difficult to implement, reduce implementation fidelity, and are less likely to be adopted and used by practitioners (Riley-Tillman & Chafouleas, 2003). Additionally, multi-component packages muddle researchers' abilities to isolate active ingredients and document which independent variables contributed to overall effect (Riden et al., 2020).

A *component analysis* is a systematic evaluation of two or more independent variables that encompass a treatment package (Cooper et al., 2020). The benefit of a component analysis for HLP implementation is that researchers can systematically identify the active ingredients contributing to successful implementation. Unnecessary components can then be eliminated as treatment packages are streamlined which, in turn, may make them more easily adopted and implemented. One drawback to component analyses is that they can be quite time consuming. Individual HLP components must be isolated and evaluated within an appropriate methodological design. To do so, reversal phases are needed to document behavior changes when intervention components are added or removed.

Cooper et al (2020) noted there were two methods of conducting component analyses; drop-out and add-in. A *drop-out* analysis presents an intervention package as a whole then removes each component systematically. Any changes in behavior following a removal indicate the effects of that component in relation to the

entire package (i.e., student performance is the same, better, or worse). An advantage to drop-out analyses is that treatment effects are often immediate and subsequent removals can identify those parts that are essential to treatment effectiveness (Riden et al., 2020).

One major disadvantage to drop out analyses is that they are not appropriate for nonreversible behaviors; that is, learned behaviors that are likely to continue after instruction is stopped (Ledford et al. 2019). For example, once preservice SETs learned the definition and benefits of behavior-specific praise, they cannot unlearn that knowledge. Once a treatment package is implemented, learned behaviors would not likely reduce even if an essential component was withdrawn. Therefore, add-in component analyses might be a more appropriate alternative.

Add-in component analyses assess individual components *before* presenting the whole intervention package (Cooper et al., 2020). By presenting components alone and then in combination, researchers can identify which components are contributing to overall intervention effects. The main disadvantage of add-in component analyses is that floor or ceiling effects may make it difficult to assess individual component efficacy towards the end of the analyses (Riden et al., 2020). Ward-Horner and Sturmey (2010) concluded that add-in reversal or alternating treatments designs provide the most comprehensive analyses of treatment packages because they reduce potential confounding from component combinations. However, multiple baseline designs may be more useful when targeting behaviors that are not reversible.

Add-in component analyses may allow preparation programs to identify HLP parts that are necessary for effective implementation. For example, consider HLP 9—c*onduct functional behavioral assessments to develop individual student behavior support plans*—and our proposed decision-making model. Teacher educators may initially implement this HLP by lecturing on functional behavior assessments (component 1), practicing through case studies (component 2), and then conducting real-life functional behavior assessments during student teaching (component 3). One can also envision possible sub-components (e.g., length and content of lecture and the type and quality of feedback during case study practice/student teaching experiences). Although increasing effort (i.e., time and resources) at each component will likely increase impact (i.e., preservice teacher learning), add-in analyses may help

to identify whether all three components are necessary and/or what resource efforts are necessary for preservice candidates to achieve HLP proficiency.

Moving Forward

As universities make programmatic decisions around identification, implementation, and evaluation of HLPs, we suggest the following initial steps.

Programmatic Steps

Most special education departments have curriculum (i.e., or ad hoc) committees charged with certification/licensure responsibilities. We recommend SET preparation programs use CEC's crosswalk (CEC, 2020b) and CEEDAR developed tools (Benedict, Foley et al., 2016; Benedict, Holdheide, 2016) to (a) conduct baseline program assessments to identify implemented, partially implemented, and non-implemented HLPs and (b) guide programmatic redesign to infuse HLPs into the curriculum and clinical experiences.

Following initial HLP review, curriculum committees should prioritize HLP integration. The individual nature of university programs and personnel, and other important contextual variables, should guide decision-making. Some important questions to address are (a) Should all HLPs be introduced early in the program, then practiced more thoroughly within certain courses? (b) Should HLPs only be introduced within a course where extensive practice can take place? and (c) Are there certain HLPs (i.e., signature) that preservice teachers should have repetitive practice throughout multiple courses? Hopefully, the decision-making matrix can assist in the decision-making process.

Individual Instructor Steps

Once HLPs are in place, individual instructors are tasked with the actual teaching and implementation of HLPs. We recommend that instructors use an evidence-based kernel mindset. That is, they should identify and teach critical HLP component(s). Critical HLP components require preservice SETs to master HLPs and components that are most likely to affect the greatest change. For example, HLP 19 states that effective teachers *use assistive and instructional technologies.* While knowledge of available assistive and instructional technologies is an important aspect of HLP 19, it is not an evidence-based kernel. Rather the critical component of effectively implementing HLP 9 is the ability to "evaluate new technology options given student needs; make informed instructional decisions grounded

in evidence, professional wisdom, and students' IEP goals. . ." (CEC, 2017). The decision-making process of identifying appropriate assistive and instructional technologies based on individual student needs is the behavioral kernel that preservice teachers must master. Instructors, therefore, should dedicate sufficient instruction, practice, and evaluation to the development of instructional decision-making skills concerning assistive and instructional technology.

Ongoing progress monitoring of preservice SETs use of selected HLPs is also necessary for "informed" programmatic and instructor decision making. We described component analyses (add in and drop out) as one systematic way to evaluate HLP implementation. While it is unrealistic to expect instructors to design well-controlled research studies to evaluate HLP use, they might approach implementation with a progress monitoring mindset and require preservice SETs to collect formative data on the impact of their HLPs on important student outcomes. These data, in turn, might be used to facilitate instructional decision-making (Maheady et al., 2007).

Research Field Steps

Although course instructors are less likely to conduct formal evaluations of HLP implementation, teacher education researchers should employ rigorous HLP research. The systematic study of HLP implementation and evaluation is sorely needed and can move the field towards more effective and efficient HLP integration. Granular examinations of individual HLPs and evidence-based kernels can provide teacher educators and researchers with valuable information to address some of the questions raised earlier. Component analyses of HLPs should also assist researchers and practitioners in increasing implementation impact while minimizing effort.

Research derived from HLP implementation should be shared by those responsible for SET preparation. Intervention successes and failures can be disseminated through student research projects and in action research, practitioner, and/or top-tiered journals.

Caveats to this Article

Before we conclude, there are some important caveats to mention. First, there are other important aspects of PBTE and HLPs that are beyond the scope of this article (e.g., creating and sustaining meaningful P-12 partnerships, revamping curricula, incentives, and staffing patterns in higher education and P-12 schools, and

developing and refining HLPs for teachers of early childhood, sensory and physical impairments, and/or gifted and talented). These topics and others are discussed in more detail elsewhere for general (Ball & Forzani, 2009; Grossman et al., 2009; Windschitl et al., 2012) and special educators (McLeskey et al., 2017; McLeskey & Brownell, 2015). Second, HLPs are *not* being promoted as the only source of effective teaching practice. In fact, they are an initial skill set that must be broadened, refined, and supplemented with the conditional knowledge to know when and where to apply them. Similarly, there are other sources of "effective" instructional practices (e.g., Hattie, 2009, 2012; What Works Clearinghouse) that may be more appropriate for specific populations, subject matter, and/or instructional goals.

Third, while the article focuses on teaching *practice*, it does not diminish the important roles that cognitive, affective, and contextual factors play in teacher development. The intent here is to highlight practice-related issues that have received insufficient attention in previous teacher education research (Goe & Cogshall, 2007; Lignugaris/Kraft et al., 2014; Wilson et al., 2002).

Lastly, this article was not intended to be a comprehensive guide for identifying, implementing, and evaluating all 22 HLPs. Specific HLPs were highlighted and used as examples to provide clarity for real-world application. Variability in the process of identifying, implementing, and evaluating HLPs for specific preparation programs cannot be understated. We believe, however, that the general concepts and processes discussed are salient to all 22 HLPs.

Conclusion

Learning to teach is not easy. Sitting in a classroom learning about content and pedagogy is no match for quality, practice-based opportunities for preservice teachers to integrate knowledge into instruction. CEC's 22 HLPs are a list of effective practices that SETs are expected to display with some degree of proficiency before exiting preparation programs. Special educators have begun to infuse HLPs into their preparation programs and clinical experiences, and the emergence of practice-based teacher education is likely to sustain this trend. As noted, more questions than answers exist regarding how to systematic identify, implement, and evaluate the use of HLPs in SET programs. Hopefully, this article will stimulate additional conversation around these important topics.

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About the Authors

Andrew M. Markelz

Andrew M. Markelz is an assistant professor and coordinator of the special education director license program at Ball State University. Dr. Markelz is editor of the Journal of Special Education Preparation and co-author of The Essentials of Special Education Law. The focus of his research is on expediting the novice-to-expert teaching curve in proactive classroom management strategies and issues related to special education law.

Benjamin S. Riden

Benjamin S. Riden, PhD, BCBA-D is an assistant professor at James Madison University. His research interests include using the principles of applied behavior analysis to support students with challenging behavior in schools, preparing teachers to effectively manage their classrooms, and single-case research design.

Lawrence Maheady

Dr. Lawrence Maheady is Professor and Horace Mann Endowed Chair in the Exceptional Education Department at SUNY Buffalo State. He prepares pre-service and in-service teachers, conducts classroom-based research, and collaborates with school districts locally and nationally. Dr. Maheady has authored or co-authored over 90 articles in peer-reviewed journals, 12 book chapters, and two books; presented his work at over 200 international, national, and state-level conferences; and conducted more than 300 staff development sessions in 29 different states.

The Positive Implications of Intentional Feedback

Kera Ackerman and Channon Horn

Abstract
Positive and constructive feedback is a high leverage practice that can be learned and practiced through scaffolded and structured experiences. Teaching preservice candidates to provide effective feedback is an efficient way to increase P-12 students' learning and behavioral outcomes. Teacher educators can craft experiences for their preservice teachers that offer rich coursework experiences, practice-based opportunities, and aligned clinical placement. Using the scaffolded approach provided in this article, teacher educators can ensure these experiences are robust and aligned with evidence-based pedagogy.

Keywords:
aligned clinical placement, feedback, high leverage practice, practice-based opportunities, teacher preparation

Several preservice teachers discuss their most recent lessons that they taught earlier in the week in their advanced clinical field placements. This is their final semester before student teaching, and they are refining their teacher behaviors. Toby comments, "I feel like I say, 'Good job' too much—I know it is good to praise their effort, but sometimes I even say, 'Good job trying' when they give the wrong answer because I can't think of what else to say!"

"Me, too! I notice if I compliment someone on their behavior, like thanking Josiah for raising his hand and waiting to be called on, the other students will automatically put their hands up, too. I am not able to really give targeted instructive or corrective feedback on the spot," shares Mariah.

The Council for Exceptional Children (CEC) and the Collaboration for Effective Educator Development, Accountability, and Reform (CEEDAR) center have developed a set of 22 high leverage practices (HLPs) that can be effectively taught, practiced, and learned by preservice teachers and will result in increased learning outcomes for the P-12 learners they are teaching (McLeskey et al., 2017). The HLP: Provide positive and constructive feedback to guide students' learning and behavior (McLeskey et al., 2017) was deemed so impactful, it was listed under both the instruction practices domain (HLP 8) and social, emotional, behavioral practices domain (HLP 22). While the ultimate goal is mastery of the practice, it is understood that becoming an expert is an ongoing process. Therefore, we would be remiss if we did not put into perspective what the inten-

tion of education preparation programs (EPPs) should be. Using Dreyfus's (2004) framework on the stages of expertise as a guide, the intention should be to move the preservice teacher from novice (e.g., can identify the practice) to advanced beginner (e.g., gains experience in the practice) in their use of this powerful HLP. Brownell et al. (2019) describe the shift from novice to advanced beginners as moving from inert knowledge to being able to "apply their knowledge of rules and strategies more flexibly" (p. 339). The challenge, then, is to establish a program that allows preservice teachers to practice these skills in a systematic manner by establishing a clear foundational knowledge of feedback and then providing scaffolded opportunities to embed this HLP into their lesson planning and instruction.

Establish Foundational Knowledge of HLPs 8 & 22: Provide Positive and Constructive Feedback to Guide Students' Learning and Behavior

Positive and constructive feedback is identified as one of the most effective teacher practices and can result in increased positive learning and behavior outcomes for P-12 learners (e.g., Hattie & Timperley, 2007; Hattie, 2009; McLeskey et al., 2017; Waack, 2018). It is also an efficient practice, which with proper planning can take very little time to implement during instruction. As an integral part of the stimulus-response-consequent learning trial (Skinner et al., 1996), feedback is the consequent and can provide behavior-specific praise, confirmation of a correct response (i.e., instructive feedback) or correction for an incorrect response

(e.g., corrective feedback). It can be given in written or verbal form. Because feedback is dependent on the learner response, its proper use is reliant on several factors. McLeskey et al. (2017) identified six components of effective feedback: timely, contingent, genuine, meaningful, age appropriate, and rates commensurate with task and phase of learning. As preservice teachers are learning to identify effective feedback statements in their practice, they can use the checklist in Table 1 to verify if their feedback statements meet these criteria. Each type of feedback is further defined below.

Table 1. Effective Feedback Checklist

Component	Description
Timely	Feedback is given immediately following the target behavior.
Contingent	Feedback is given only when the target behavior is emitted.
Genuine	Feedback is delivered in a sincere manner, and in private when appropriate.
Meaningful	Feedback is direction related to the learning goal or objective of lesson.
Age appropriate	Feedback is delivered in a manner that aligns with the learner's age and context (e.g., high five for an elementary aged student).
Rate commensurate with task and phase of learning	Feedback is given frequently during acquisition learning and faded as the student moves through the phases of learning.

Behavior-Specific Praise

Behavior-specific praise is identified as a potentially evidence-based practice based on the Council for Exceptional Children guidelines (Royer et al., 2019). At its core, behavior specific praise increases desired learner behaviors. It differs from general praise (e.g., "good job!") in that it provides specific feedback to the class or individual learner on a correct academic or social behavior. General praise rarely results in the same increase in desired behavior (Hattie & Timperly, 2007).

As noticed by preservice teacher Toby in the opening vignette, providing general praise is an easy trap to fall in. The novice preservice teacher Mariah noticed an increase in a desired behavior (i.e., hand raising) when she offered behavior-specific praise to a target student.

Preservice teachers can be taught to identify and implement behavior-specific praise in their instruction by using the following formula: student + behavior + positive statement = behavior-specific praise (e.g., "Josiah, thank you for raising your hand and waiting, that helps our class run so much more smoothly!"; see Figure 1 for the components of behavior-specific praise).

Because behavior-specific praise can be so easily inserted into instruction, it is efficient and does not interrupt the teaching routine (Royer et al., 2019). Behavior-specific praise decreases the teacher's time in correcting academic errors and undesired behaviors, and increases the academic learning time, learner confidence, and positive teacher-learner relationships (Royer et al., 2019). Preservice teachers should target approximately six behavior-specific praise statements per 15-min of instruction (Myers et al., 2011).

Figure 1. Three Components of Effective Behavior-Specific Praise
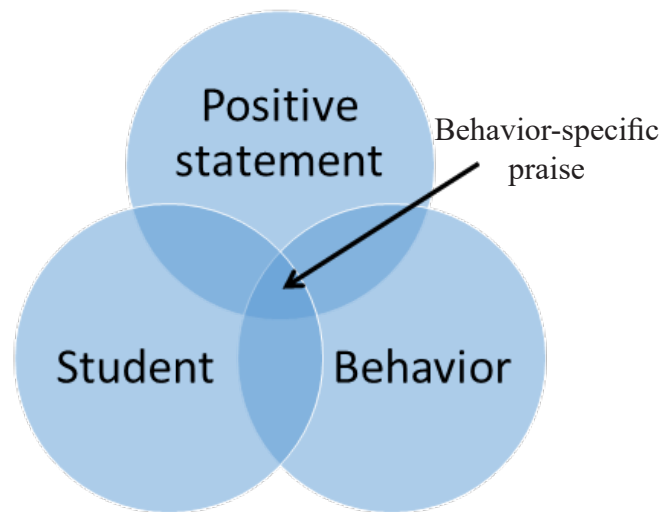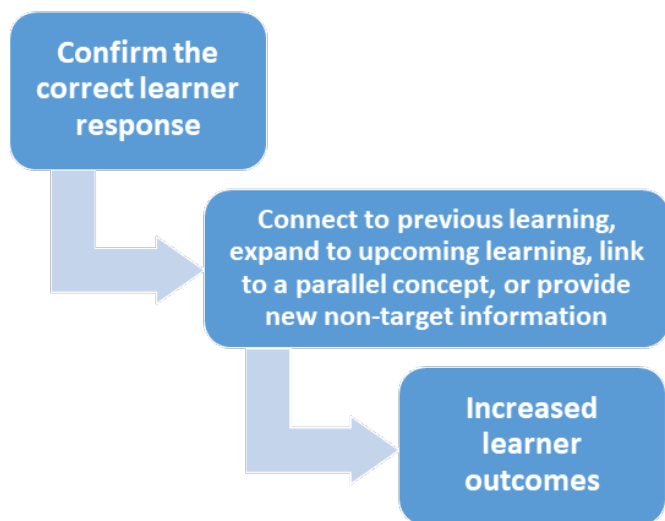

Instructive Feedback

Instructive feedback is a positive statement given when the learner provides a correct response that both confirms the response and provides additional informa-

tion to the learner. Providing instructive feedback increases the efficiency of instruction because within one learning trial, learners are reinforced for their correct response and exposed to information that will be useful in the future or makes connections to previously learned content. It is a versatile strategy that can be used across grade levels, content areas, and with all ability levels (Albarran, & Sandbank, 2018).

To provide instructive feedback in an effective manner, the preservice teacher should confirm the correct response, and then emphasize previously learned concepts or add new or non-target information (see Figure 2 for the components of instructive feedback). Wertz et al. (1996) suggested asking two questions to narrow potential instructive feedback: a) is there important information that is not being taught directly? and b) is there upcoming information?

Figure 2. Components of Instructive Feedback

Three Types of Instructive Feedback.

Werts et al. (1996) provided three types of instructive feedback: expansion, parallel, and novel. Expansion feedback expands upon the students' response by providing additional information related to the response.

Jenna, a preservice teacher, provides the following example of expansion feedback, "Jeremiah answered 'c' says /k/, so I responded, 'That's right, 'c' says /k/ and soon we will learn that 'c' can also make the /s/ sound!"

Jenna used her knowledge of upcoming lessons to provide expansion instructive feedback to Jeremiah, preparing him for future learning. Parallel instructive

feedback provides a different form of the stimulus or prompt that would require the same response.

In his lesson plan reflection, Juan highlights an example of parallel feedback, "I told Jessy she was correct, the letter was 'B' then I showed her the lowercase letter and told her it was also 'b'."

Juan was able to give additional information that was not yet part of Jessy's repertoire thereby setting the stage for upcoming lessons. Novel instructive feedback presents information that is unrelated to the targeted skill.

Preservice teacher Kait identifies novel feedback in her lesson reflection, "After Josh successfully shared his rocket science fair project, I added that NASA's ARTEMIS mission hoped to put people on the moon again."

Corrective Feedback

As was evident in the opening vignette, preservice teachers can struggle to respond to learners who do not provide correct responses. Corrective feedback is a statement that corrects an incorrect response and gives the learner specific information so they can correct their mistake. It is powerful because it provides a scaffold that will lead them to emit the correct response so that reinforcement can be given (see Figure 3 for the components of corrective feedback). This is quite different from a reprimand (e.g., "no, that isn't right") which does not give the learner the information needed to correct the error or allow them to access the contingent reinforcement.

Preservice teacher Beth-Ann gives this example of corrective feedback related to a social behavior, "Shevesa was texting on her phone during the guest speaker. I quietly walked up to her and told her she needed to put her phone away, get out her notebook, and make eye contact with the speaker. As soon as she complied, I thanked her."

Figure 3. Components of Corrective Feedback

1 • Indicate the learner response is incorrect

2 • Provide specific steps (i.e., scaffold) to guide learner to the correct response

3 • When learner emits correct response, provide reinforcement
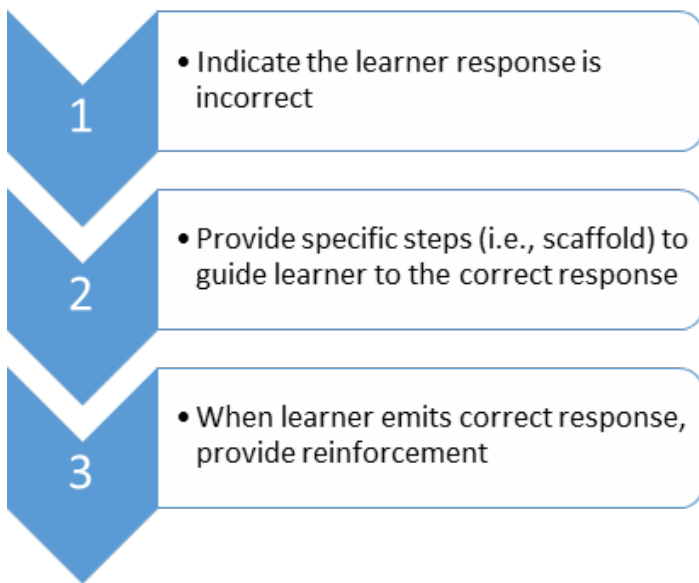
Provide Opportunities for Preservice Teachers to Embed Intentional Feedback

Brownell et al. (2019) provide a continuum of effective practice-based opportunities in teacher education which acknowledge that the majority of the learning preservice teachers do in a college classroom is apart from where they will ultimately apply their learning. Even though this is the case, embedding intentional practice-based opportunities into the coursework can lead to increased preservice teacher and P-12 learner outcomes. There are prominent features that should be facilitated with fidelity if preservice teachers are going to progress from novice to advanced beginners into their first year of teaching with efficiency: modeling, feedback through coaching, and self-analysis of performance (Brownell et al., 2019). By carefully selecting the practices that best provide opportunities for preservice teachers to practice newly learned teaching skills, and refining coursework and clinical field placements to embed these practices, teacher educators can scaffold their preservice teachers from college students to first year teachers.

Analyze Expert Models Using Video

Armed with foundational knowledge of effective feedback and operational definitions of the types of positive and constructive feedback (i.e., behavior-specific praise, instructive feedback, corrective feedback), preservice teachers can glean additional experience by analyzing teachers implementing feedback via video cases. Analyzing teacher practice through video case analysis can improve preservice teachers' ability to

identify and understand instructional practice (Thomas & Rieth, 2011). By viewing videos of teacher practice with their preservice teachers, teacher educators can guide the discussion regarding decisions teachers make during instruction and provide a scaffold for preservice teachers to identify the key components of practice. Using Figures 1, 2, and 3 and the checklist in Table 1, preservice teachers can watch these models and identify the components of significant learning trials and analyze the teacher feedback and subsequent student learning outcomes. Teacher educators can further connect the video models to their preservice teacher practices by having the preservice teachers use a common rubric to analyze the models (e.g., Explicit Instruction Rubric provides excellent opportunity for analysis, see Moylan et al., 2017). Embedding the video models into class instruction allows opportunities for the teacher educator to pause the video, guide discussion on the practice, and model reflection. Various video model resources are available to teacher educators including the ATLAS cases provided by the National Board for Professional Teaching Standards which can be accessed for a fee (https://atlas.nbpts.org/) and the free High Leverage Practice video series (https://highleveragepractices.org/). By providing preservice teachers with models, teacher educators are establishing a foundation on which the preservice teachers can build their skill set.

Embed feedback Statements into Lesson Planning

Preservice teachers need to plan ahead to embed intentional feedback during instruction because initially this skill does not come naturally. One strategy preservice teachers can use is to include a table in their lesson plan procedures (see Figure 4 for an example of feedback embedded into procedures). Within this table, preservice teachers list each planned opportunity to respond and possible behavior specific praise, instructive feedback, and corrective feedback statements to be used as the consequent. When creating this table, preservice teachers should closely review the content standards to familiarize themselves with previously learned standards, the standard being taught, and upcoming standards that could be used to shape the feedback statements. Feedback should be tailored to the needs of the learner and the goal/ objective of the lesson, meaning the preservice teacher must have a deep understanding of the students' present levels of understanding and learning goals. Additionally, they should

Figure 4. Excerpt of Lesson Plan Procedures with Potential Feedback Statements	
Teacher: Pick a number between 0-5 and say, "Kylen, I would like you to place the touch point stickers on the (insert number) just like I showed you. Remember, the stickers represent each touch point." (Repeat this until all numbers have touch points).	
Correct Response	Provide behavior-specific praise: "Excellent work, you remembered the touch points for the (insert number) and put the stickers in the right place! Now we can count them!"
Incorrect Response	Provide corrective feedback: "Let's check this touch point. Remember, for (insert number) we need to place a touch point (point to location) here. Put your sticker here." Student responds correctly, "Yes, the touch points are now correct! Nicely done."
Teacher: "Now that you have placed the touch points on the numbers, let's count them. Watch me count first, then you will count." (Teacher models). "Your turn. Kylen, count the (insert number)."	
Correct Response	Provide instructive feedback (novel). "Nice job counting the touch points on (insert number). Let me show you how the number (insert number) is written in word form!" (Write word on marker board).
Incorrect Response	"Remember, we begin at 1 and count on as we touch each touch point. Start here (point to location) and count, 1… (insert number)." Student responds correctly, "Great job touching each touch point and counting."

anticipate misunderstandings of the content and align their feedback statements accordingly.

As the preservice teachers move from novice to advanced beginner, they may find it is more effective to write potential feedback statements on sticky notes to place in teaching manuals as a prompt. By reviewing the six components of effective feedback from McLeskey et al. (2017) preservice teachers ensure their feedback will have the most impact (see Table 1 for the six components).

Practice Feedback Through Role Play and Coaching

Literature supports the use of role play (i.e., rehearsal, microteaching) to practice teacher behaviors in a controlled environment with coaching to shape the expected behaviors (Brock & Carter, 2017; Grossman, 2005; Kraft et al., 2018). Practice opportunities should be repetitive in nature and allow learners repeated opportunities to acquire and implement professional skills. Often when engaged in role play, preservice teachers will request "one more try." It is in those moments of repetitive interactions that positive growth is frequently evidenced. Teaching involves the preservice teacher implementing complex skill sets in complex environments. Therefore, scaffolded practice opportunities ensure preservice teachers have the ability to implement instruction initially in small, controlled chunks, prior to implementing these complex skills in P-12 environ-

ments that frequently hold many unexpected circumstances.

Practice opportunities can be conducted in peer to peer arrangements or through mixed virtual reality simulations. In both arrangements, preservice teachers prepare a short lesson with detailed procedures (see Figure 4 for an example of feedback embedded into procedures). Then, they teach these lessons to either a small group of peers that act as P-12 learners (i.e., peer to peer) or via mixed reality simulations where avatars serve as the learners (e.g., Hudson et al., 2019; Peterson-Ahmad, 2018). During these practice opportunities, preservice teachers have the ability to make corrections to their practice guided by immediate coaching from the teacher educator. Preservice teachers can use a designated rubric which is aligned to the expected components of feedback to evaluate each other's feedback statements. These practice opportunities also provide ample time to identify additional behavior-specific praise, instructive feedback, and corrective feedback statements that can be embedded into instruction. The preservice teachers' behavior is shaped in a low stress, low stakes environment where the consequence of making a mistake does not impact the learning of a P-12 student.

Toby explained, "teaching the lesson to the avatars first allowed me to stay on track with my lesson plan and adjust when the fire alarm went off unexpectedly when I was in the classroom with the little kiddos. I was confident knowing I could quickly get them back

to task."

Intentional implementation of cohesive practice opportunities assist candidates in progressing from the acquisition to fluency phase when learning how to implement HLPs across content areas and support categories. The use of repeated opportunities that are scaffolded and cohesive will only make the implementation of learned professional practices and skills that much more generalizable when they are strategically aligned to approximate the authenticity found in the P-12 classroom.

Generalize Feedback to Clinical Field Placements

In order for EPPs to be truly successful they must ensure that the skills acquired during college coursework and practiced through role playing are generalized into the P-12 environment. The train and hope philosophy must be abandoned if they desire to produce preservice teachers that are adequately prepared for the realities of the classroom environment (Markelz et al., 2017). Therefore, it is imperative that teacher educators are intentional in programming for the generalization of skills across content areas, grade levels, and disability categories. Unfortunately, this is not new information as Baer et al. (1968) indicated more than 50 years ago that generalization strategies must be actively programmed throughout EPPs instead of passively expecting them to occur. Although there is no debate concerning the need for generalization of skills to occur, how to make this a reality continues to be a lofty, yet attainable, endeavor.

Aligned clinical field experiences are one of the most promising practices to promote the generalization of preservice teacher skills from college coursework into authentic settings with P-12 learners. These experiences allow preservice teachers the opportunity to develop, implement, and respond to student needs in real time after having acquired and practiced the necessary skills to educate students with diverse learning needs through traditional coursework opportunities. Aligned clinical field experiences require a collaborative, communicative environment where teacher educators intentionally select cooperative partners who model the use of HLPs on a consistent basis and uphold candidates to previously established expectations.

Ongoing collaboration with invested personnel is a critical component to preservice teachers' success in clinical field experiences. The National Council for Accreditation of Teacher Education's Blue Ribbon Panel on Clinical Preparation and Partnerships for Improved Student Learning (NCATE, 2010) urged EPP's to develop programs that are clinically based and connected to academic coursework. Facilitating a high touch philosophy where each member of the team (e.g., cooperating teacher, teacher educator, university supervisor, preservice teacher) is valued for their contribution is an integral part of the process. It is imperative that the teacher educator communicate which professional strategies are being covered to the university supervisor and P-12 partner.

In one favorable instance, the university supervisor is sharing the significant improvement evidenced in Jenna's ability to provide instructive feedback to her learners via anecdotal records captured during direct observation. Her course instructor replies "This is so encouraging! We covered that topic again last week in our microteaching segment. It is good to hear the transfer of skills is occurring."

Dropping a few lines to your collaborative and supervising partners does not need to be time or labor intensive, it does however, need to be timely and intentional in nature.

Reinforce Feedback Through Self-Analysis and Reflection

Throughout the entire sequence of developing foundational knowledge, analyzing video models, practicing through role play, and generalizing to clinical field placements, preservice teachers should engage in deep reflection of practice. It is the serious and consistent consideration of one's actions and the impact on others that creates positive change. "Reflectivity is a cornerstone for effective instructional decision making and advocacy," (Etscheidt et al., 2012, p. 21). Therefore, EPPs should deliberately incorporate these practices into all facets of coursework and aligned clinical field experiences.

Preservice teachers can reflect on expert teachers' use of feedback while viewing video models and observing in their clinical field placements. Once the preservice teachers have a clear understanding of the components of feedback and types of positive and constructive feedback (i.e., behavior-specific praise, instructive, corrective) they should be directed to reflect on the impact feedback statements have on the P-12 learners' outcomes. Lessons taught during both role play and generalization in clinical field placements lend themselves to rich reflection opportunities. Video assessment tools, such as GoReact, can be used to share

Table 2. Reflection Questions

Component	Question
Behavior-specific praise	Did you provide behavior-specific praise during your lesson? If yes, give an example and the learner response. If no, give one example that would have been appropriate in the lesson and the potential learner response.
Instructive feedback	Did you use instructive feedback? If so, list it here. Was it parallel feedback, novel, or extension? How did it relate to content standards? What was the learner response? If you did not, provide an example of a potential instructive feedback statement that could be used. What do you anticipate the learner response to be?
Corrective feedback	Did you provide corrective feedback? Did your corrective feedback include scaffolding appropriate for the learner? Did it result in the correct response from the learner and an opportunity to provide reinforcement? Provide one corrective feedback statement you used or could have used in the lesson. If you did not use corrective feedback, what is your next step?
Components of effective feedback	High leverage practices 8 & 22 explain that feedback can enhance learning. How were you able to positively impact learning by using intentional feedback? How can you ensure your feedback meets all the components of effective feedback?

video clips of the preservice teacher where both the teacher educator and the preservice teacher can review and provide in-depth feedback on a given instructional segment. From this feedback, the preservice teacher can reflect on their practice.

After viewing her lesson, Mariah is able to identify a location where she could have provided feedback to her student, Carly. "I noticed I missed an opportunity to provide instructive feedback when Carly correctly responded to the math problem. Had I linked her understanding to the upcoming topic, adding fractions, she would have had additional foundational knowledge. I made a note in my lesson plan so I wouldn't forget this potential opportunity when I teach the same lesson to Juan next week!"

Free tools for recording and reflecting on practice such as a cell phone video shared via cloud storage, like Google Drive, can be more cumbersome but effective in recording and sharing videos. Example questions to direct deep, reflective practice on feedback are included in Table 2.

Concluding Thoughts

Through the use of multiple and varied opportunities such as modeling, practice, and reflection, desired teacher behaviors can be mastered by preservice teachers and generalized into the P-12 environment. The result of these intentional and ever evolving strategies are

preservice teachers who have the power to be highly effective educators. The power lies not in the number of preservice teachers produced, but in the individuals adequately prepared to assess, design, and implement instructional sequences that positively impact the social, emotional, and academic well-being of diverse populations.

The goal of EPP's remains the same: We desire to produce exceptional educators. Yet the means by which this goal is obtained must shift hurriedly to meet the often-daunting realities of the P-12 classroom. By modeling best practice during coursework, providing multiple scaffolded opportunities for preservice teachers to demonstrate their skills in college classrooms and through aligned clinical field experiences, and teaching preservice teachers to be reflective of their actions, we are responding to the notion that what we have always done has not always worked. The implications of these intentional scaffolded opportunities are to ensure that EPP's are emphasizing the positive outcomes associated with feedback and ensuring that preservice teachers are able to successfully transfer these skills into the P-12 environment. Through consistent communication and collaboration with colleagues, university supervisors, and public-school partners, we can be united in producing exceptional educators who will use feedback to positively impact the learners they teach for years to come.

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About the Authors

Kera Ackerman

Kera Ackerman, Ph.D. is an assistant professor of special education in the College of Education at the University of Kentucky. Her research interests include pre and in service teacher training and the use of high leverage and evidence-based practices in college and P-12 special education and inclusive classrooms.

Channon Horn

Channon Horn, Ph.D. is an associate clinical professor of special education in the College of Education at the University of Kentucky. Her research interests include active student engagement strategies, pre-service teacher training, and the use of evidenced-based practices to enhance the academic and behavioral outcomes for learners with differences.

Translating High-leverage Practices to Remote Environments: Tips for Teacher Educators

Shannon Budin, Andrew Hashey, Angela Patti, and Lisa Rafferty

Abstract
Given the global pandemic, educators at all levels have had to transition their teaching practices to remote environments. Teacher education faculty have had to consider not only how to shift their own teaching, but also how to prepare teacher candidates for their future teaching roles which may include instruction in a range of modalities (face-to-face, remote-synchronous, remote-asynchronous, hybrid). In this article, we propose that high-leverage practices (HLPs) can serve as a solid foundation for teacher preparation regardless of modality and offer five tips for how teacher educators can prepare candidates to use HLPs across modalities. A vignette which highlights two HLPs (i.e., establishing a consistent, organized, and respectful learning environment; and using strategies to promote active student engagement) is included to illustrate implementation of the tips.

Keywords
high-leverage practices, remote instruction, teacher education

The transition to remote instruction due to the global pandemic required teachers to reexamine their instructional practices and routines, and in some cases, learn new ones overnight (Marshall et al., 2020). New teaching and learning modalities included an array of both real-time online instruction (i.e., synchronous learning) as well as asynchronous approaches, where students engaged in the learning process on their own time or at their own pace. Pedagogical approaches that were effective in face-to-face environments suddenly seemed inapplicable, even in synchronous, virtual classrooms. Indeed, applying these approaches to asynchronous environments seemed even more unsuitable when the transition to remote learning first occurred.

Inservice teachers were not the only educators caught off-guard. Teacher candidates and college faculty, particularly those engaged in clinical/field work, were also impacted. As novices, many teacher candidates were still in the acquisition and/or fluency stages of learning pedagogical knowledge and skills. Suddenly, attempting to generalize these "traditional face-to-face" skills in a different modality posed an entirely new challenge. This shift required faculty to reexamine their own instruction and determine how to best prepare candidates to generalize pedagogical knowledge and skills learned for one modality (i.e., face-to-face) to another (i.e., remote). The importance of this shift for current and future preparation has been emphasized in the recent literature. For example, Darling-Hammond and Hyler (2020) highlight the critical importance for "… both incoming and current educators to learn how to engage productively in distance learning as well as blended and hybrid learning models. This will likely require rethinking of teacher education curricula in some programs*" (p. 459).

Effective Teaching Across Modalities

Translating effective teaching practices to remote environments must be considered if quality instruction and student learning are to continue. During the pandemic, despite some early successes (e.g., Tremmel et al., 2020), most teachers had little meaningful training on how to deliver instruction remotely and relied on asking their peers or searching online (Marshall et al., 2020). Although it is easy to become engrossed with trying the newest education technology tools or trendy web-based applications, it is important that teachers learn to approach these instructional decisions with a more discerning eye using an evidence-based mindset. This is especially important in teacher preparation. Faculty can equip candidates with a strategic approach to technology selection with the goal of delivering engaging, well-designed instruction that leads to student learning.

To date, given the limited research on online learn-

ing for students with disabilities, there is no rationale to abandon preparation that highlights pedagogical approaches traditionally emphasized in face-to-face learning environments (Greer et al., 2014). This notion was recently supported by Dr. Anita Archer (2020). In a webinar for inservice teachers, Dr. Archer encouraged teachers to continue using best practices when shifting instruction to remote environments, noting that "good teaching is good teaching," regardless of the modality. That said, there are still challenges that emerge when teaching and learning occur remotely (Herbuger et al., 2020). Many of the same needs that exist for students with disabilities in typical classrooms, remain in remote ones. Therefore, teachers must seek out practices that not only embody "good teaching" but also minimize barriers to successful and engaged online learning.

HLPs to Facilitate Remote Teaching and Learning

One framework teacher educators can use to facilitate the transition from face-to-face pedagogy to online instruction is the set of High Leverage Practices (HLPs) developed by the Council for Exceptional Children (CEC; McLeskey et al., 2017). These HLPs fall across four aspects of practice that comprise the day-to-day work of special educators: *collaboration, assessment, social/emotional/behavioral* and *instruction*. Special and inclusive educator preparation programs are encouraged to use these HLPs as a foundation, focusing on what teachers *do* in practice versus simply focusing on what they know and can describe about practice (see CEC Initial Preparation Standards, 2020). Indeed, some teacher education programs have integrated HLPs into their training, using them to plan for and assess candidate acquisition and fluency of essential practices (e.g., Maheady et al., 2019).

Even though these HLPs were designed with face-to-face instruction in mind, it is reasonable to assume many of the critical attributes of these practices can impact teaching and learning in remote environments as well. For example, regardless if the P-12 students are learning face-to-face or virtually, it is always important that teachers: (a) create a learning environment that is consistent, organized, and respectful (HLP 7), and (b) use strategies that actively engage their learners (HLP 18). HLPs also have the potential to remove barriers to effective distance learning for students with and without disabilities (Herbuger et al., 2020).

Thus, in teacher preparation, HLPs can continue to serve as a useful analytical lens through which candidates can learn how to identify, critique, and implement effective practices across a wide range of instructional modalities. The role of teacher educators in this process is to: (a) help candidates identify the most salient and impactful features of the HLPs, and (b) identify methods and procedures in which HLPs can be applied across modalities.

Tips for Translating HLPs Across Modalities

In this paper, we outline five tips for teacher educators to use when helping candidates translate HLPs across modalities (see Figure 1). We propose that well thought out procedures and routines rooted in the critical attributes of HLPs, regardless of modality, should positively impact student learning. *How* teachers deliver instruction—what they say, what they do, and what they expect the students to say or do—is still the most vital contributor to learning success (Dean et al., 2012; Marzano, 2017). We describe how to prepare candidates for remote implementation of HLPs utilizing what we view as "common technology" (i.e., virtual meeting software and Google suite of apps). We believe that limiting extraneous tools in the early stages of developing teaching practice can help candidates zero in on the most salient and impactful features of HLPs and may assist with generalization across modalities.

Figure 1. Tips for Teacher Education Faculty to Help Teacher Candidates Translate HLPs to Remote Environments

Tip #1: Identify target HLPs and their key components.

Tip #2: Compare what HLPs look like when instructing via different modalities.

Tip #3: Model HLPs in remote instruction with teacher candidates.

Tip #4: Provide practice opportunities with HLPs in remote instruction.

Tip #5: Explore technology to support HLPs.

In the accompanying vignette, we demonstrate how Dr. Huang, a special education faculty member, implemented these recommendations in her course on classroom and behavior management. Specifically, we focus on two HLPs that are most relevant to Dr. Huang's course—HLP 7: *Establish a Consistent, Organized,*

and Respectful Learning Environment and HLP 18: *Use Strategies to Promote Active Student Engagement.*

Tip #1: Identify Target HLPs and their Key Components

Although candidates should have a general understanding of what HLPs are and how they work together, it is not advisable or possible to focus on all the HLPs in depth in every course. A first step, therefore, is to identify which HLPs should be targeted for use in a course and to identify the key components within each HLP. When selecting the HLPs, faculty should choose HLPs directly related to the content and objectives in their course. Input from school partners and other stakeholders should also be considered when identifying what HLPs to emphasize (Maheady et al., 2019).

Focusing on just a few HLPs in a course can allow candidates to gain a deeper understanding of the HLPs and have more focused practice opportunities. Each HLP can be broken down into multiple components, which can be further broken down into actionable steps. Due to this complexity, teacher educators need to help candidates dig deeper within an individual HLP to discern the key, impactful pieces of each.

To accomplish this, faculty may begin by having candidates read the more in-depth descriptions of the HLPs provided by CEC, which also include information on research supporting the practices (McLeskey et al., 2017). Then, faculty can design discussions and activities to guide candidates in breaking the HLPs apart and deciding what is most important.

Dr. Huang Identifies Course HLPs

Recalling the work of Archer and Hughes (2011) and conversations with mentor teachers at her professional development school, Dr. Huang determined that the most important takeaway of her course should be the notion of "effective and efficient" teaching, which (a) employs clear rules, routines, and expectations, and (b) fosters high levels of student-teacher interaction via questioning and engagement. This type of teaching results in students who are on task, have increased learning opportunities, and fewer behavioral challenges. Dr. Huang recognized that these are key features of HLP 7, "Establish a consistent, organized, and respectful learning environment" and HLP 18: "Use strategies to promote active student engagement." Dr. Huang set out to have her candidates explore these HLPs in more depth.

Candidates Read, Research, and Review

In order to help her teacher candidates identify the salient and impactful features of the two target HLPs, she recognized that each contained certain "active ingredients" or "kernels" (Embry & Biglan, 2008) that were essential to success. For example, Dr. Huang knew that for her candidates to successfully implement HLP 7 in any environment, they needed to understand the expectations for performance. That is, a teacher must: (1) explicitly teach their students expectations, routines, and procedures, (2) capitalize on mutually respectful relationships, and (3) enhance student performance through the provision of age-appropriate, specific, and timely feedback shared in meaningful ways, all while valuing ethnic, cultural, contextual, and linguistic diversity of his students.

To help her candidates identify the key attributes of the HLPs, Dr. Huang required that they read the description of each HLP, highlight the "actions" required of teachers and their students. Candidates were directed to focus on the "kernels" that comprise the HLP, with the understanding that the HLP would fundamentally change without these kernels. Next, teams of candidates reviewed extant literature to identify support for each practice and share with their peers. Finally, candidates reviewed example and non-example classroom case studies to analyze the extent to which critical features of the HLP were applied. Once Dr. Huang and her candidates were able to analyze the HLPs in this way, her next task was to plan for a way to help her candidates think about the application of these practices across instructional modalities.

Tip #2: Compare what HLPs Look Like when Instructing via Different Modalities

The second tip is for faculty to help candidates compare what HLPs look like when instructing via different modalities. When doing this, they also need to focus on the salient and impactful features that make the practices effective (Tip #1), regardless of modality. Faculty could provide candidates with illustrative examples of HLPs being applied in face-to-face and various modes of online instruction. In small groups with their peers, candidates could be instructed to examine each example and co-develop a chart detailing the similarities and differences in how the salient features of HLPs might be carried out in each modality. Finally, the faculty could lead the candidates in discussions emphasizing how the fundamental practices (i.e., HLPs) and their salient fea-

tures remain the same, regardless of modality.

It is also important for faculty to highlight how P-12 students will need to be explicitly taught how to use any routine, strategy, or tool regardless of the instructional modality. Further, when modalities shift, new routines, strategies, and tools may be needed and should be accompanied by new instruction. This is especially important for students with and at-risk for disabilities who have difficulty with generalization. Archer and Hughes (2011) provide a list of face-to-face situations requiring classroom routines or procedures (see pp 125-124). Their list can be used as a starting point for faculty who are trying to help candidates make the connection between traditional classroom routines and similar needs that exist in remote instruction. Figure 2 provides sample situations requiring routines and procedures across modalities, offering insight in how to flexibly apply HLPs.

Candidates use Checklist: What does the HLP Look Like?

Dr. Huang wanted her teacher candidates to recognize that before students can be expected to engage in high levels of student-teacher interaction through questioning or other responses, expectations must be established in the classroom, regardless of modality. For example, a teacher must think about: When and how should students engage and respond when in a face-to-face setting? What about in a synchronous or asynchronous remote environment? What happens if they do, or do not, respond?

To begin, Dr. Huang required her candidates to watch several classroom teaching video cases. The videos were pre-selected to represent classrooms where teachers demonstrated age-appropriate and culturally responsive expectations, routines, and procedures. Using a "look-for" checklist, candidates identified specific examples that supported a "consistent, organized, and respectful learning environment" and operationalized how they recognized them. They also tracked various ways in which students were able to respond or strategies the teacher used that seemed to keep students engaged and connected to the learning in each modality.

Candidates Brainstorm and Collaborate: HLPs Across Modalities

Next, Dr. Huang had her candidates brainstorm classroom situations that call for a specific routine or procedure (e.g., asking for assistance in the middle of

a lesson, when/how to leave room to use the bathroom, where to put work when finished). She then shared Archer and Hughes' (2011) examples of routines and procedures for many common situations. Candidates were required to modify the rules or expectations for one of the face-to-face situations by applying it to either a synchronous or asynchronous remote environment. They had to review HLP 7 and HLP 18 and provide a direct rationale in their revision, showing how an effective practice in traditional face-to-face instruction could be used within another modality (see Figure 2 for examples). Dr. Huang also asked candidates to discuss when and how they would go about explicitly teaching those routines to their students.

During another application activity, Dr. Huang required candidates to develop at least three approaches to promoting active student engagement in each online environment (i.e., synchronous, asynchronous) using only video conferencing and the Google Classroom suite of tools. Finally, Dr. Huang had her students look for similarities and differences in their approaches. Through careful questioning and responses, Dr. Huang helped the candidates discover that while instructional modalities shifted, the salient and impactful features of effective teaching practices never changed. That was the most important takeaway.

Tip #3: Model HLPs in Remote Instruction with Teacher Candidates

Tip #3 is for faculty to model HLPs in their own remote teaching. It is not enough for faculty to simply explain HLPs to candidates. Instruction in implementing HLPs (regardless of modality) should follow an explicit format including modeling, guided practice, and independent practice. (For this tip, we emphasize remote environments given that it is the focus of this paper.)

After considering how to introduce and discuss HLPs, faculty need to consider how they can model the HLPs within their course. Although HLPs will look somewhat different when delivered by P-12 teachers to their students, the fundamental aspects of those HLPs are still applicable at the university level. When faculty demonstrate HLPs in their courses, candidates can both observe and experience specific examples of these practices in action. Further, faculty can explain exactly why and how they are implementing the practices to make them overt for candidates. It is useful for faculty to consider how they will engage in modeling in remote environments as: (a) they may not be used to teaching

Figure 2. Sample Situations Requiring Routines and Procedures Across Modalities

Routines and Procedures by Modality		
Face-to-Face	Synchronous	Asynchronous

Movement:

	Face-to-Face	Synchronous	Asynchronous
Transition to a new activity	1. Teacher provides verbal, visual, or auditory signal that it is time transition. 2. Teacher reminds students of expectations (time allotted, voice level required, etc.). 3. Students put away unnecessary materials and take out new activity materials.	1. Teacher provides verbal, visual, or auditory signal that it is time transition. 2. Teacher reminds students of expectations (time allotted, camera on/off, if allowed to leave meeting). 3. Students put away unnecessary materials and take out new activity materials in the allotted amount of time.	1. Teacher provides visual schedule with checklist of daily expected activities that can be printed or used digitally. 2. Students check-off each activity upon completion. 3. Parent signs off on checklist and student submits to Google Classroom at the end of day.

Use of:

	Face-to-Face	Synchronous	Asynchronous
Bathroom	1. Students should use bathroom during non-class times (before school, after class, recess, etc.) 2. If emergency, student silently takes hall pass and leaves room for no more than 10 minutes. 3. If privilege is abused, teacher meets with student.	1. Students should use bathroom during non-class times (before logging on to video call, during a break, etc.) 2. If emergency, student can leave without telling teacher by turning off camera and staying signed into the video meeting. 3. Student must silently return within 5 minutes and not interrupt teacher to ask what they missed. 4. If privilege is abused, teacher meets with student.	n/a

Materials or Assignments:

	Face-to-Face	Synchronous	Asynchronous
Submitting homework	1. Student puts name on paper or uses appropriate heading. 2. Student places completed homework in teacher's bin at the start of class.	1. Student puts name on assignment obtained from Google Classroom Classwork page. 2. Attaches completed assignment item, clicks "Turn In", and checks the status to ensure it is turned in.	1. Student puts name on assignment obtained from Google Classroom Classwork page. 2. Attaches completed assignment item, clicks "Turn In", and checks the status to ensure it is turned in.

Cues for Things:

Attention	Teacher provides a pre-taught verbal, visual, or auditory cue to students that it is time to attend (e.g., 1-2-3 eyes on me, flicker lights, clap).	Teacher provides a pre-taught verbal, visual, or auditory cue to students that it is time to attend (e.g., holds up a "stop" hand to the camera while playing a soft chime).	Teacher embeds cues such as "stop and listen" signs into video to cue students to minimize distractions and focus on the important teaching component or changes the color and size of font to emphasize key ideas in the guided notes.

Gaining Assistance:

During independent work	Students must employ the "Ask Three Before Me" strategy if the teacher is not near to ask for assistance (consult with 3 classmates before teacher).	Student must post name in chatbox if help is needed and wait to be called on by the teacher.	Student must post to the Google Classroom Stream page. Peers are encouraged to respond if they see a question before the teacher.

How to Act:

During read alouds	1. Students sit quietly on floor with eyes on teacher or looking at book. 2. Teacher is the only voice heard unless questions are asked. 3. Students raise hands if they want to share a relevant connection or question and wait to be called on.	1. Students selects "Speaker View" to reduce distractions and look at teacher on screen with microphones muted. 2. The chatbox is not used during this time. 3. Completing other work, playing with objects or pets at home is not allowed. 4. Students raise virtual hands if they want to share a relevant connection or question and wait to be called on.	1. Students play audio or video recording in quiet place or attempt to minimize home distractions during reading. 2. Students jot on sticky notes or post to a collaborative technology tool (i.e., Padlet) with any connections or questions they have during the reading. 3. Students post a photo of their sticky notes on Google Classroom Stream page (or Padlet bulletin board) for feedback from peers and teacher.

What to do When:

You are tardy	1. Student enters classroom quietly and completes morning routine (lunch selection, submit homework, etc.) without interrupting teacher. 2. Teacher continues teaching and waits to speak to tardy student to catch him/her up once free.	1. Student enters virtual meeting with microphone muted and waits for teacher to be free. 2. Teacher continues teaching until there is a break and speaks to the tardy student to catch him/her up or provide a time when they can talk.	1. Student completes work and meets assigned deadlines as soon as possible. 2. Student notifies teacher when work is submitted via Google Classroom.

Adapted from Archer and Hughes (2011, pp. 122-126).

remotely and may need to be creative in figuring out how to use HLPs in new modalities, and (b) it may be less obvious to teacher candidates when faculty are engaging in HLPs in the remote environment since they are also new to this way of teaching and learning.

Dr. Huang Demonstrates

Given the fully online nature of Dr. Huang's course, she decided to capitalize on the opportunity to model for her candidates what HLPs #7 and #18 could look like in a remote environment. For HLP #7, she started out the semester by explicitly stating her expectations for the remote learning environment. As appropriate, she reviewed prerequisite skills needed and modeled the expectations (e.g., how to mute and unmute the microphone, how to indicate a raised hand, how to use a virtual background if desired in order to feel comfortable leaving the camera on). On her course syllabus, as well as on the course site on her college's learning management system, she wrote out step-by-step procedures for class routines such as posting on a discussion board, completing quizzes, and submitting assignments. As she went over these expectations and procedures with her candidates, she explained how they could serve as a model for what they could do as future teachers in their own virtual learning environments. For example, she stated, "Notice how I included step-by-step directions in the syllabus for how to participate in a discussion forum. I have outlined the technical aspects (e.g., where to find the discussion, how to make a post, how to respond to a peer's post, etc.) as well as the expectations for participation (e.g., how many posts to make, what to include in posts, etc.). All of this information in critical to ensure that you understand how to independently complete this task."

For HLP #18, she brainstormed several simple ways to elicit student engagement in both the synchronous and asynchronous portions of her class. For example, during synchronous sessions, she asked her candidates to hold up 1, 2, 3, or 4 fingers to respond to multiple choice questions as an alternative to the use of physical response cards. She also created opportunities for candidates to engage in carefully structured small group discussions and application activities in breakout rooms (see Tip 4 for more detail). One method of student engagement she modeled for asynchronous tasks/sessions was to have teacher candidates respond to journal prompts in pairs in a Google doc. In this way, the candidates were able to write back and forth to re-flect on class topics, and she was able to respond to each pair with her feedback.

Tip #4: Provide Practice Opportunities with HLPs in Remote Instruction

It is important that candidates receive scaffolded support and guidance as they implement HLPs in a variety of practice scenarios. At this stage in candidates' development, teacher education faculty play an essential role in bridging the gap between candidates' knowledge of effective practices and their ability to integrate these practices into their teaching repertoire. During face-to-face instruction, it is common for candidates to be arranged in small groups and given structured opportunities to apply new techniques in the context of microteaching. At first, faculty typically help focus candidates' attention on a few specific practices and their essential components. Then, as they gain proficiency, faculty incorporate additional practices. During online synchronous instruction, these practice sessions can be conducted in virtual, small group, breakout rooms. During asynchronous sessions, candidates can be provided with ample practice opportunities using pre-recorded video lessons with built-in checks for understanding, such as having candidates practice and record implementing a practice for feedback.

In addition, case studies developed by faculty can provide candidates with important contextual information that is difficult to convey through small group activities. For example, case studies can provide background information about student or classroom-level scenarios that are typical but are not easily replicable by peers during micro-teaching sessions (e.g., students not turning on camera, misusing chat boxes, disengaged in learning activities).

A combination of microteaching and case studies can provide candidates with valuable opportunities to address these typical scenarios by applying HLPs (or their kernels) to improve student performance in the remote setting. In addition to considering the range of potential instructional modalities their candidates are likely to teach, faculty must also decide how much support and feedback candidates may need to best support their application of HLPs in these various teaching contexts. The importance of scaffolding candidates' performance across modalities with appropriate feedback should be considered a critical lynchpin to their future proficient implementation of HLPs in all instructional modalities.

Candidates Practice HLPs with Feedback and Reflection

In her typical practice scenarios, each candidate in Dr. Huang's class teaches a mini-lesson to a small group of peers while capturing the teaching on video. Then, each group reviews their session and shares constructive feedback to the candidate who taught as a means of further enhancing the candidate's instructional practices. In this micro-teaching cycle, the candidate then has an opportunity to reteach the lesson, incorporating feedback provided by Dr. Huang and peers, with the goal of improving his/her instructional repertoire.

In her online, synchronous class, Dr. Huang decided to continue this practice by having groups use breakout rooms and record their microteaching lessons for later review and re-teaching. As she developed plans to support her candidates' application of HLP 7 in their synchronous lessons, Dr. Huang designed a case study to provide important context for her students. The teaching scenario was set in the early days of a new school year, thus creating the need for her candidates to devote substantial time to setting expectations and building a respectful and organized learning community. She also guided candidates to use the checklist she created in her own syllabus and adapt it for their specific grade-level and own expectations. In this way, candidates had not only a clear model from Dr. Huang's own instruction, but also the scaffolding to render HLP 7 relevant and adaptable for their own teaching. To guide candidates' application of HLP 18 in their micro-teaching scenarios, Dr. Huang explicitly required candidates to use at least one of the response methods that she had modeled during her instruction (e.g., holding 1, 2, 3, or 4 fingers up as a response to a multiple-choice question).

Using these methods, candidates in Dr. Huang's class were given the best opportunity to successfully implement the practice on the first attempt. As the semester progressed, candidates would be given more practice opportunities with gradually less support. The explicit requirements and directions on what to incorporate in these early micro-teaching scenarios were removed as their proficiency increased. By continuing her practice of giving specific and timely feedback about candidates' performance, and structuring candidates' post-teaching self-reflection prompts to emphasize the salient features of the HLPs they were enacting, Dr. Huang was increasingly assured her new approach would be met with success.

Tip #5: Explore Technology to Support HLPs

While we have proposed the previous four tips under the premise of using only basic technology tools as a foundation, there is certainly a clear rationale for teacher education faculty to help candidates explore a variety of technology tools to support HLPs. As candidates learn about various popular technology tools that are being used in remote environments, teacher educators can help candidates consider why those tools may or may not be effective at helping students learn. The idea is that before adopting new tools, candidates need to be able to "separate the wheat from the chaff" and understand their pedagogical value. In other words, candidates need to be able to explain why these tools might be beneficial in remote teaching and learning. If candidates are not able to do this, they may choose strategies that are simply popular or seem exciting, instead of those that include evidence-based attributes that make them effective.

The abundance of technology for teaching and learning can be both advantageous and challenging to educators seeking to enact high quality instruction in a technology-saturated society. In addition to the potentially arduous process of selecting worthwhile (i.e., effective) tools aligned to learning objectives and matched to student needs, teachers must also contend with, among other things, students' varied levels of technology proficiency and more broadly with the issue of inequitable access to technology tools as well as the internet connections on which they rely. While these latter challenges are beyond the scope of this paper, they nonetheless exert differential impacts on learners, and as such must be addressed by the array of stakeholders committed to successful student outcomes in remote learning environments.

With issues of access and proficiency aside, teacher candidates need to be prepared to evaluate, select, and implement technology tools in service of student learning. As candidates leverage their insights about key elements of practice embodied in HLPs to enact them in remote environments, they must similarly tighten the process with which they consider, adopt, and use technology tools. Of utmost relevance for the translation of HLPs to remote teaching is priming candidates to consider how a given technology tool facilitates the enactment of key features of HLPs in a given modality. Faculty can help candidates reject the harmful notion that exciting or popular technology tools should be

embraced without consideration of these important and interconnected elements of practice. Free, high-quality guidance documents abound to assist educators in finding technology tools. For example, candidates can be directed to a document offering tips for tool selection and use key points such as keeping the number of tools limited and manageable, explicitly teaching and modeling tool use, and ensuring accessibility features are included (Herbuger et al., 2020).

Candidates Judiciously Select Technology Tools

Dr. Huang was concerned about some of her candidates' seeming enthusiasm for the surface appeal and popularity of some common technology tools. She worried they were failing to give much consideration to why and how a tool might be useful, and thus warranted for implementation. She wanted to help focus candidates' attention on a vital question: does the technology tool enable the teacher to enact critical features of HLPs? Because the answer would depend on the modality in which the teacher was delivering instruction, Dr. Huang decided to have candidates use the list of critical features they developed (i.e., in Tip #1 vignette) as a way to facilitate a decision-making process about tools which were attentive to the "kernels" of effective practices they had uncovered. In considering how to best implement HLP 18 across modalities, for example,

Figure 3. Example of Comparting Strategies for an HLP Across Modalities

HLP 18: Use Strategies to promote active student engagement

HLP Feature	Strategies by Modality		
	Face-to-Face	Remote - Synchronous	Remote - Asynchronous
Movement:			
Active responding (or eliciting responses)	response slates; response cards; think-pair-share; Numbered Heads Together	hands signals (1, 2, 3, 4 fingers as response card); response boards held to screen; breakout rooms for partner and group work	Edpuzzle (allows teacher to embed questions within a video lecture); GoogleDoc or Blogger as a digital journal with students asked to respond at various points in a reading; students can be asked to find a working partner they can meet with at a mutually agreeable time
Use of:			
Self-management	model goal-setting; self-monitoring checklists; self-instruction think-alouds.	share goal setting in breakout rooms; post self-monitoring checklists at key junctures in the class; self-instruction think-alouds	share and respond to goal setting via Flipgrid; incorporate self-monitoring checklists; self-instruction think-alouds
Materials or Assignments:			
Monitor student engagement and provide feedback	circulate around room; provide 1:1 and whole-class verbal feedback	record session for later analysis; monitor whole class using "grid view"; provide verbal feedback to whole class, breakout rooms, or individuals; written feedback in chat box; email feedback after class	attend to student log-in data in Learning Management System; enable automated real-time feedback when possible (e.g., for M/C and T/F questions); provide additional feedback in ways that are teacher friendly (i.e., develop general written feedback and then personalize by student need)

Dr. Huang guided students through deliberation of a few tools. She selected tools that were prime examples of HLP alignment and others that were non-examples of such alignment, forcing careful evaluation of each tool for its potential utility in enacting the HLP. As they considered the extent of alignment with the critical features of HLPs, Dr. Huang's candidates developed tables much like the one in Figure 3, revealing a variety of tools that facilitated implementation of HLP 18 in one or more modalities. Creating these tables helped candidates begin to conceptualize the interplay between HLP features, instructional modality, and the rationales for using specific technology tools in these learning spaces. While their evaluations of specific tools were important in identifying a starting point for tool selection in their remote teaching, Dr. Huang was most eager to equip candidates with both a mindset and a process by which they could approach the planning of their technology-infused remote lessons.

Wrap-up

As educators across the country work to improve teaching and learning in a variety of modalities, it is necessary to reflect on what we already know about effective practices and use that knowledge as a guide. Many challenges experienced by students and teachers new to remote learning can be addressed by applying HLPs (i.e., Herbuger et al., 2020). Through Dr. Huang's teaching, we were able to observe the process of translating HLPs to remote environments by: (1) identifying key components of HLPs, (2) recognizing what they would look like across a range of instructional modalities, (3) modeling the use of HLPs in different modalities, (4) providing practice opportunities for these the relevant HLPs, and (5) exploring technology to support the use of HLPs. Dr. Huang's embrace of a modality-agnostic perspective in teaching HLPs required some important pedagogical shifts to help ensure that teacher candidates were prepared to teach effectively in any environment. By following these tips, Dr. Huang supported her candidates' understanding that their success hinged not on any particular instructional modality, but on their creation of engaging, organized, and respectful learning environments.

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About the Authors

Shannon Budin

Dr. Shannon Budin (Ph.D., Penn State University) is a Professor in the Exceptional Education Department at SUNY Buffalo State where she also serves as Assistant Dean for Assessment and Accreditation for the Teacher Education Unit. Her research and scholarly interests focus on improving teacher use of research validated, high-leverage practices in the classroom as well as the use of simulation activities to improve teacher candidates' knowledge and skills.

Andrew Hashey

Dr. Andrew Hashey (Ph.D., University at Buffalo) is an Assistant Professor in the Exceptional Education Department at SUNY Buffalo State College where his work is centered on special education teacher preparation in the areas of literacy and instructional design. Dr. Hashey's research interests include high-leverage practices, writing intervention, and school-university partnerships.

Angela L. Patti

Dr. Angela L. Patti (Ph.D., University at Buffalo) is an Associate Professor in the Exceptional Education Department at SUNY Buffalo State. Prior to working in higher education, she was a special education teacher and Committee on Special Education Chairperson. Her scholarly interests include high-leverage practices, co-teaching, and developing teacher candidates' cross-cultural competency through faculty-led study abroad programs.

Lisa A. Rafferty

Dr. Lisa A. Rafferty (Ph.D., University at Buffalo) is a Professor in the Exceptional Education Department at SUNY Buffalo State. Her research interests emanate from her earlier work as a teacher and behavior support specialist. Her most recent scholarly work has focused upon teacher-education program reform to help prepare candidates who can effectively implement high leverage practices that will result in positive outcomes for all students, including those with and at-risk for disabilities, through high-quality, clinically rich programming.

Developing Preservice Teachers' Expertise in Evaluating and Adapting Mathematics Lesson Plans

Stephanie Morano and Paul J. Riccomini

Abstract

To provide appropriate and effective instructional supports to students with disabilities, special education preservice teachers require development of expertise in the design and delivery of specially designed lessons. It is critical that special education preservice education programs provide students ample opportunities to learn how to evaluate and adapt lesson plans through the application of the elements of explicit instruction. In this article, we explain how to develop preservice teachers' expertise in the evaluation and adaptation of mathematics lesson plans with the elements of explicitness to better support students with disabilities. The example activity and assignments provided are anchored in the context of a university math methods course and include all necessary materials.

Keywords:
explicit instruction, mathematics, special education teacher preparation

Acquiring foundational mathematics skills and learning to apply those skills is critical to the academic success of all learners and is becoming more important for post school employment opportunities as growth in science, technology, engineering, and mathematics (STEM) careers significantly outpaces growth in non-STEM occupations (U.S. Department of Commerce, 2017). Given the importance of success in mathematics, it is essential that educators provide more effective support for students with disabilities struggling to acquire critical mathematics concepts and skills (Wei et al., 2012; Stevens, et al., 2015). Although gains in mathematics performance have been observed, performance outcomes for students with disabilities are still in need of improvement (NAEP, 2017; Schleicher, 2018). The implications of insufficient math performance for students with disabilities extend well beyond achievement test scores by impacting competitive employment opportunities and competitive wages (U.S. Department of Labor, 2020). Clearly, a need exists to provide more intensive support for students with disabilities to positively impact their mathematics outcomes.

In recent decades, studies investigating mathematics interventions, instructional strategies, and early numeracy development have identified effective practices that can support students in learning mathematics and improve their math outcomes (e.g., Baker et al., 2002; Clarke et al., 2015; National Mathematics Advisory Panel, 2008; Pellegrini et al., 2021). Although the research base is expansive in terms of math content focus, grade level, disability type, and intervention design, explicit instruction is often the foundation of methods and practices identified as effective. Due to the strength of the evidence in support of explicit mathematics instruction for struggling students, the IES practice guide, Assisting Students Struggling with Mathematics (Gersten et al., 2009), recommends that mathematics intervention instruction should be explicit and systematic.

Explicit Instruction

Based on a review of the literature where explicit instruction was the primary focus of intervention or discussion, Hughes et al. (2017) define explicit instruction as follows:

Explicit instruction is a group of research-supported instructional behaviors used to design and deliver instruction that provides needed supports for successful learning through clarity of language and purpose, and reduction of cognitive load. It promotes active student engagement by requiring frequent and varied responses followed by appropriate affirmative and corrective feedback, and assists long-term retention through use of purposeful practice strategies (p.143).

In addition to creating this definition, Hughes et al. identified five essential components of explicit in-

struction (present in at least 75% of the 68 publications reviewed) and seven additional common components (present in at least 50% of reviewed publications). The five essential components include: (a) segment complex skills; (b) draw student attention to important features of the content through modeling/think-alouds; (c) promote successful engagement by using systematically faded supports/prompts; (d) provide opportunities for students to respond and receive feedback; and (e) create purposeful practice opportunities. These five essential components of explicit instruction, as well as the seven common components, are all included in Archer and Hughes' (2011) previously published list of 16 elements of explicit instruction (see Figure 1).

Figure 1. Principles and Elements of Explicit Instruction

Principles of Explicit Instruction

1. Optimize engaged time/time on task.
2. Promote high levels of success.
3. Increase content coverage.
4. Have students spend more time in instructional groups.
5. Scaffold instruction
6. Address different forms of knowledge.

Elements of Explicit Instruction

1. Focus on critical content.[b]
2. Sequence skills logically.[b]
3. Break down complex skills and strategies into smaller instructional units.[a]
4. Design organized and focused lessons.
5. Begin lessons with a clear statement of the lesson's goals and your expectations.[b]
6. Review prior skills and knowledge before beginning instruction.[b]
7. Provide step-by-step demonstrations.[a]
8. Use clear and concise language.
9. Provide an adequate range of examples and non-examples.[b]
10. Provide guided and supported practice.[a]
11. Require frequent responses.[a]
12. Monitor student performance closely.
13. Provide immediate affirmative and corrective feedback.[a]
14. Deliver the lesson at a brisk pace.[b]
15. Help students organize knowledge.[b]

16. Provide distributed and cumulative practice.[a]

Note. Lists of 6 principles and 16 elements of explicit instruction are sourced from Archer and Hughes (2011).
[a] *Essential elements of explicit instruction as identified by Hughes et al. (2017).* [b] *Common elements of explicit instruction as identified by Hughes et al. (2017).*

In addition to its inclusion as a key recommendation in the IES practice guide, Assisting Students Struggling with Mathematics (Gersten et al., 2009), explicit instruction has been identified as one of 22 High Leverage Practices (HLPs) that are critical for all special education teachers entering the profession to learn (Windschitl et al., 2012). Further, the Council for Exceptional Children's Initial Preparation Standard 5: Instructional Planning and Strategies requires beginning special education professionals to develop expertise in evidenced-based instructional strategies, including explicit instruction (CEC, 2021). Table 1 contains a list of resources related to explicit instruction.

Explicit instruction is the keystone of the design and delivery of specially designed instruction (Riccomini et al., 2017); and for many students with disabilities, explicit instruction in mathematics is critical for learning (Doabler & Fien, 2013). In effect, applying the principles and elements of explicit instruction when developing new lesson plans and when adapting (non-explicit) lesson plans is a primary responsibility for educators supporting students with disabilities, regardless of classroom setting, disability category, grade level, or mathematical content. Further, because many special education teachers support students with disabilities in general education classrooms (e.g., co-teaching, push-in support), where instruction is organized around a mathematics curriculum that has been adopted by their school or district, they are responsible for evaluating and adapting the curriculum lessons to better support their students.

Although most mathematics curricula attempt to address the learning needs of struggling students, they are not designed specifically to support students with disabilities (Doabler et al., 2012) or English learners with disabilities (Doabler et al., 2016). This often means that special educators must adapt lessons to make them more explicit, and therefore more effective for their students (Sayeski & Paulsen, 2010). As a result, it is necessary for preservice teachers (PSTs) to learn to deliver explicit mathematics instruction, to be able to identify

Table 1. Explicit Instruction Resources for Math

Resource	Description
Archer & Hughes, 2011.	Comprehensive text on explicit instruction and accompanying website: https://explicitinstruction.org/
IES Practice Guides	Young Children: https://ies.ed.gov/ncee/wwc/PracticeGuide/18
	Fractions: https://ies.ed.gov/ncee/wwc/PracticeGuide/15
	Algebra: https://ies.ed.gov/ncee/wwc/PracticeGuide/20
CEEDAR Center	https://ceedar.education.ufl.edu/hlps/
National Center on Intensive Intervention	https://intensiveintervention.org/
Division for Learning Disabilities	https://www.teachingld.org/topics/mathematics/
Retrieval Practice: The Science of Learning	https://www.retrievalpractice.org/
IRIS Resource Locator	https://iris.peabody.vanderbilt.edu/
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Doabler, Strand, Cary, Jungjohann, Clarke, Fien, Baker, Smolkowski, & Chard, 2012.	Enhancing core math instruction for students at-risk for mathematics disabilities. *TEACHING Exceptional Children, 4*, 48–57.

the instructional approach of mathematics curricula, and to learn to adapt or revise non-explicit instructional plans using the principles and elements of explicit instruction.

Purpose

Given the persistent poor math performance and related negative post school outcomes for students with disabilities, it is necessary to reexamine how preservice special education preparation programs prepare their graduates to support students in math (Powell, 2015).

Teaching PSTs to effectively use explicit instruction in mathematics is an important goal and one supported by evidence from math intervention research and special education teacher preparation standards. The remainder of this article provides a detailed description of an activity and assignments the authors use in undergraduate and graduate level special education math methods courses to meet the goal of preparing special education PSTs to provide effective, explicit instruction in mathematics.

How to Teach PSTs to Evaluate and Adapt Math Lesson Plans for Explicitness

This section describes an in-class activity and related independent assignments that are designed to teach PSTs (1) how to evaluate mathematics lesson plans in regard to their explicitness; and (2) how to adapt mathematics lesson plans to make them more explicit and more effective for students with disabilities. Implementing the initial, in-class lesson plan evaluation activity takes 1-2 class sessions and the follow-up lesson plan evaluation and revision assignments span several weeks. The activity and assignments meet key elements of at least two of the Council for Exceptional Children's (CEC's) Initial Preparation Standards related to Curricular Content Knowledge Standard #3 and Instructional Planning and Strategies Standard #5 (CEC, 2021). Table 2 contains a check list of CEC key elements addressed in this activity and the follow-up assignments. The activity and assignments are scaffolded so that the initial, in-class lesson plan evaluation activity involves significant guidance from the instructor, while the follow-up assignments allow students to practice these skills with greater independence.

Preparing to Implement the Activity and Assignments

The initial in-class lesson plan evaluation activity requires that PSTs have some background knowledge about explicit instruction, so initial instruction about explicit instruction prior to implementing the activity is recommended. In the authors' math methods courses, one or two class sessions prior to the in-class lesson evaluation activity are dedicated to: (a) learning about the principles and elements of explicit instruction (see Figure 1); (b) the research support for using explicit instruction to teach math to students with disabilities, and; (c) the differences between explicit math instruction and a more constructivist approach to math instruc-

tion, which is currently popular in schools (Sayeski & Paulsen, 2010) and less effective than explicit math instruction for students with disabilities (e.g., Guilmois et al., 2019; Kroesbergen et al., 2004). Constructivist math instruction can be characterized as an approach in which students must discover or construct essential information for themselves, rather than being presented with essential information and provided with a high degree of instructional guidance (Kirschner et al., 2006). A flow chart that situates the in-class lesson evaluation activity and follow-up assignments within the context of other relevant elements of the authors' math methods courses is provided in Figure 2.

In-Class Activity: Learning to Evaluate Math Lessons for Explicitness

The in-class lesson evaluation activity takes about two hours to implement. It is possible to complete the activity in one long class session or break it up over two shorter sessions. The procedure and sample materials for implementing the activity are presented below.

Introduce the Lesson Plan Evaluation Checklist (~10-15 min.)

The first step in implementing the in-class lesson plan evaluation activity is introducing the lesson plan evaluation checklist. The checklist (see Figure 3) is designed to evaluate the explicitness of a lesson and was adapted from the five essential components of explicit instruction as described by Hughes et al. (2017) and the Mathematics Program Evaluation Guide designed by Doabler et al. (2018). The checklist includes a column with 10 items that describe important elements of a well-designed explicit mathematics lesson plan; a column in which the user rates each item as missing, insufficient, or sufficient; and a column in which the user can make notes and suggestions for revision or adaptation.

To start the in-class activity, activate students' prior knowledge about explicit instruction by asking them to

Figure 2. Flowchart of Activities and Assignments on Evaluating and Revising Math Lesson Plans
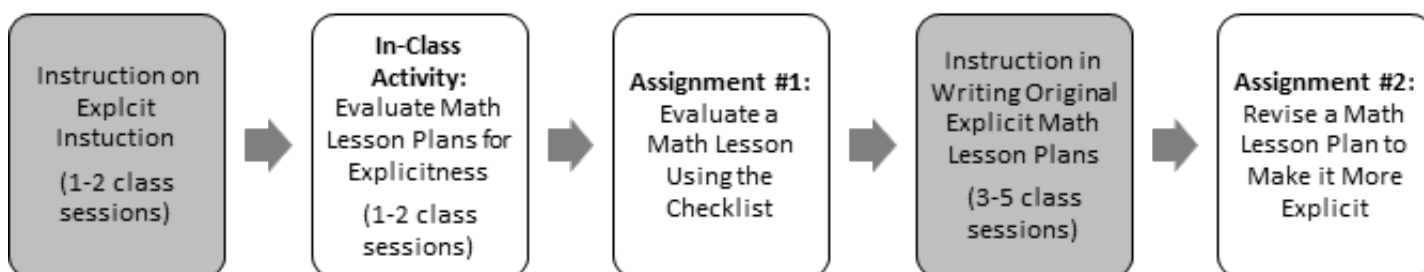
Note. The activities and assignments in white boxes are those described in detail in the how-to section.

Table 2. CEC Initial Preparation Standards Checklist

Standard	Key Element Addressed
Standard #3: Curricular Content Knowledge	✓ Beginning special education professionals use knowledge of general and specialized curricula to individualize learning for individuals with exceptionalities. ✓ Beginning special education professionals modify general and specialized curricula to make them accessible to individuals with exceptionalities.
Standard #5: Instructional Planning	✓ Beginning special education professionals select, adapt, and use a repertoire of evidence-based instructional strategies to advance learning of individuals with exceptionalities ✓ Beginning special education professionals select, adapt, and use a repertoire of evidence-based instructional strategies to advance learning of individuals with exceptionalities ✓ Beginning special education professionals select, adapt, and use a repertoire of evidence-based instructional strategies to advance learning of individuals with exceptionalities ✓ Beginning special education professionals teach to mastery and promote generalization of learning. ✓ Beginning special education professionals teach cross-disciplinary knowledge and skills such as critical thinking and problem solving to individuals with exceptionalities.

Note. CEC Initial Preparation Standards: https://exceptionalchildren.org/standards/initial-special-education-preparation-standards

do a think-pair-share as they try to recall as many as possible of the 16 elements of explicit instruction (Archer & Hughes, 2011). Write or record the elements as students list them during the share. If the share doesn't yield all 16 elements, fill in the gaps before moving on. Next, project the lesson plan evaluation checklist and give students access to their own copies. Review each of the 10 checklist items with the class and discuss how they relate to the elements of explicit instruction.

Have Students Read an Explicit Math Lesson Plan (~10 min.)

The next step is to have students read an explicit lesson plan. The authors use the lesson plan on the order of operations published on pp.41-43 in the Archer & Hughes (2011) text, *Explicit Instruction: Effective and Efficient Teaching* (included in supplemental files with permission). Instructors can give students approximately 10 minutes to read the lesson plan in class or assign the reading to be completed before class.

Lead the Class in Using the Checklist to Evaluate the Explicit Lesson (~30 min.)

After students have reviewed the explicit lesson plan, lead the class in using the checklist to evaluate the plan. The Archer & Hughes (2011) lesson plan on the order of operations (or any well-designed explicit math lesson plan) will earn scores of 3 (sufficient) for most, if not all, of the 10 items on the checklist. Starting this activity by using the checklist to evaluate a strong, explicit math lesson (like the Archer & Hughes lesson) will help to illustrate high-quality examples of each checklist item in action. As discussed, students should have some prior knowledge about explicit instruction before engaging in this activity but learning to recognize how the explicit instruction checklist items take shape in a real lesson will deepen their understanding of what explicit instruction looks like in practice. While working through the checklist, use guided questioning to involve students in the evaluation process. For example, when assessing item 2 (on warm-up/review activities), ask: "What skills or concepts does the review

Figure 3. Mathematics Lesson Plan Evaluation Checklist		
Mathematics Lesson Plan Evaluation Checklist		
Lesson:		
Grade Level:		
Standard(s):		
Objective(s):		
Does the lesson include…	**Rating 1 2 3** **1 = missing** **2 = insufficient** **3 = sufficient** **N/A**	**Notes and Suggestions for Revision/Adaptation**
1. A clear teacher statement about lesson objectives?		
2. Warm-up/review activities that assess student knowledge of critical pre-skills and activate relevant background knowledge?		
3. Modeling w/think aloud? The lesson provides specific and sufficient guidelines for teacher modeling. *The teacher shows and tells students how to meet a learning objective (i.e., provides clear, step-by-step demonstrations) using clear, concise, mathematically accurate language.		
4. Segmentation of complex skills? The lesson breaks a complex skill or strategy into smaller instructional units.		
5. Sufficient and appropriate instructional examples that are appropriately sequenced and scaffolded?		
6. Explicit instruction ore review of key mathematics vocabulary terms using precise, student-friendly definitions?		
7. Systematically faded supports? The lesson promotes successful engagement by providing systematically scaffolded practice opportunities. Initial practice opportunities are heavily supported; then based on students' response, supports are gradually faded to release responsibility and increase student independence.		
8. Many opportunities for students to respond with feedback AND opportunities for student verbalizations?		
9. Purposeful practice? The lesson provides practice opportunities that align with learning objectives. Practice is distributed and cumulative. Practice may provide opportunities to use concrete manipulatives and/or visual representations to model math skills/concepts.		
10. Correction procedures or guidelines to address student misconceptions?		
Final Evaluation: **Rating total (30 = highest possible score)**		**Final Notes/ Comments:**

Note. Checklist items adapted from Doabler et al. (2018) and Hughes et al. (2017).

or warm-up cover?" "Are these skills and concepts important prerequisites for the objective(s) of the lesson?"

A master version of a completed checklist for the Archer & Hughes lesson is included in the supplemental files. This completed checklist can be used as a resource for leading the class discussion. It is also helpful to give students their own copy of the master checklist at the end of the activity to keep as a reference. After evaluating the explicit lesson as a whole group, break for a few minutes or until the next class session.

Have Students Read a Constructivist Math Lesson Plan (~10 min.)

After using the checklist to evaluate a strong example of an explicit lesson, the next step in the activity is to use the checklist to evaluate a non-example of explicit math instruction. Begin this part of the activity by having students read a non-explicit math lesson plan. Assign the reading prior to class to save time if necessary. In this example, the non-explicit, constructivist lesson is a lesson on the order of operations from the Eureka Math/EngageNY mathematics curriculum (Lesson 6: The Order of Operations, Great Minds, 2015; lesson included in supplemental files). The lesson plan is the 6th lesson from the 4th module in the 6th grade math curriculum and is freely available online under a Creative Commons license. This lesson uses an approach to mathematics instruction that is more constructivist than explicit, and while it includes some elements on the explicit evaluation checklist, many elements are 'missing' or 'insufficient.' This lesson provides a good contrast to the explicit Archer and Hughes (2011) lesson because it teaches similar content and targets similar learning objectives, but it takes a different pedagogical approach and would need to be adapted to be used effectively with struggling mathematics students.

Break Students into Small Groups to Evaluate the Constructivist Lesson (~30 min.)

After students read the constructivist lesson, break the class into small groups to evaluate the lesson using the checklist. Give pairs or small groups 5-10 minutes at a time to work, then come together as a whole group to review one or two evaluation checklist items at a time. After whole group review, return to pair or group work and repeat this process until students complete their evaluation checklists. As with the explicit lesson, a master version of a completed checklist for the Eureka Math/EngageNY lesson is available in the supple-

mental files for use as a resource during the activity and to give to students as a reference once the activity is complete.

Discuss Differences Between the Explicit and the Constructivist Lessons (~5-10 min.)

After students have worked to complete an evaluation checklist for one explicit math lesson and one constructivist math lesson, close the in-class activity by leading a whole group discussion focused on noting the greatest differences between the two lessons. Guide this discussion using questioning. For example, ask: "Which checklist items (i.e., elements of explicit instruction) did both lessons include sufficiently?" "Where is there a big discrepancy in explicitness between the two lessons?" "How does the discrepancy reflect the difference between explicit and constructivist teaching philosophies?" For the example lessons used here, the authors like to highlight the differences present in teacher modeling and practice opportunities (see a side-by-side comparison of these checklist items in Figure 4) and discuss the impact these differences are likely to have on mathematics learning for students with disabilities.

Follow-up Assignments: Evaluating and Revising Mathematics Lesson Plans

After completing the initial, in-class lesson plan evaluation activity, have students complete an independent lesson evaluation for a new lesson of their choice; then, several weeks later (after instruction focused on writing original explicit math lesson plans), assign students to revise the lesson they evaluated to make it more explicit and effective for students with disabilities. These two assignments allow students to practice the critical skills of evaluating and adapting lesson plans. More detailed information about both of the assignments is provided below.

Assign Students to Evaluate Another Lesson Plan Independently Using the Checklist

For the independent lesson plan evaluation assignment, allow students to select a mathematics lesson plan at the grade level they wish to teach or covering math content of particular interest to them. The authors recommend encouraging students to select a math lesson plan published by their state Department of Education, the National Council for Teachers' of Mathematics, Eureka Math/EngageNY, or from the curriculum in

Figure 4. Side by Side Comparison of Evaluations of Modeling and Systematically Faded Practice for the Example Lessons.

Mathematics Lesson Plan Evaluation Checklist

Lesson:	Archer and Hughes		EurekaMath/EngageNY	
Does the lesson include...	**Rating 1 2 3** 1 = missing 2 = insufficient 3 = sufficient N/A	Notes and Suggestions for Revision/Adaptation	**Rating 1 2 3** 1 = missing 2 = insufficient 3 = sufficient N/A	Notes and Suggestions for Revision/Adaptation
3. Modeling w/think aloud? The lesson provides specific and sufficient guidelines for teacher modeling. *The teacher shows and tells students how to meet a learning objective (i.e., provides clear, step-by-step demonstrations) using clear, concise, mathematically accurate language.	3	The teacher shows and tells students exactly how to perform the skill. Example problems include: 5 × (6 + 3) and (5 × 6) + 3. The teacher models how to apply the skill to both problems to highlight the importance of following the order of operations (i.e., if you don't follow the order of operations, you get a different/incorrect solution).	1	The teacher leads a whole group discussion which ends with a key point: *We now know that when we evaluate expressions, we must agree to use one set of rules so that everyone arrives at the same correct answer. These rules are based on doing the most powerful operations first (exponents), then the less powerful ones (multiplication and division, going from left to right), and finally, the least powerful ones last (addition and subtraction, going from left to right).* However, the teacher does not MODEL how to apply the order of operations. They do not explicitly show and tell students how to apply the rule to evaluate expressions. They ask students to evaluate expressions independently from the very beginning.
7. Systematically faded supports? The lesson promotes successful engagement by providing systematically scaffolded practice opportunities. Initial practice opportunities are heavily supported; then based on students' response, supports are gradually faded to release responsibility and increase student independence.	3	The teacher provides 5 guided practice opportunities using the tell, ask, remind (TAR) framework. For the first practice opportunity, they tell students what to do, step-by-step, as students follow along. For the next two practice opportunities, the teacher asks questions to prompt students to complete each step in the problem-solving process and solve. For the fourth practice opportunity, the teacher asks some questions to prime the students/get them ready to solve; and for the fifth and final practice opportunity, the teacher reminds students of the strategy and asks them to solve nearly independently. The practice opportunities start at a very highly guided/highly and supported level and the teacher fades support gradually until the students are solving on their own.	1	The teacher provides practice opportunities, but support is not systematically faded. Students are expected to work independently from the beginning of the lesson.

Note. Checklist items adapted from Doabler et al. (2018) and Hughes et al. (2017).

use at the site of their current field experience, school placement, or teaching job. Lessons that include scripting work best for this activity. Allowing students to select a lesson plan can increase engagement with the assignment. Students should submit a copy of the lesson plan they select along with their completed evaluation checklist. Review the students' evaluations of the lessons and provide feedback.

Assign Students to Revise the Lesson they Evaluated to Make it More Explicit.

The authors typically wait several weeks after students have submitted their independent lesson plan evaluation before assigning the lesson plan revision assignment. In the interim, authors spend several class sessions teaching students to write explicit mathematics lesson plans of their own. By waiting to assign the lesson plan revision assignment until students have had the experience of writing explicit mathematics lessons independently, we ensure that they have all of the skills necessary to effectively adapt a lesson that does not adhere to an explicit framework.

To complete the lesson revision assignment, students first review the lesson evaluation they completed several weeks prior. Next, they use the knowledge and skills they have been honing over the course of the semester to revise or adapt the lesson to make it more explicit. For the lesson revision assignment, ask students to add notes about their ideas for revision to the evaluation checklist they submitted previously, then to write up a brief narrative that explains the revisions they would make and the rationale for those changes. Other options include asking students to rewrite the lesson with their revisions included, or to 'mark-up' a copy of the original lesson by hand or by using a .pdf or document editor. Students can note where they would make additions, cross out lesson elements that they would eliminate, draw arrows to show how they would rearrange lesson activities, and so on. The revised lesson should include the elements of an explicit lesson. Review the updated evaluation checklists and narratives (or revised or annotated lesson plans) that students submit and provide feedback.

Limitations and Potential Roadblocks

In the authors' experience, the described activities and assignments have a meaningful impact on students' ability to recognize the elements of explicit instruction within math lesson plans and to revise non-explicit lesson plans to make them more explicit and more effec-

tive for students with disabilities. However, the effects of the described activities have not been tested experimentally. In addition, the described activity requires a significant amount of time to implement and the assignments require a great deal of specific feedback from the instructor. The in-class activity takes at least one class session but could take two sessions. It may be challenging for instructors to fit the activity into their semesters, especially for those instructors who teach methods courses spanning several different content areas (e.g., math and science; or reading, writing, and math).

In addition, it is important to give specific, detailed feedback on the independent evaluation assignment and on the independent revision assignment, because feedback is an effective tool for closing the gap between students' current performance and desired performance (Archer & Hughes, 2011, p.175). In order to give meaningful feedback, instructors must read the lesson that students have selected and assess the students' evaluation and recommendations for revision against their own standards. One idea for reducing the amount of time it takes to provide feedback is to preselect the lesson that students will independently evaluate and revise. Then, the instructor can create a master evaluation checklist and a master revised lesson plan to grade all student work against. Instructors could even provide these resources to students to assess and revise their own work. The drawback to this solution is that it removes student choice in the assignment.

Summary

As faculty in special education teacher preparation programs, it is our responsibility to develop our students' expertise in using evidence-based practices, so they can provide effective instruction and help students with disabilities experience academic and social success. The CEC's initial preparation standards (CEC, 2021) and mathematics instruction guidance documents (Gersten et al., 2009; NMAP, 2008) identify explicit instruction as a crucial practice in mathematics instruction for students with (and without) disabilities, so teaching our PSTs to implement explicit mathematics instruction in our math (or content) methods courses is an important course outcome. Special education teacher trainees must learn to write explicit lesson plans, but because many students with disabilities receive their mathematics instruction in general education classrooms that make use of non-explicit curricula (Sayeski & Paulsen, 2010), trainees must also learn to

adapt non-explicit math curriculum to make it more explicit and more effective for students with disabilities. The activity and assignments we present in this article are useful instructional tools that can help prepare special educators with the knowledge and skills to help students with disabilities succeed in math.

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About the Authors

Stephanie Morano

Stephanie Morano, Ph.D. is an assistant professor in special education at the University of Virginia's School of Education and Human Development. Dr. Morano's research investigates math interventions for students with disabilities and approaches to training special education teachers to provide effective mathematics instruction.

Paul J. Riccomini

Paul Riccomini, Ph.D. is an associate professor of Special Education at the Pennsylvania State University. His current research interests are effective instructional practices and interventions in mathematics for students with high-incidence disabilities.

Incorporating High-Leverage Practice 7 in Classroom/Behavior Management Courses: Creating Supportive Learning Environments

Jonte' C. Taylor and Naima Bhana

Abstract

In a joint effort, the Council for Exceptional Children (CEC) and the Collaboration for Effective Educator Development, Accountability and Reform (CEEDAR) published instructional practice guides for special educators called High-Leverage Practices (McLeskey et al., 2017). These High Leverage Practices focus on four areas of practice (collaboration, assessment, instruction, and social/emotional/behavioral). High Leverage Practice 7 (HLP 7) is under the social/emotional/behavioral domain and guides teachers to establish positive and constructive learning environments for students. For special education training programs, opportunities to focus on HLP 7 can be presented in classroom/behavior management courses as a function of setting up classroom structure (atmosphere, rules, and procedures) that support developing positive, culturally responsive learning environments and student-teacher relationships. This paper provides support for *why* topics should focus on HLP 7 and *how* topics of structure, culturally responsive teaching, student-teacher relationship development, and social emotional learning should be included in classroom/behavior management courses in special education training programs.

Keywords:

behavior management, classroom management, Culturally Responsive Teaching, SEL high-leverage practices, Social Emotional Learning

An essential element of successful teaching, regardless of discipline, is classroom management. Effective classroom management facilitates students' academic achievements, increases social opportunities, and helps create a positive classroom environment (Myers et al., 2017). Classroom management is particularly important for new teachers as there is a direct link between a teacher's inability to manage student behavior and a teacher's job satisfaction and, consequently, the high teacher turnover rate (Ingersoll & Smith, 2003; Klassen & Chiu, 2010; Myers et al., 2017). For classroom management techniques to be successful, however, educators need to create learning environments that are positive and conducive to the advancement of all students, regardless of their identified backgrounds (e.g., cultural, ethnic, socioeconomic, sexual orientation). In an effort to do this, most preservice special education training programs include at least one course on classroom or behavior management (Oliver & Reschly, 2007).

Classroom/Behavior management has been broadly defined as creating a positive and respectful environment where students are encouraged to learn (Lewis, 2009). Classroom management has also included arranging the environment to ensure success (e.g., having an organized classroom, clear and clutter-free teacher and student work areas, and explicit rules and procedures; Guardino & Fullerton, 2010). When classroom management techniques are successful, students are able to engage with the course material fully, thus increasing their academic success opportunities. Effective classroom management requires a partnership between teachers and students. To do so, the classroom management systems should reflect and celebrate the ethnic, cultural, contextual, and linguistic diversity of its students.

Classroom Management and High Leverage Practice 7

In 2017, the Council for Exceptional Children (CEC) and the Collaboration for Effective Educator Development, Accountability and Reform (CEEDAR)

published guidelines called high-leverage practices (HLPs) to help prepare teachers for classrooms that include a diverse set of learners (McLeskey et al., 2017). HLPs were created to address four main areas of classroom practice for K-12 special educators: assessment, collaboration, instruction, and social/emotional/behavioral. Across four domains (collaboration, assessment, instruction, and social/emotional/behavioral), there are a a total of 22 HLPs. As it relates to structuring classroom management, HLP 7 guides teachers in "establishing a consistent, organized, and respectful learning environment" (McLeskey et al., 2017, p. 16).

HLP 7 is considered foundational under the social/emotional/behavioral domain as it sets the stage for other HLPs to be implemented effectively. There are three key components of HLP 7. First, classrooms can be organized, and the classroom's expectations and rules can be clearly defined and taught. The second key component of HLP 7 advises using a continuum of strategies to acknowledge appropriate behavior with high frequency. Third, HLP 7 recommends teachers optimize instructional time by providing high rates of opportunities to respond (OTR).

HLP 7 also includes guidance on how teachers can carefully plan and be thoughtful of their classroom rules and expectations. For example, teachers are advised to be aware of how a student's culture, ethnicity, and lived experiences may impact their relationship with the classroom management style and rules. For special education training programs, opportunities to focus on HLP 7 can be presented in classroom/behavior management courses that can help train teachers in developing positive, culturally responsive learning environments and student-teacher relationships.

Teaching Classroom/Behavior Management as Structuring the Learning Environment

Preservice teachers' exposure to classroom and behavior management skills often occurs during their university training programs. Opportunities to practice specific skills and strategies happen through course content and classroom practical experiences. Special education training program courses on classroom/behavior management incorporate sets of knowledge and skills that focus on elements of Applied Behavior Analysis (ABA) through readings, lectures, and practical experiences for preservice teachers (Alberto & Troutman, 2013; Lee & Axelrod, 2005; Trump et al., 2018). While this remains true for base content instruction, there has

been a shift over the past few decades to include relationship development and cultural considerations as a part of classroom/behavior management (Levin & Nolan, 2014; Shepherd & Linn, 2014).

HLP 7 supports bridging ABA principles and practices along with developing learning environments that are organized and respectful of learners. This paper details the intersection for providing instruction on classroom/behavior management practices presented in preservice special education preparation courses and concepts on developing culturally responsive classrooms and positive teacher-student relationships. We suggest that university-level courses on classroom/behavior management designed for preservice teachers use a cluster of lectures, content, and activities we term 'Antecedent Structure', which supports establishing positive structure and learning environments. Specifically, the authors contend that instruction on Antecedent Structure, with particular focus on Curturally Responsive Teaching (CRT) and developong postitive student/teacher relationships, suuports preservice teachers' understanding of HLP 7 and advances skills in setting up their classroom atmosphere, rules, and procedures for all of their students. Figure 1 diagrams the topics related to Antecedent Structure.
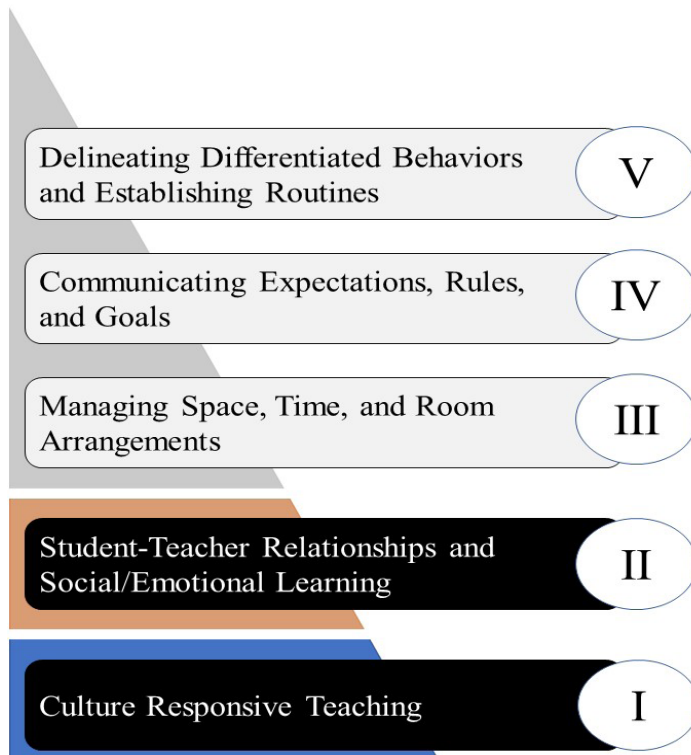
Structure I: Culturally Responsive Teaching

In 2014, for the first time in the history of the United States, the percentage of students who identify as non-White (i.e., Black, Hispanic, Asian/Pacific Islander, American Indian/Alaska Native, two or more races) exceeded the numbers of White students. Non-White students now account for over 50 percent of all students enrolled in U.S. schools (McFarland et al., 2017). However, the group of professionals who have served and continue serving these students are predominantly White and non-Hispanic (Billingsley et al., 2019; Nieto et al., 2008). Despite efforts to diversify the profession, limited progress has been achieved. Teaching is still a profession dominated mostly by White females, with 79% of all public-school teachers identifying as White and 76% identifying as female (Hussar et al., 2020).

Difference between teachers and students are especially salient in the area of special education where students of color (i.e., Black, Hispanic, Asian, Pacific Islander, American Indian/Alaska Native) make up over 60% of those receiving services for special education (Hussar et al., 2020). Still, less than 20% of special educators belong to one of the aforementioned racial

Figure 1. Topics for Antecedent Structure for a Classroom/Behavior Management Course

Topics of Antecedent Structure

Delineating Differentiated Behaviors and Establishing Routines	V
Communicating Expectations, Rules, and Goals	IV
Managing Space, Time, and Room Arrangements	III
Student-Teacher Relationships and Social/Emotional Learning	II
Culture Responsive Teaching	I

Note: As aligned with the purpose of this paper, only lectures I and II of Antecedent Structure are discussed.

and/or ethnic groups (Billingsley et al., 2019). Disparity of representation can lead to misidentification (over-and under-identification) of students of color in special education (Coutinho et al., 2002; Morgan et al., 2017; Skiba et al., 2006; 2015) and the lack of cultural awareness that is necessary to have the most significant possible impact on students' academic and social abilities (Billingsley et al., 2019; Mahatmya et al., 2016). The sheer number of students of color receiving special education services provides support for teacher training programs to include CRT. Further, as classroom/behavior management skills are essential for successful teaching, CRT can be connected to courses for future special educators that develop classroom and behavior management skills. As part of its main directive, HLP 7 encourages teachers to support respectful learning environments. Understanding and implementing practices that account for the diversity and uniqueness of all students based on their cultural identity adheres to the tenets of HLP 7.

Lecture Points for CRT. CRT practices are key to encouraging positive classroom environments. Four overarching themes guide teachers who implement CRT approaches (Hammond, 2014). First, teachers who implement CRT need to be aware and mindful of the impact culture and society have in their classrooms and their personal biases and perspectives. Second, they establish learning partnerships that aim to increase the student's ownership in the classroom. Third, students see the classroom as a safe place where mistakes and conflicts can be resolved (Ginsberg, 2015). Finally, teachers select materials and instructional methods that represent and are accessible to their students. Given these tenets, preservice teacher programs incorporating CRT practices in classroom/behavior management courses will need to describe actionable ways teachers can achieve the goals of CRT.

Following a CRT approach to instruction is particularly important in special education given the intersectionality of disability, race, and ethnicity (Banks & Banks, 2001; Crenshaw, 1989). As previously mentioned, there is evidence suggesting a disproportionate representation of students of color in special education. It is hypothesized that this problem could be caused by teachers not receiving enough classroom management training during their preparation (Green & Muñoz, 2016), their limited understanding of what it means to teach in a diverse classroom (Freeman et al., 2014), and subsequently being underprepared to effectively meet the needs of students from culturally and linguistically diverse backgrounds with special needs (Mueller et al., 2006).

In addition to being aware and mindful of the role culture and society plays in their classroom, special educators striving for a CRT approach to classroom instruction may also consider the implications a disability diagnosis or special education label has on the child and their family (Gay, 2002). By becoming more culturally competent, teachers will be better equipped to separate diversity from disability and thus decrease the disproportionate representation of students of color in special education. Furthermore, culturally responsive training would teach teachers to recognize the barriers and facilitators to a student's learning and thus provide them with targeted strategies to enhance their learning (Gay, 2002).

As a reminder, CRT is not just a checklist to follow but should be taught as an overarching disposition and approach to teaching and instruction (Aceves, & Orosco, 2014). As suggested by CEEDAR (2021), instruction for teachers (or preservice teachers) learning

about the intersection of CRT and classroom/behavior management (i.e., Culturally Responsive Classroom Management, CRCM) focuses on four tenets and over-arching questions for each:

1. Defining CRCM – what are the main components of CRCM and how do they work together?

2. Examining Perceptions – how do we perceive our students and their backgrounds?

3. Using Specific Strategies within CRCM – what are the principles and strategies that work for supporting students?

4. Understanding Outcomes for Students from Using CRCM – how does using CRCM help students?

See Figure 2 for detailed elements of each of the four tenets.

By implementing a culturally responsive approach to teaching and considering the unique role disability plays in their students' lives, special educators can set the foundations that will help them create the organized, respectful, and consistent classroom environments recommended in the high leverage practices. This classroom management approach will benefit all students, regardless of their racial and/or ethnic background.

Structure II: Student-Teacher Relationships and Social Emotional Learning

A key point to highlight for preservice teachers is the importance of student-teacher relationships. Beyond developing rapport with students, teachers need to have an understanding of their students and allow their students to have an understanding of them. Previous research has established the importance of student-teacher relationships and how those relationships influence student outcomes (Cooper & Miness, 2014; Darling-Hammond, 2006; Gallagher et al., 2013; Hamre & Pianta, 2001). Students who develop positive relationships with teachers reduce their odds of school failure and have stronger connections to improving their quality of life. For example, Hamre and Pianta (2001) found that positive student-teacher relationships in early education increased the likelihood of students establishing good work habits and fewer school-based discipline problems. Given that students' self-image and relationship skills are established by having constructive and caring relationships with the adults in their life (Gallagher et al., 2013), the adults they connect with in educational settings can profoundly affect how they

Figure 2. Culturally Responsive Classroom Management Instructional Topics

CRCM Instructional Points

Defining CRCM

- What is CRCM?
- What is diversity?

Examining Perceptions

- What is and how to develop cultural proficiency?
- What is multiculturalism?

Using Research-based Strategies

- What school-wide strategies intersect with CRCM?
- What classroom strategies intersect with CRCM?
- What individual strategies intersect with CRCM?

Understanding Outcomes from CRCM

- What are student outcomes?
- What are teacher outcomes?

develop.

In conjunction with developing positive student-teacher relationships, developing students' social and emotional skills are equally important. In fact, Schonert-Reichl (2015) asserted that along with intellectual development, a high-quality education includes social and emotional teaching and learning. Furthermore, educational systems provide supports for students to develop emotional competencies with skills in self-awareness, social awareness, self-management, relationship development, and decision making; all of which can be considered social and emotional learning (Greenberg et al., 2003). While there is no definitive definition for social and emotional learning (SEL), most explanations include recognizing that SEL is comprised of competencies to be learned that supports (a) emotional and relationship development, (b) empathy learning, and (c) decision making (Collaborative for Academic, Social, and Emotional Learning [CASEL], 2013; Osher et al., 2008; Weissberg et al., 2007). The

essential elements of SEL align with the spirit of HLP 7 in that the focus is on establishing a learning environment that respects students wholly.

For special education teacher training programs, developing coursework in SEL for preservice teachers has been increasingly happening for decades. The importance of providing teachers with the skills to encourage SEL for their students is especially salient for students with special needs "given that the very nature of school-based learning is relational, social and emotional skills create responsive, caring, and inclusive classrooms, and provide a foundation for building and sustaining learning relationships that promote academic success and responsible citizenship" (p.407) as stated by Schonert-Reichl et al. (2015) in their discussion on the need for SEL instructional courses for preservice teachers. Furthermore, Weissberg et al. (2007) provided support for the connection of SEL and classroom/behavior management instruction for preservice teachers asserting that well-managed and supportive learning environments allow students to learn and practice SEL skills. As with CRT, teaching preservice teachers how to develop positive student-teacher relationships with SEL align with the spirit of HLP 7. Creating socially and demotionally respectful classroom environments for students who feel safe and cared for helps maintain organization and keeps the flow of instruction positive.

Lecture Points for Student-Teacher Relationships and SEL. Haring and Phillips (1963) identified a number of specific teacher behaviors that they asserted contribute to creating a structured classroom. Taylor (2016) took the structured classroom concept and combined it with speceific teacher behaviors and connected them to social/emotional traits that support positive relationship development. In the context of special educator preparation in classroom management, the suggestions made by Taylor are behavioral in nature (i.e., actionable items), tied to relational outcomes, and parallel the tenets of HLP 7. As previously discussed, HLP 7 has three key competencies: having an organized classroom with clear rules and expectations, using reinforcement to acknowledge student successes (large and small), and giving students OTR during instructional times. The suggestions from Taylor provide a framework for content that can be covered in a classroom/behavior management course to support preservice teachers' skills in developing student-teacher relationships (see Figure 3).

CASEL provides a number of suggestions on the

content that should be included when developing and teaching a lecture on SEL in a classroom/behavior management course. For example, CASEL (2013) suggested teaching the process of SEL and helping preservice teachers develop the skills, attitudes, and knowledge related to SEL. They also advised that teachers develop skills in SEL that help students to (a) identify and

Figure 3. Student-Teacher Relationships within in Classroom/Behavior Management

Teacher and Student Behaviors in SEL

Limit surprises with predictable routines
- Honesty and Fairness

Co-construct classroom rules with students
- Shared Ownership

Give clear directions and expectations
- Purpose

Discuss positive and negative consequences
- Clarity

Discuss rational for consequences with student
- Mutual Respect

Emphasize self-control and indendence
- Mentoring

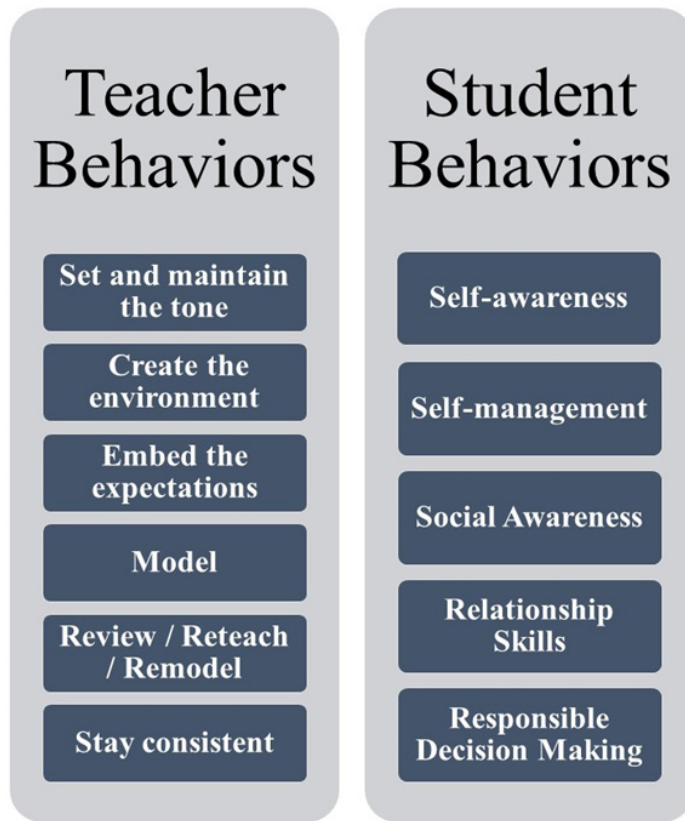**Emphasize the positive with high expectations**
- Collaboration and Support

regulate emotions, (b) develop positive relationships, and (c) make responsible decisions (CASEL, 2013). Specifically, CASEL (2013) identified behaviors for both teachers and students related to SEL (see Figure 4). The authors of the current manuscript suggest that special education teacher training programs incorporate and model the teacher behaviors highlighted by CASEL (2013) and support teachers in learning how to instill the student behaviors in their teaching. We especially support both of these actions within the context of a classroom/behavior management course.

Conclusion

Along with academic skills, social and emotional skills cannot be divorced from the behavior; understanding the realities of the field is essential to special educators and, by default, special education preparation programs. Special education teachers will serve students from backgrounds different than their own. Therefore, special education training programs would be advised to include lessons that emphasize the understanding

Figure 4. Teacher and Student Behaviors for Social Emotional Learning

Teacher and Student Behaviors in SEL

Teacher Behaviors	Student Behaviors
Set and maintain the tone	Self-awareness
Create the environment	Self-management
Embed the expectations	Social Awareness
Model	Relationship Skills
Review / Reteach / Remodel	Responsible Decision Making
Stay consistent	

and implementing dispositions, practices, and strategies that support all students. These learning objectives align squarely with the guides set forth with the HLPs overall and specifically HLP 7. Using Antecedent structure topics in classroom/behavior management courses provides preservice teachers with the structure needed to pair approaches related to structure, CRT, developing student-teacher relationships, and SEL with actionable practices. Given that university training programs are responsible for preparing special educators to be proficient holistic (academically, behaviorally, socially, and emotionally) motivators of students with special needs, the benefits of intersecting HLP 7 with skills that can be learned in a classroom/behavior management course are significant.

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About the Authors

Jonte' C. Taylor

Jonte' C. Taylor (JT), Ph.D. is an Associate Professor of Special Education at Pennsylvania State University (Penn State). His research includes examining effective strategies for inclusive STEAM education for students with disabilities and improving school/classroom climates for students, families, and teachers. His scholarship includes determining effective support for students with disabilities in STEAM instruction, the notion of educational followership and leadership, effective classroom and behavioral motivation, and diversity consideration in educational placements.

Naima Bhana

Naima Bhana is a doctoral candidate in the Department of Educational Psychology, Counseling, and Special Education at Pennsylvania State University. Her scholarship centers on improving the quality-of-life outcomes of historically minoritized students receiving special education services, with a focus on students with autism spectrum disorders (ASD) and related developmental disabilities.

Special and Inclusive Education in Southern Africa

Argnue Chitiyo and Chaidamoyo Goodson Dzenga

Abstract

Children with special education needs possess unique learning characteristics which may inhibit their effective learning in mainstream, general education classes. Special education practices are therefore designed to address the educational needs of students with disabilities through various strategies including thorough assessments of students' characteristics, individualized curriculum planning, and provision of essential services and resources to maximize learning. Although there is extensive research on special education in developed countries like the United States of America, literature on its development and practice in Southern African countries is somewhat scattered and inconclusive. This study reviewed special education policy, special education teacher professional development, and challenges to successful special education practice in five Southern African countries: Zimbabwe, Zambia, Malawi, Botswana, and Namibia. An understanding of special education policy development and challenges is imperative to develop a more successful practice.

Keywords:
disability, professional development, Southern Africa, special education

The population of children with disabilities has increased significantly during the past decade. According to the latest World Health Organization (WHO) world report on disability, the population of children aged 0-14 years with moderate to severe disabilities was approximately 5.1% of the global population in 2011 (WHO, 2011). The same population in low and middle-income African countries alone was 6.4% of total African population (WHO, 2011). In Africa, less than 10% of children with disabilities are enrolled in primary education, and only about 13% receive some form of education in some countries (WHO, 2019). These statistics show the intensity with which education for students with disabilities should be regarded. Traditionally, children with disabilities have often been marginalized from a lot of activities including academic and community. Following the 1990 World Conference on Education for All and the adoption of the United Nations Millennium Development goal on quality education (Wodon, 2014), the discussion on achieving the educational needs for all children was made a top political agenda globally, resulting in a lot of countries creating or modifying policies to address access to basic education. Access to basic education was deemed a fundamental right enshrined in a lot of international statutes including the Universal Declaration of Human Rights, UN Convention on the Rights of the Child, and World

Declaration on Education for All (Mariga et al., 2014). However, regardless of education being deemed a basic right, it does not imply inclusion. In order to ensure that children with disabilities have access to quality education, additional statues advocating their education were created, and these include the UN Convention on the Rights of People with Disabilities, UN Standard Rules on Equalization of Opportunities for Disabled People, and the Salamanca Statement and Framework for Action on Special Needs (Mariga et al., 2014). The Dakar Framework for Action explicitly states that the right to education is not achieved unless national education systems are fully inclusive, meaning "actively seeking out children who are not enrolled and responding flexibly to the circumstances and needs of all learners" (Dakar Framework for Action, 2000, p. 16).

Special and inclusive education have been in existence for decades and are used to address the educational needs of students with disabilities (Smith, 2004). In special education, curriculum and academic programs are systematically planned and designed to cater to the specific needs of individual students in ways that increase their educational outcomes just like those of their typical peers (Hornby, 2015). Ideally, such students' educational needs may not be sufficiently met in mainstream classes since some of the curriculum and reading materials are not specifically adapted to match

their unique needs. An increasingly popular approach to special education involves inclusion, which is a model involving partial or full integration of students with special needs and those without disabilities (Zigmond, 1995). In the United States the government instituted the Individuals with Disabilities Act (IDEA) in 1990 to help provide quality education to children with disabilities (Frieden, 2004). The IDEA consists of six pillars guiding the provision of education to students with disabilities: The individualized education program (IEP), free appropriate public education (FAPE), least restrictive environment (LRE), appropriate evaluation, parent and teacher participation, and procedural safeguards. The IEP specifies a child's academic and functional performance levels, as well as the services, accommodations, and modifications to be made for the student based on their individual needs. Due to its fundamental function as a planning tool and a map for services and interventions for students with disabilities, the IEP is considered the cornerstone of IDEA and an essential tool to help students achieve their educational goals more effectively. Although research into special education practice is extensive in the USA, its development and efficacy in Africa is still in its infancy.

Advantages of Special Education

Special education practices accrue several benefits for both students and teachers. Firstly, instructional methods are tailored to match the precise needs of individual students, thereby increasing their chances of success (Dragoo, 2017). Prior to modifying curricula, teachers assess the individual students' characteristics and current levels of academic and functional performances. This process helps to identify a student's areas of strengths and weaknesses and therefore design curriculum in ways that are consistent with addressing the student's exact needs. In the United States this process is achieved through IEPs. When formulating IEPs, a panel of stakeholders to a child's education meets regularly to discuss, design, and review the student's academic and functional performance. The panel of stakeholders typically include the students' teachers, parents, psychologists, or other designated advocates for the child such as services personnel. The coalition of individuals with different expert areas ensures that the student is getting the best educational services in the most suitable environment, and with access to the best resources (Dragoo, 2017).

Through the use of individualized education ap-

proaches, special education also helps teachers to identify individual students' learning styles (Landrum & McDuffie, 2010). Most developmental disabilities often affect an individual's ability to listen, speak, read, write, reason, or engage in social skills. Consequently, these conditions can affect an individual's characteristic or preferred methods of understanding, acquiring, processing, storing or recalling information (Wilson, 2012). During the learning assessments, teachers trained in special education are capable of identifying the learning styles that maximize an individual student's ability to learn, and therefore design teaching approaches that work best for children with special needs. One commonly used approach in this regard is differentiated instruction, whereby teachers assess individual students' intellectual skills, strengths, and weaknesses and provide the necessary supports without making the tasks too easy for the students (Tomlinson, 1999). Teachers capitalize on the individual students' characteristics by designing instruction in ways that support students' strengths and eliminate weaknesses.

Furthermore, special education facilitates matching of students with qualified educators who understand their disabilities (Gilmour & Henry, 2018). Special education teachers are typically trained in various assessments and techniques for identifying students with special needs and understanding the best teaching practices ideal for certain disabilities (Gilmour & Henry, 2018). Furthermore, special education teachers possess certain characteristics that are considered particularly important for students with disabilities. In a study to examine positive traits of teachers of children with special needs, Korn and colleagues (2010) identified kindness, honesty, humor, fairness, and love as the five most highly rated traits of special education teachers. The study indicated that teachers used these traits to "motivate others, foster other positive traits, maximize student progress, avoid negative outcomes, and meet the individual needs of students" (p. 2). These characteristics, combined with other specialized skills that teachers possess, enables more effective learning and improved outcomes for students with special needs.

Special education also enables teachers and administrators to identify special resources and services needed for students to achieve their learning goals (Klinger & Bianco, 2020). One key aspect of the IEP in special education is the pooling of essential resources and services to address the needs of individual students. Specialized supports and services provide students with the

necessary tools they need to achieve high quality instruction. The Department of Education specifies three key strategies for implementing specialized supports and services for students, which are: (a) coordination and integration of supports within the general education setting, (b) supplementing and aligning activities across all settings that reinforce student learning and increase independence, and (c) creating a wide continuum of supports that promote success across multiple life domains (Department of Education, 2020). When put together, these supports help students to easily reach their goals more efficiently and effectively.

Given the benefits of special education services, it is imperative for schools to develop the facilities that enhance their provision. Although there is a lot of research on development and use of special education in western countries like the U.S., research regarding its development, efficacy, and challenges in Africa is somewhat scattered and inconclusive. The purpose of this review is to assess the current trends in special education policy, teacher professional development, and barriers to successful special education practice in five Southern African countries: Malawi, Zambia, Zimbabwe, Botswana, and Namibia.

Special Education Policy in Malawi, Zambia, Zimbabwe, Botswana, and Namibia

Research on special needs education (SNE) policy and practice across the Southern African Development Community (SADC) is large. According to the literature reviewed in this study, most countries seem to have well defined policies guiding special education practice. The common feature across the countries is their ratification of international educations conventions including the Universal Declaration of Human Rights, the Salamanca Statement and Framework for Action on Special Needs Education, World Declaration on Education for All, United Nations Convention on the Right of Children with Disabilities and Framework for Action to Meet Basic Learning Needs (Wodon, 2014). Prior to the adoption of the UN conventions, most governments played a minimal role in special education provision, with most of the education services being offered through donor, charity, and non-governmental organizations (Chitiyo et al., 2015). On a country-by-country basis, governments in the respective countries instituted additional acts and policies to make access to education easy for all children. In Malawi, the government adopted policies that were connected to provision of

education, including Policy and Investment Framework of 1991, Malawi Poverty Reduction Strategy of 2002, Education for All Action Plan of 2005, and the National Education Sector Plan of 2006 (Munthali, 2011). The Ministry of Education through the Department of Special Needs developed an Inclusive Education Advocacy Program (IEAP) whose three main aims were to (a) increase access to schooling for young people with disabilities; (b) improve quality of SNE in regular schools; and (c) assess and counsel young people with disabilities (Malawi Ministry of Education, 2005) The Ministry also instituted three district-based activities in the neediest areas of the country using the following tools: (a) Interactive community sensitization workshops on the rights of people with disabilities, (b) Village-based disability assessment health clinics, and (c) Teacher training on inclusive education approaches (Malawi Ministry of Education, 2005). Through these programs, several teachers were trained in inclusive education techniques, community leaders in many districts sensitized on disability rights, advocacy groups (e.g., parent-teacher associations, school management committees) trained on how to create disability infrastructures in their schools and communities, and several potential special needs students were able to access assessment services through specially arranged village-based disability health clinics (Malawi Ministry of Education, 2005).

In Botswana, the government instituted the National Policy on Education (1997), which was further revised in 1994 to accommodate more explicit provisions for special education (Botswana Federation of Trade Unions, 2007). The policy was also centered on transitioning Botswana from an agriculturally based to an industrial-driven economy. At that time, access to education was deemed a fundamental right, and government expanded its investment in education development, including expansion of special education (Hopkin, 2004). Other policies that were linked to special education development include National Policy on the Care of People with Disabilities of 1996 and the Dakar Framework for Education of 2000 (Dart, 2007).

In Zambia, the Ministry of General Education is responsible for the formulation, implementation, and administration of government policy on primary, secondary, and higher education and teacher training (Serpell & Jere-Folotiya, 2011). In 1982, the Zambian government instituted Zambia's Campaign to Reach Disabled Children (ZCRDC; 1982-1986), whose aims were

raising public consciousness of the special needs of children with disabilities, establishing comprehensive registers for children with disabilities, and lay foundations for nation-wide health and education provision for children with disabilities (Serpell & Jere-Folotiya, 2011). The government also instituted the Educating our Future in 1996 as its prominent policy guiding education practice (Zambia Ministry of Education, 1996). The policy stipulated three specific goals on education for pupils with special educational needs, which are (a) ensuring equality of educational opportunities for children with special needs; (b) providing education of particularly good quality to pupils with special needs; and (c) Improving and strengthening the supervision and management of special education across the country. In order to achieve these goals, the government set up eight core strategies to facilitate the implementation and administration of its goals (Malungo et al., 2018). However, despite a large effort by the government and other institutions, the population of schools devoted to special education remains significantly low in Zambia. In 1995, there were 31 special education institutions consisting of 28 primary schools, one secondary school, and two tertiary level schools (Government of Zambia, 2019). By 2014, number of special education schools had increased to 50 nationwide, which is insufficient compared to the demand for them (Shafuda & De, 2020). The schools are mostly concentrated in urban areas. Because of the scarcity, most students with special needs are unable to access the schools due to long distances (Serpell & Jere-Folotiya, 2011).

Zimbabwe does not have specific legislation for special education. The Education Act of 1987 (latest revised 2001) is the key law guiding education practice (Government of Zimbabwe, 2019). The law does not specify any goals regarding special education practice. Instead, it describes the provision of education services in general. Implications about special education are assumed from the Act's general statement regarding compulsory primary education for every school-going age child, children's fundamental right to education, entitlement to enrolment at the nearest schools, and accessing the education at lowest possible cost (Government of Zimbabwe, 2019). Although the Education Act is not clear about special education, there are other government policies that are somewhat tied to special education, but none explicitly state provision of special education services. The policies include Disabled Persons Act of 1996 and Education Secretary's Policy Circular

of 1990 (Mutepfa et al., 2007). The Disabled Persons Act establishes a National Disability Board, part of whose functions is to formulate policies and measures to achieve equal opportunities for people with disabilities by ensuring that they have access to education (Virendrakumar et al., 2019). Although government set up the policies, there are no specifications in the policies that committ government to providing access to education. The government partially funds, but does not fully subsidize the education sector, which negates the efforts as tuition is fairly expensive to mostly rural and urbanized households (Mutepfa et al., 2007).

In Namibia, special education is offered in various formats including special schools, integration/mainstreaming, partial inclusion, and full inclusion (Chitiyo et al., 2016). Namibia is among top five countries with the highest percentage expenditure on education (United States Agency for International Development, 2008). It also has a wide range of policy frameworks supporting the development and administration of special education (Namibia Ministry of Education, 2013). The Education Act of 2001 has specific sections explicitly addressing special education practices (Government of Namibia, 2020). The act establishes that a school board for special schools and schools providing special education do the following: (1) consist of at least one person with expertise in special education as a member of the school board, (2) establish a committee to advise the school board on the provision of special education in the school, and (3) include representative of either a sponsoring body for the school, organizations of persons with disabilities, organizations of parents of learners with disabilities, or a person with a disability. The ministry of education also has a Sector Policy on Inclusive Education whose aim is to ensure that all learners are educated in the least-restrictive education settings and in schools in their neighborhoods to the fullest extent possible (Namibia Ministry of Education, 2013). The policy specifies eight key strategies and their outcomes addressing all important elements of access to special education services. Although Namibia has a very comprehensive special and inclusive education frameworks, the number of special needs schools is very small in relation to the population in need for them. As of 2016, Namibia had 11 listed schools of special needs nationwide (Namibia Ministry of Education, Arts, and Culture, 2016).

Special Education Teacher Preparation

A persistent shortage in teachers trained in SNE is one of the leading reasons why students with disabilities do not access the education they need (United Nations, 2015). According to the United Nations (2015), Sub Saharan Africa has the worst teacher shortages, needing about 17 million teachers in total in order to achieve the millennium development goal on universal primary and secondary education by 2030. The biggest shortage lies in the area of SNE. As highlighted earlier, Zimbabwe does not have specific legislation guiding special education practice, nor the training of teachers in SNE. The lack of teachers specially trained in SNE has, for a long time, resulted in more students being placed in general as opposed to inclusive or specialized programs (Mutepfa et al., 2007). However, some policies or institutions for SNE encourage the training of teachers in SNE (Chitiyo et al., 2019). For example, the Zimbabwe School Psychological Services and Special Education provides in-service training to schoolteachers teaching students with special needs (Mutepfa et al., 2007). Some of their activities in this regard include capacity development for mainstream teachers to prepare them for understanding and addressing the educational needs of students with disabilities and facilitating access to specialized resources for teacher training (Zimbabwe Ministry of Primary and Secondary Education, 2020). Also, the National Disability Board has one of its listed functions as provision of skilled staff for the successful implementation of measures to enhance the welfare and rehabilitation of people with disabilities (Disabled Persons Act, 2001). Part of this entails training of personnel providing disability care services, including special needs education. Hence, since the inception of the Zimbabwe National Disability Board in 2002, the number of special education teacher training institutions and programs in Zimbabwe increased significantly. These include the University of Zimbabwe and its 18 associate colleges (Chitiyo et al., 2019). Although there are no specific figures, the number of teachers specially trained in SNE has increased significantly during the past decade.

In Zambia, the first special education teacher training program was introduced in 1993 and was affiliated with The University of Zambia (Chitiyo & Muwana, 2018). The program specialized in teacher education skills in visual or hearing impairments, learning difficulties, and early childhood education for children with special educational needs. In 1996, the government, in consultation with international donors, non-governmental organizations, and institutions of higher learning (e.g., University of Zambia) set a motion to revamp the entire education sector and expand special education teacher training through its Educating Our Future policy of 1996 (Government of Zambia, 1996). The policy specifications regarding teacher training emphasized the importance of a quality and effective education systems centered on well-trained teachers. The policy specifies other aspects of teacher training that were considered to be paramount for a successful education for students with disabilities (See Educating our Future, 1996). In 2008, the Zambian government in partnership with other organizations (e.g., Directorates of Education, Specialized Services, and Distance Education; Zambia Institute of Special Education) launched the Teacher Training Support Program whose aim was to improve pre-service and in-service teacher training (McCall & McCall, 2015). By 2018, the Zambia Institute of Special Education (ZAMISE) had trained over 500 special education teachers. However, the teacher to student ratio in special education schools in Zambia remains very high. As of December 2014, the ratio stood at 1:80 (McCall & McCall, 2015). This indicates a dire need for more teacher training in Zambia.

In Botswana, teachers are required to complete a 3-year diploma course at a primary college of education in order to teach in a primary school, or at a secondary college of education in order to teach in a junior secondary school (Abosi, 2000). The Department of Teacher Education Training specifies requirements for time allocations between content and pedagogy for various subject related qualifications (Botswana Federation of Trade Unions, 2007). For instance, science and math teacher educators are required to complete at least 55% of the total course duration on content and 45 % on pedagogy. Additionally, teachers are required to complete at least 4 months in teaching practice under the supervision of experienced teachers (TIMSS, 2015). Following the revision of its National Policy on Education in 1994, the government made it a requirement for all teachers to have some aspects of special education training during their pre-service and in-service training (BFTU, 2007). It also required that all associated staff such as classroom assistants undergo similar training in aspects of special education in which they are involved. In order to put this into action, the government authorized the inclusion of special education

elements in teacher college curriculums throughout the country (Abosi, 2000). The policy also made a requirement for the establishment of intervention teams in schools allowing general and special education teachers to collaborate in order to address the learning needs of students with disabilities. In 1999, the first Bachelor of Education degree in Special Education was initiated in the country. At the University of Botswana, the first three programs in special education included (a) a 2-year in-service diploma program in special education for teachers, (b) a 4-year pre-service degree program in special education for undergraduates, and(c) a 3-year in-service program in special education for holders of a Diploma or its equivalent from the University of Botswana or one of the colleges of education in Botswana. Despite numerous efforts directed towards SNE teacher training, recent research still shows deficits in teacher training and special education teachers' preparedness to address educational needs of students with disabilities (Habulezi et al., 2016; Mangope et al., 2018; Mukhopadhyay, 2009; Mukhopadhyay et al., 2012)

In Malawi, it is not clear when exactly special needs teacher preparation started, but the provision of SNE started in 1950 courtesy of the Scottish and South African Evangelical Missionaries in Kasungu and Nsanje districts (Hughes et al., 2016). In 1968, the first formal school for SNE was started at Montfort Special Needs Education College in Chiradzulu district courtesy of the Catholic church (Itimu & Kopetz, 2008). Until the late 90s, Montfort Special Needs Education College was the largest SNE teacher training institution in the country, graduating special educators specializing in educational supports for students with hearing and visual impairments. To date, Malawi has two public universities offering SNE teacher programs (i.e., University of Malawi and Mzuzu University) and a few private colleges including Catholic University of Malawi and Malawi Adventist University. Since there has not been a bigger capacity to develop specialty programs in SNE, Malawian Ministry of Education mandated that all general education training programs include at least a single special education course or module. A study assessing SNE teacher professional development needs in Malawi (Chitiyo et al., 2016) discovered that of eight colleges investigated, only two offered programs in special education (Montfort College and Catholic University). The rest of the colleges only offered a course or module as part of their general teacher education programs.

The Namibian Education Policy has clear specifi-

cations regarding procedures for training special education teachers. Through Sector Policy on Inclusive Education, Namibian ministry of education oversees SNE professional development (Ministry of Education, 2013). The ministry regulates the implementation of strategies to recruit best candidates into the teaching profession and supplies scholarships to candidates through the Namibia Student Financial Assistance Fund. The ministry also regulates the procedures for setting entry requirements for candidates into SNE teacher training. The government requires all teachers to take courses in inclusive education as part of their in-service training. The ministry also runs a Continuous Professional Development Program specifically aimed at addressing teacher professional needs. In 2013, the Namibian Ministry of Education facilitated an educational needs assessment, which indicated an acute shortage in specially trained teachers in this field (Ministry of Education, 2013)

Furthermore, the Namibian Ministry of Education facilitates multiple national teacher training workshops with various stakeholders annually. The aims of such workshops include integration of principles of inclusive education into the curricula of teacher education programs across Namibia. The ministry of Education also specifies pedagogical and theoretical elements to include in the teacher training curricular, and these include practical classroom modifications, curriculum adaptation and differentiation, classroom management, use of assistive technology and devices, environmental preparation, and nutrition, hygiene, and sanitation related to disability. According to a study assessing special education teacher needs (Chitiyo et al., 2016), teachers listed the following as their priority professional development areas: discipline, organization of teaching, learning strategies, behavior management, and instructional methods

Additional professional development needs indicated by teachers included more training in special education areas including ability to modify curriculum and instruction to match unique needs of students with disabilities, training in skills on sensory disabilities (i.e. hearing & visual impairments), need for equipment to work with students with sensory impairments, disability friendly infrastructure (e.g. wheelchairs, accessible desks, ramps, and other basic amenities), and assistive technology (e.g. computers, projectors, laptops, radios, tape recorders, etc.).

Challenges Associated with Implementation of Special Education

Despite the progress that has been made across countries, there remains some challenges associated with achieving inclusive education. Firstly, most governments experience budgetary constraints inhibiting the allocation of sufficient funds towards education in general. According to data presented by Mastercard Foundation (Zubairi & Rose, 2019), although government expenditure on education in the region increased in recent years, governments in Sub-Saharan Africa in general spend far less in dollar amounts on primary and secondary education compared to anywhere else in the world. Part of this problem is attributed to poorly performing economies, which results in tensions in resources allocation towards all competing sectors of the economy (African Development Bank, 2018). Majority of Southern African countries, including Zimbabwe, Malawi, and Zambia have experienced economic decline during the past decade, thereby further worsening the situation (African Development Bank, 2018). These countries have very low subsidization of education. High costs of tuition therefore deter some parents from sending their children to school (African Union, 2014).

Traditional beliefs associated with disability in most African countries have for long perpetuated negative attitudes towards people with disabilities. According to a study of nuanced cultural beliefs about causes of disabilities in Namibia, Haihambo and Lightfoot (2010) found that many Namibians believed in supernatural causes of disability such as witchcraft, sinful family relationships or practices, punishment from God, curses from ancestors or bad omen, and bad luck. As a result of these beliefs, people with disabilities were often excluded from social activities both at family and community level. A similar study found similar challenges in Zimbabwe (Mukushi et al., 2019). Caregivers interviewed on the causes of disability believed that supernatural forces were behind certain disabilities. As a result, some people avoid interacting closely with individuals or family members of individuals with disabilities. This societal stigma keeps some families from sending their children with disabilities to school. Furthermore, some traditional school practices based on societal stereotypes about disability would either separate or completely exclude children with disabilities from mainstream classes.

The lack of specially trained teachers in SNE is an impediment to the education of children. Several countries in the region have experienced acute shortages in trained teachers. In a study to assess professional development needs among special education teachers in Southern Africa, teachers expressed lack of necessary training as an impediment to their ability to teach students with SNE. For example, teachers from Malawi and Namibia expressed a need for more training on instructional supports for students with sensory disabilities such as deafness, blindness, and hard-of-hearing (Chitiyo et al., 2018). Teachers from Zimbabwe indicated a need for more professional development in identifying and assessments of learning disabilities

Implementation of special education policies was highlighted as one of the main challenges across countries. Issues related to implementation that showed up included societal attitudes towards people with disabilities, parental involvement, lack of specialist disability knowledge, practical skills, and resources. According to a rapid assessment of teachers and societal beliefs about children with disabilities in Namibia, some participants expressed negative perceptions about disability, for example that disability is a curse, or something associated with witchcraft, and that it ought to be hidden away. Some teachers and school principals perceived disability from a medical standpoint and how it ought to be addressed from such. Some school principals expressed the lack of appropriate skills or training for inclusive education. Some teachers also expressed negative perceptions about students with disabilities, stating how students with disabilities caused them stress and frustration, and that they would prefer not to teach them.

In Zimbabwe, major obstacles that emerged from literature included lack of resources, inaccessibility of schools, structural barriers, and lack of political will (Sibanda, 2018). Regarding resources constraints, Zimbabwe has been severely disadvantaged largely as a result of the two decade long economic decay. During the past two decades, Zimbabwe's economy shrunk by more than 70%, and during the same time, government expenditure on economic services, including education were severely cut. The imposition of economic sanctions on Zimbabwe further worsened the situation as Zimbabwe was no longer able to access loan facilities from the world financial institutions like the world bank and IMF. As a result, the education sector deteriorated persistently, teachers' working conditions worsened, resulting in perennial industrial actions and exodus by teachers to other professions. During the same period,

Zimbabwe also experienced a political crisis which crippled a lot of state functions, including education. Government's attitude towards teachers' working conditions and education in general was not forthcoming. This is evidenced by a lack of clear policy regarding special education several years post-independence. Government's expenditure towards education went down significantly at the expense of other sectors prioritized by the government. Insufficient investment in education is in contrast to other countries in the region which have clear policies and laws regarding special education and higher priority for education in general (e.g., Botswana and Namibia). Furthermore, research also shows that teachers in most schools lacked the necessary assistive devices for teaching students with SNE. According to a research exploring teachers' special and inclusive needs in Malawi, Namibia, and Zimbabwe (Chitiyo et al., 2018), teachers expressed the need for assistive devices needed to educate students with hearing and vision impairments.

Conclusion

The review of special and inclusive education policy and practice in Southern African countries showed some variability in approach across countries. Most countries have clear legislation on special or inclusive education, whilst others do not have clear legislation. The adoption of many conventions on education set a path for most countries to start putting more effort in developing special and inclusive education policies. In particular, countries have set milestones to achieve the United Nations (2015) millennium development goal on equality to education. Although most countries have clear policies on special and inclusive education, the region generally continues to show low outcomes in educational attainment including school enrollment and completion among students with disabilities; an indication of a policy-to-practice gap. There is a need for countries to improve on the implementation of policies if positive gains in target outcomes are to be achieved. Teacher training in SNE appeared to be an acute problem in most countries as well. Although some countries indicated the availability of teacher education programs, evidence from county assessments indicated that most SNE teachers lacked some important skills necessary for them to educate students with disabilities effectively. A continued effort to train teachers in the indicated professional need areas is imperative to achieve more successful outcomes in special education.

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About the Author

Argnue Chitiyo

Argnue Chitiyo, BCBA, is an Assistant Professor of Applied Behavior Analysis at Ball State University and holds a Ph.D. in Applied Behavior Analysis from Tennessee Technological University. His areas of research interests include research methods for evidence-based practices for students with autism and emotional disorders as well as special education practice in Sub-Saharan Africa. Prior to joining Ball State University, Argnue was a High School teacher in Zimbabwe.

Chaidamoyo Goodson Dzenga

Chaidamoyo Goodson Dzenga (BCBA) is currently a PhD student in Applied Behavior Analysis at Tennessee Technological University. He holds a master's degree in Applied Behavior Analysis from the same university. Mr. Dzenga has a strong desire for marginalized populations to have equitable access to basic education and employment. He believes in inclusive education so that students with disabilities acquire the necessary skills and knowledge for successful integration in the general public. Special education plays a crucial role towards the promotion of social justice for children with disabilities. Mr. Dzenga's commitment to special education is, therefore, a direct affirmation of his commitment to social justice.