Using High-Leverage Practices in Teacher Preparation to Reduce the Research-to-Practice Gap in Inclusive Settings*

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Although researchers have developed evidence-based practices and identified other effective practices that show promise for improving outcomes for students with disabilities, these practices are all too frequently not used in inclusive classrooms. Some have posited that this research-to-practice gap may result because teachers lack confidence in these practices and do not find them feasible for use in their classrooms. More recently, researchers have begun to examine whether teacher education may contribute to this research-to-practice gap. We contend that teacher preparation is an important contributor to the research-to-practice gap, and discuss how teacher preparation might be changed to better prepare teachers to use effective practices in inclusive classrooms. Primary changes that are needed include identifying a set of high-leverage practices that serve as the core curriculum of teacher education and using a practice-based approach to systematically prepare future teachers to use these practices.

Keywords: inclusion, teacher education, effective practices, research-to-practice gap, effective inclusive schools, professional development

In spite of increasing levels of inclusive placements for students with disabilities in many countries (e.g., McLeskey, Landers, Williamson, & Hoppey, 2012; Nota, Soresi, & Ferrari, 2014), academic outcomes for these students have not improved substantially and remain less than desirable (Florian & Rouse, 2014; National Center for Education Statistics, 2015). For example, in the United States (US) in 2015, 33% of fourth grade students with disabilities scored at a basic level or above in reading, compared to 74% of students without disabilities. Similarly, 37% of students with disabilities in eighth grade scored at a basic level or above in reading, compared to 81% of students without disabilities. These results were not substantially different from 2009 and 2011 achievement levels for students with disabilities (National Center for Education Statistics, 2015).

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To address the need for improved student achievement, researchers have developed a range of evidence-based practices that have been demonstrated as highly effective in improving achievement and behaviour outcomes for students with disabilities and others who struggle to learn (Cook, Cook, & Landrum, 2013; Grima-Farrell, Bain, & McDonagh, 2011). Although information regarding these practices has been disseminated widely through government agencies, textbooks used in teacher preparation, and professional development activities, the practices are not often used in classrooms (Cook et al., 2013).

Several reasons have been posited for the very limited use of evidence-based or other effective practices (Carnine, 1997; Cook & Odom, 2013; Grima-Farrell et al., 2011; McLeskey & Billingsley, 2008). For example, Cook and Odom (2013) contend that insufficient emphasis has been placed on implementing these practices in classrooms, and that the 'emerging field of implementation science ... can be applied in special education to enhance the utilization of EBPs [evidence-based practices]' (p. 136). Moreover, the primary intention of implementation science is to 'promote the systematic uptake of research findings and other evidence-based practices into routine practice' (Eccles & Mittman, 2006, p. 1). Still another compelling and widely cited potential contributor to the research-to-practice gap was described by Carnine (1997), who contended that research is typically not designed to make a difference in practice. He further noted that practitioners often lack confidence in the practices that are developed by researchers and find that the practices have limited usability in their classrooms.

Still other scholars have contended that how teachers are prepared may contribute to the research-to-practice gap (Golder, Norwich, & Bayliss, 2005; McLeskey & Billingsley, 2008), although this topic has not been addressed in sufficient depth in the teacher education literature (Grima-Farrell et al., 2011). In this paper, we contend that teacher preparation is an important contributor to the lack of use of effective practices in inclusive classrooms. The major reason this occurs is that during the course of teacher preparation, preservice teachers (PSTs) are seldom systematically taught to use effective practices in classrooms. In the following sections, we describe why this lack of systematic preparation occurs, and offer a direction for improving teacher practice by centring teacher preparation in field-based settings. We then describe a set of practices that has been developed by the Council for Exceptional Children (McLeskey et al., 2017) that may serve as the core curriculum for practice-based teacher preparation. This is followed by a discussion of the implications of these changes for teacher educators and preparation programs.

Improving Teacher Education and Teacher Use of Effective Practices

Both the limited use of effective practices in most classrooms as well as the low achievement outcomes for students with disabilities and others who struggle to learn have placed pressure on teacher educators to improve teacher preparation so that program graduates are classroom ready with the skills needed to demonstrably improve the achievement of all students (Council for the Accreditation of Educator Preparation, 2013). Furthermore, the need to improve teacher preparation has taken on added importance given research that demonstrates that the instructional practices of teachers are the most powerful influence on student learning (Windschitl, Thompson, Braaten, & Stroupe, 2012). Improving teacher practice is thus the most direct approach to improve the learning of all students, especially those who struggle to learn in inclusive classrooms (McLeskey & Waldron, 2011).

Several teacher education scholars have begun to closely examine how teacher preparation programs might be improved to enhance teacher practice (e.g., Ball & Forzani, 2009; Forzani, 2014; McLeskey & Brownell, 2015). These teacher educators have recognised that

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much of teacher preparation does not generalise to classroom practice (Korthagen, 2001; Levine, 2006; McLeskey & Billingsley, 2008), and have taken the position that these programs are not designed to prepare PSTs to use practices in classrooms (Ball, Sleep, Boerst, & Bass, 2009; Grossman, Hammerness, & McDonald, 2009). The following concerns have been identified regarding the design of teacher education programs that likely contribute to this less than desirable outcome:

1. Teacher preparation largely occurs in settings that are removed from the practice of teaching, and most coursework emphasises reflection, investigation, and knowing *about* practice rather than directly focusing on the *use* of practices in classrooms (Ball et al., 2009).
2. Most teacher education programs have very limited connections between coursework and field experiences. When this fragmentation occurs between theory and practice, practice primarily focuses on the 'conceptual underpinnings of teaching as opposed to the concrete practices new teachers may need to enact when they begin teaching — practice is not at the core of the curriculum' (Grossman et al., 2009, p. 275).
3. The specific practices that PSTs learn to use are largely left to chance. This occurs primarily because teacher educators expect that practices will be learned during field experiences, the component of their programs over which they have the least control (Grossman & McDonald, 2008). PSTs thus learn practices that they happen to encounter in field settings, and these may or may not be effective practices.
4. Effective instructional practices that are critical to the success of beginning teachers are seldom systematically taught during teacher preparation through closely aligned coursework and field experiences (Forzani, 2014).

To address these concerns, a range of teacher educators have called for major changes in teacher preparation to substantially improve the practice of beginning teachers (Ball & Forzani, 2010; Hlas & Hlas, 2012; McLeskey & Brownell, 2015; Windschitl et al., 2012). These scholars have recommended centring teacher preparation in clinical settings and identifying a set of effective practices that would become the core curriculum of teacher education. In short, teacher preparation programs should be primarily designed to systematically and thoroughly prepare teachers to use the most important instructional practices in their classrooms.

Ball and Forzani (2010) provide a rationale for this systematic preparation when they assert that teaching requires specialised knowledge and skill in unpacking content so that it is accessible and learnable by all students. They go on to note that teachers must be prepared to see this instructional content from the perspectives of their students, who may learn in ways that are different from how the teacher learns. Furthermore, effective instruction requires that teachers design and manage classroom environments to support the learning of a broad range of students. Learning to use teaching practices in classrooms is thus intricate work, requiring the careful design of teacher education programs in ways that help PSTs learn to enact teaching practices skillfully.

The type of instruction that Ball and Forzani (2010) describe is especially important for students with disabilities and others who struggle to learn in inclusive classrooms, but it is not sufficient. For example, to effectively meet the needs of these students, whole-group instruction must not only be differentiated so that all students remain engaged and benefit, but it is also necessary to regroup students and provide small-group instruction that is intensive and explicit (Archer & Hughes, 2011; Batsche, 2014; McLeskey & Waldron, 2011) to accelerate learning related to critical content (e.g., reading skills).

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Special education teachers thus must learn to use specialised skills to meet the needs of students with disabilities that are not typically used in inclusive elementary and secondary classrooms (McLeskey & Brownell, 2015).

The major changes in teacher preparation that we have described have been advocated for and included in program approval standards by the national organisations in the US that accredit teacher preparation programs. These changes were initially addressed in 2010 when the National Council for Accreditation of Teacher Education released an influential report that called for turning teacher preparation upside down by centring preparation in clinical practice:

> *To prepare effective teachers for 21st century classrooms, teacher education must shift away from a norm which emphasizes academic preparation and course work loosely linked to school-based experiences. Rather, it must move to programs that are fully grounded in clinical practice and interwoven with academic content and professional courses. (p. ii)*

These changes require that teacher preparation programs move away from specifying knowledge related to instruction (i.e., learning *about* teaching), and move toward the identification of a set of complex practices that become the core curriculum of teacher preparation (McDonald, Kazemi, & Kavanagh, 2013). Teacher educators from several disciplines have begun to develop this core curriculum by identifying sets of high-leverage practices (HLPs) for teachers in science, mathematics, foreign language, reading, and elementary and special education (Ball & Forzani, 2009; Grossman et al., 2009; Hlas & Hlas, 2012; Kucan et al., 2011; Martin-Raugh, Reese, Tannenbaum, Steinberg, & Xu, 2016; McLeskey & Brownell, 2015; Peercy & Troyan, 2017; Windschitl et al., 2012). HLPs have been defined as 'a set of practices that are fundamental to support K-12 student learning, and that can be taught, learned, and implemented by those entering the profession' (Windschitl et al., 2012, p. 880).

The Council for Exceptional Children (McLeskey et al., 2017) recently developed a set of HLPs for special education teachers in Grades K–12. These HLPs are intended to be applicable for teachers in inclusive classrooms as well as separate settings (i.e., across tiers of instruction). In the following section, background information regarding these practices is provided, and they are briefly reviewed.

High-Leverage Practices for Special Education Teachers

A work group convened by the Council for Exceptional Children used a systematic process to identify essential practices for K–12 special education teachers. The purpose of this group's work was

> *to provide those involved in special education teacher preparation and professional development with a set of HLPs that were identified through consensus among special educators. These HLPs may be used to design a cohesive set of practice based opportunities to support teacher candidates and practicing teachers in learning to put this know-how to use on behalf of the complex learners they teach. (McLeskey et al., 2017, p. 11)*

This work proceeded from January 2015 to July 2016 and included extensive feedback regarding the draft HLPs from teachers, teacher educators, and administrators through the use of focus groups, surveys, and conference presentations.

The final HLPs address four areas of special education teacher practice that are critically important to improving student outcomes. These areas are collaboration (e.g., working with other professionals to improve student outcomes), assessment (e.g., formative assessment to guide instructional decision-making), social/emotional/behaviour (e.g., establishing a consistent, organised, respectful learning environment), and instruction

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TABLE 1

Criteria for Identifying High-Leverage Practices (HLP; Ball, Sleep, Boerst, & Ball, 2009; Grossman, Hammerness, & McDonald, 2009; McDonald, Kazemi, & Kavanagh, 2013; Windschitl, Thompson, Braaten, & Stroupe, 2012)

Applicable and important to the everyday work of teachers
• Focus directly on instructional practice
• Occur with high frequency in teaching
• Research-based and known to foster important kinds of student engagement and learning
• Broadly applicable and usable in any content area or approach to teaching
• So important that skillfully executing them is fundamental to effective teaching
Applicable and important to teacher education
• Limited in number (about 20) for a teacher education program
• Can be articulated and taught
• Novices can begin to master
• Can be practised across university and field-based settings
• Grain size (i.e., how detailed should the practice be) is small enough to be clearly visible in practice, but large enough to preserve the integrity and complexity of teaching
• System (or group of HLP) considerations
◦ embody a broader theory regarding the relationship between teaching and learning than would individual practices
◦ support more comprehensive student learning goals (the whole is more than the sum of its parts)

(e.g., using explicit instruction). More generally, as the HLPs were developed, special education teachers were viewed as

> *flexible problem solvers who not only have expertise in using highly effective practices, but also are proficient in monitoring the effectiveness of these practices with individual students and making decisions regarding changes in practice as needed. This routine analysis of practice and its impact on important student outcomes is foundational for effective special education teachers. Further, given the disproportionate number of students with disabilities from culturally and linguistically diverse backgrounds, special education teachers must have expertise in delivering instruction and behavioral interventions in a culturally responsive manner. (McLeskey et al., 2017, p. 8)*

It is important to emphasise that the HLPs were developed with the intention that teacher knowledge of culturally responsive practice (Aronson & Laughter, 2016) would be infused into each of the HLPs as they were used in practice. For example, this is addressed in the preface to the assessment HLPs, which states that effective special education teachers 'are knowledgeable regarding how context, culture, language, and poverty might influence student performance; navigating conversations with families and other stakeholders; and choosing appropriate assessments given each student's profile' (McLeskey et al., 2017, p. 16). Similar statements are included in the prefaces to the collaboration, social/emotional/behavioural, and instruction HLPs. Knowledge of culturally responsive practice is especially important for special education teachers, given the disproportionate representation of students in special education from culturally and linguistically diverse backgrounds and from high poverty settings (Klingner, Brownell, Mason, Sindelar, & Benedict, 2016; U.S. Department of Education, 2016).

The criteria that were used to select the HLPs for special education teachers are included in Table 1. These criteria were intended to result in the identification of HLPs that constitute the fundamentals of effective practice for special education teachers. Furthermore, these were intended to be practices that were practical and useful for teachers, and that had been shown to be effective in improving academic and behavioural outcomes. The criteria also

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TABLE 2

High-Leverage Practices for K–12 Special Education Teachers (McLeskey et al., 2017)

Collaboration high-leverage practices
1. Collaborate with professionals to increase student success
2. Organise and facilitate effective meetings with professionals and families
3. Collaborate with families to support student learning and secure needed services
Assessment high-leverage practices
4. Use multiple sources of information to develop a comprehensive understanding of a student's strengths and needs
5. Interpret and communicate assessment information with stakeholders to collaboratively design and implement educational programs
6. Use student assessment data, analyse instructional practices, and make necessary adjustments that improve student outcomes
Social/emotional/behavioural high-leverage practices
7. Establish a consistent, organised, and respectful learning environment
8. Teachers provide positive and constructive feedback to guide students' learning and behaviour (behaviour focus)
9. Teach social behaviours
10. Conduct functional behavioural assessments to develop individual student behaviour support plans
Instruction high-leverage practices
11. Identify and prioritise long- and short-term learning goals
12. Systematically design instruction toward a specific learning goal
13. Adapt curriculum tasks and materials for specific learning goals
14. Teach cognitive and metacognitive strategies to support learning and independence
15. Provide scaffolded supports
16. Use explicit instruction
17. Use flexible grouping
18. Use strategies to promote active student engagement
19. Use assistive and instructional technologies
20. Teach students to maintain and generalise new learning across time and settings
21. Provide intensive instruction
22. Teachers provide positive and constructive feedback to guide students' learning and behaviour (learning focus)

emphasised the identification of a limited number of practices (i.e., around 20) that could be taught during the course of a teacher preparation program.

The HLPs developed by the Council for Exceptional Children are included in Table 2. (For a more extensive description and background information regarding each HLP, including brief reviews of research support for the practices, see McLeskey et al., 2017). As noted previously, these practices may be used as the core curriculum for teacher preparation and may also be used for teacher induction and professional development as special educators continue to develop their practices over the first years of teaching. Using HLPs as the core curriculum for teacher preparation and induction has significant implications for those engaged in supporting teachers to learn to use these practices. These implications are addressed in the next section.

Considerations for Teacher Preparation

In the following sections, we consider the challenges of implementing HLPs in special education teacher preparation. We first discuss *content and contextual considerations* that relate to implementing HLPs, followed by implications for the *restructuring of coursework*

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and field-based experiences to advance teacher candidates' core practices. Given that most of the research on HLPs to this point has been conducted by general educators, we draw on this research as we examine teacher educators' work as they have incorporated core practices into preparation programs.

Content and contextual considerations. Incorporating HLPs into teacher education requires attention to several challenges for teacher education faculty and their K–12 partners. An initial consideration is how HLPs are integrated within and across curricular content in coursework and field-based experiences. In the US, the majority of states have adopted the Common Core State Standards (2010), suggesting that teacher candidates would use HLPs to teach mandated curricular content. In states and countries where other standards exist, faculty need to consider how core practices will be integrated within their critical content.

The content–pedagogy connection may be understood within a conceptual framework for preparing effective special educators (Lignugaris/Kraft & Harris, 2014). Lignugaris/Kraft and Harris (2014) suggest the importance of how both 'knowledge' (including content/curricular knowledge and basic learning principles) and 'pedagogical practice' are integrated into 'situated practice' (p. 235). Leko, Brownell, Sindelar, and Kiely (2015) further emphasise the important connections between what special educators 'know about the content and how to use high-leverage practices', as both are essential to developing 'well-integrated knowledge and practice' (p. 29). A strength of the instructional HLPs as a foundation for special educators' practice is they have an evidence base and are broadly applicable across K–12 content areas. At the same time the connection between knowledge (content/curriculum) and HLPs is particularly challenging in preparing special educators as the content requirements are often more extensive for special education teachers than for other teacher groups, as special educators are often prepared for K–12 licensure, spanning multiple grades and content areas. Integrating HLPs within multiple content areas is a formidable challenge and requires careful prioritising as teacher educators prepare PSTs to use HLPs within content areas, especially given the resource and time limitations of teacher preparation programs.

Another question is how HLPs will be integrated into different preparation models. Pugach and Blanton (2009) categorised three general preparation models for special education, including (a) discrete (special and general teacher education programs operate separately with little interaction), (b) integrated (intentional efforts to coordinate elements of coursework and field-based experiences across special and general education), and (c) merged models (students in general and special education participate in a coordinated curriculum and earn initial licensure in special and general education). Faculty in merged or dual programs using HLPs will need to determine how sets of HLPs for special and general education (e.g., Davis & Boerst, 2014) will be incorporated. Teacher educators may use existing crosswalks between general and special education HLPs (e.g., http://ceedar.education.ufl.edu/hlp-crosswalk-2/) or generate their own, clarifying the relationships between the two sets of HLPS as they consider instructional priorities for dual or merged programs.

The relationship between special and general education HLPs should also be considered in discrete programs. For example, the teacher collaboration HLPs for special education teachers (McLeskey et al., 2017) emphasise the importance of productive collaboration between special and general educators and others. These collaborative HLPs should be priorities for the development of both general and special education PSTs, as both groups need opportunities to plan, co-teach, and assess student learning in inclusive settings.

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Both general and special educators also need to learn to use collaborative skills to interpret data and inform decisions within a multi-tiered system of support in inclusive settings (Batsche, 2014). Brownell, Chard, Benedict, and Lignugaris-Kraft (in press) explain:

> *General and special education teachers need to understand how to collect and analyze progress-monitoring data, and they must have the skills to enact explicit teaching or guided, interactive practice . . . General educators need to learn how to apply HLPs in the context of teaching large groups of students, in terms of both assessment, and instructional differentiation. In contrast, special educators need to learn how to apply HLPs in the context of intensive individualized instruction, assessment, and differentiation. (p. 10)*

Regardless of the program model used, special and general education faculty need to engage in thoughtful planning to prepare all teacher candidates for their collaborative roles within multi-tiered system of support frameworks.

Teacher educators should also clarify language and concepts as PSTs are introduced to a range of instructional terminology, supporting their understanding regarding how these varied terms align. Recently, Riccomini, Morano, and Hughes (2017) provided a conceptual overview illustrating how specialised instruction, HLPs, EBPs, and intensive interventions relate and suggested that teachers need to have an understanding of these relationships to prevent confusion. McCray, Kamman, Brownell, and Robinson (2017) discussed differences between HLPs and EBPs, indicating that HLPs apply across content and grades, whereas EBPs are often related to specific content and may not apply across all grade levels (e.g., teaching reading summarisation skills is applicable to Grades 3 and above). McCray et al. (2017) also provide an example of how faculty in one university collaborated to examine the terms and practices of HLPs, created a structure for making decisions about HLPs, and selected specific pedagogies for instruction.

Finally, teacher education faculty need to be flexible about how to incorporate HLPs, depending on the specific needs of the program. Faculty may choose to prioritise some HLPs over others, while sequencing, combining, and reinforcing them in deliberate ways across course and field placements. For example, faculty in low incidence programs may need to reduce or augment HLPs, tailoring them in ways that support teacher candidates' effectiveness in specialised areas of practice. In places where HLPs do not exist, faculty may choose to develop their own core practices, as Peercy and Troyan described (2017) when they created core practices in a program for English language learners. They discussed the challenges of undertaking this work:

> *How did you identify [the three core practices you focus on in your methods course?]. . . . I'm wondering about your process. Did you do a literature review? Did you talk with other experts in the field or in your program, generate a longer list, and then come to consensus? I am trying to decide how it is that I can support an argument for the kinds of practices I decide to . . . focus on in this course . . . '. (p. 31)*

Considerations regarding structuring coursework and field-based experiences. The adoption of HLPs as a core curriculum is only an initial step in considering the detailed work and planning needed to improve special education teacher preparation. In discussing the use of core practices in science, Windschitl et al. (2012) stated that after the practices were constructed, they realised the need for tools and methods for supporting candidate development. Pedagogies designed to support core practices are underdeveloped (Peercy & Troyan, 2017), leaving teacher educators with relatively few guidelines for undertaking this work. An initial step is considering what theories, frameworks, or approaches should inform teacher preparation pedagogy. Leko et al. (2015) suggested using principles from the learning sciences to inform teacher education

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practice-based pedagogies. They describe several principles, including (a) 'deliberate practice' (sequenced to build on knowledge and skill levels over time); (b) 'interleaved and distributed practice' (interleaved builds on conceptual understanding so PSTs learn to differentiate among problems and select knowledge and skills needed to address them, whereas distributed practice means scheduled over time); (c) 'situated in content and authentic context' (application of practices in specific content and in school settings), and (d) 'performance feedback and self-assessment' (external and self-assessment as PSTs receive feedback and are encouraged to engage in focused critical reflection; pp. 30–31).

Scholars have suggested principles and a range of pedagogies for use in practice-based teacher education. Benedict, Holdheide, Brownell, and Foley (2016) summarised three key considerations in teaching core practices across a program: focus, coherence, and duration. Teacher preparation programs need to be clear about the specific HLPs to be taught (focus) with deliberate decisions about their distribution (i.e., coherence across the program related to where they will be introduced, taught, practised, assessed), and with sufficient time allocated to the development of each HLP across the program (duration). Examples of specific pedagogies to support PSTs in learning to use these practices include micro-teaching, cases, tutoring, lesson study, peer coaching, bug-in-ear technology, simulated experiences such as TeachLivE/Mursion, video analyses, practice opportunities with feedback and reflection, incorporating practice opportunities with external and self-assessments, and courses carefully linked to field-based learning experiences (e.g., Benedict et al., 2016; Leko et al., 2015; Maheady, Smith, & Jabot, 2014; McDonald et al., 2013; McDonald et al., 2014; Peercy & Troyan, 2017).

Finally, specific activities need to be mapped to the core practices and carefully sequenced, providing PSTs with opportunities to 'learn in, from, and through practice' (McDonald et al., 2014, p. 504). Incorporating both formative and summative assessments allow teacher educators to monitor the success of both individual activities in supporting PSTs' practices in specific course and field experiences as well as their collective impact on candidates completing their programs.

Examples of teaching core practices. Examples of general education teacher educators working to teach core practices in practice-based settings illustrate the nature of this work. In a self-study, Peercy and Troyan (2017) developed instructional activities (IA) for teaching specific practices. They used a five-step cycle to scaffold teacher candidates' practice during IA. The steps are *deconstructing, demonstrating, rehearsing, implementing, and analysing the practice,* with support and feedback from faculty and cooperating teachers in field-based settings. The researchers provide examples as they engaged teacher candidates in the use of this cycle as they described the

> *systematic deconstruction and rehearsal of a core practice through a particular IA. This is followed by implementation of the practice with students, usually in a K-12 setting. . . . Afterward, novice teachers share the videotaped implementation for discussion in the teacher education setting, and collectively analyze their implementation of the focal practice(s) with the students. Novice teachers often write a reflection about their practice as a culmination of the experience. These opportunities to engage in practice in concrete ways are intended to support novice teachers in knowing how to do some of the most essential work of teaching prior to entering their first year of teaching. (p. 28)*

Peercy and Troyan (2017) also describe some of the challenges in doing this work, including questions about how teacher candidates should be involved in enacting the practices and the need to not only teach practices, but also help teachers understand their theoretical underpinnings.

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In another example of teaching core practices, McDonald et al. (2013) used a learning cycle to offer guided assistance to help candidates learn particular practices. They provide an overview of this cycle, indicating that it

> *intends to offer guided assistance to candidates to learn particular practices by introducing them to the practices as they come to life in meaningful units of instruction, preparing them to actually enact those practices, requiring them to enact the practices with real students in real classrooms, and then returning to their enactment through analysis. (p. 382)*

McDonald and colleagues (2013) also describe how their learning cycle progresses through varied settings, including controlled (university classrooms), designed (both controlled and authentic, such as teaching courses in schools with faculty and cooperating teacher involvement), and authentic settings (K–12 classrooms).

These illustrations emphasise the role that clinical experiences play in supporting teachers' use of core practices. Today, there is international interest in authentic teaching experiences in teacher preparation (Peercy & Troyan, 2017); however, researchers emphasise that simply increasing the time that teacher candidates spend in schools is not sufficient to improve preparation (Forzani, 2014; Peercy & Troyan, 2017). Rather, field-based experiences must be designed to support teacher candidates' effective use of core practices by aligning content and pedagogy. As Lignugaris/Kraft and Harris (2014) explain, a 'teacher's effectiveness results from the application of pedagogical principles to a content domain, taking into account the instructional context that includes learners' skills and previous knowledge' (p. 234).

Possibilities for special education teacher preparation. HLPs offer the potential to improve teacher preparation through the development of a shared language for instruction and the development of instructional sequences, tools, and strategies to support teachers' development of these practices (Windschitl et al., 2012). Teacher educators interested in developing or using HLPs should consider a resource by Benedict and colleagues (2016) that provides practical information regarding the development and support of core practices across both coursework and field-based experiences. This guide provides examples of high-quality practice-based opportunities that are used in specific teacher education programs, as well as infrastructure challenges and how they might be addressed. This information should be helpful to state and national education agencies, teacher education programs, and local school districts interested in supporting the use of core practices. Other resources related to this work are available from the CEEDAR Center (https://ceedar.education.ufl.edu/), the IRIS Center (https://iris.peabody.vanderbilt.edu/), and the National Center on Intensive Intervention (https://intensiveintervention.org/resources/tools-charts).

Although practice-based approaches in initial preparation show promise in supporting the use of effective practices for PSTs, continuing support is needed to further develop effective practices for beginning teachers. Induction programs are thus important in clarifying and reinforcing instructional expectations for new teachers (Billingsley, Bettini, & Jones, 2018; Israel, Kamman, McCray, & Sindelar, 2014), and providing ongoing professional learning and mentoring as early career teachers deepen their expertise related to complex practices (Billingsley, Griffin, Smith, Kamman, & Israel, 2009; Israel et al., 2014). Ideally, induction programs will serve as a bridge, supporting early career teachers in the use of HLPs during their first years of teaching through well-designed and supported induction and mentoring programs, with continuing professional development (Leko & Roberts, 2014) to foster their learning and effectiveness in improving academic and behavioural outcomes for all students.

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Conclusion

As HLPs are employed to focus teacher preparation on learning to use practices in the classroom, major changes must occur to develop programs that are centred in clinical practice and that provide systematic support for teacher candidates as they learn to use these practices (Benedict et al., 2016). The title of this article suggests the possibility that incorporating HLPs in teacher preparation programs may reduce the research-to-practice gap. Obviously, this will depend on a range of factors, including the challenges that may interfere with the success of this work. Previous impediments to change in teacher preparation that are particularly relevant to the changes we describe should be considered, such as the possible lack of willingness of K–12 schools to partner with teacher education programs in new models of preparation, and the tendency when change is complex to slightly modify and rename existing practices rather than actually engaging in substantive change (McDonald et al., 2014; Sykes, Bird, & Kennedy, 2010). Many additional issues may also arise. For example, substantive changes cannot simply occur within discrete elements of teacher preparation (e.g., methods courses); these changes require that several faculty develop intensive collaborative relationships to develop and sustain these changes. This type of collaboration may be difficult given the many demands on the time of university faculty (Zeichner, 2012). There are also substantial challenges that must be addressed regarding the structure of teacher preparation programs to ensure that coursework and field experiences are intimately intertwined in ways that support candidates in learning to use practices in the classroom. Concerns such as these warrant serious consideration as faculty move forward with practice-based approaches to teacher preparation.

Although these challenges may be daunting, there are many potential benefits for faculty as they engage in this work. Foremost among these benefits is the improved preparation of teachers as they learn to use practices with proficiency and enter the profession classroom ready to improve student outcomes. In addition, practice-based approaches provide teacher educators with opportunities to study how teaching practices influence student outcomes. Maheady (2015) suggests that this type of research could be used to 'elevate practice and its improvement as legitimate and important areas for empirical inquiry' and provide the 'opportunity to improve our professional standing among critical policy-makers' (p. 16).

Finally, although practice-based approaches show promise in supporting the use of more effective practices, additional support beyond initial preparation is needed to develop highly proficient teachers. Induction programs are important in clarifying and reinforcing instructional expectations for beginning teachers (Israel et al., 2014), and there is also the need for ongoing professional learning as these teachers deepen their expertise related to complex practices (Billingsley et al., 2009; Israel et al., 2014). Ideally, induction programs will serve as a bridge, supporting early career teachers in the use of HLPs during their first years of teaching through well-designed and supported induction and mentoring programs, and high-quality continuing professional development (Leko & Roberts, 2014) will be provided for teachers as they continue to learn and grow as professionals who are proficient in using a wide range of effective practices that improve academic and behavioural outcomes for all students.

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