

Preparing Special Educators for Today's Classrooms: A Practice-Based Framework

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Responding effectively to the multifaceted demands of special education requires a coherent preparation framework that intentionally integrates evidence-based practices, embedded practicum experiences, professional development, instructional coaching, faculty expertise and collaboration, and long-term sustainability.

ABSTRACT

Persistent shortages and high attrition rates among special education teachers highlight the urgent need for stronger, more coherent preparation systems. This article presents a case study from a traditional special education preparation program that implemented a six principle, practice-based framework to improve teacher readiness, effectiveness, and retention. Grounded in current research and practitioner experience, the framework integrates: aligned instructional frameworks and practices; embedded practicums and clinical experiences; instructional coach-ing; professional development; faculty expertise and collaboration; and long-term sustainability. Central to the model is the intentional alignment of universal design for learning (UDL), evidence-based practices (EBPs), specially designed instruction (SDI), and high-leverage practices (HLPs) as a unified instructional system. Faculty collaboration and data-informed decision-making strengthened program continuity across coursework and field experiences. A practical roadmap for teacher preparation programs seeking to move beyond fragmented approaches toward cohesive systems that prepare and retain effective special educators in high-need contexts is presented.

KEYWORDS

Coaching, embedded practicums, evidence based practices, high leverage practices, professional development, special education teacher preparation, universal design for learning

There is a persistent and significant shortage of qualified special education teachers in schools across the United States (U.S. Department of Education, 2016, 2021). More than half of public schools report feeling understaffed, with 65% identifying shortages specifically in special education, a rate that far exceeds those reported for general education positions (Bettini & Gilmour, 2024; Learning Policy Institute, 2025; National Center for Education Statistics [NCES], 2014). Schools face challenges in recruiting and retaining qualified special educators. While national data indicate that 30–50% of new teachers leave the profession within their first five years, attrition rates for special educators are approaching 50%, particularly in high-need schools (Ingersoll et al., 2014; Taie & Lewis, 2023). Even with this need, enrollment in educator preparation programs declined by more than 40% between 2009–10 and 2014–15, and the number of completers in special education has not kept pace with workforce demand (American Association of Colleges for Teacher Education [AACTE], 2022; Alderman, 2024; Fuller, 2024; King, 2024). National analysis indicates that fewer than 10% of undergraduate degrees and certificates are awarded in special education (AACTE, 2025).

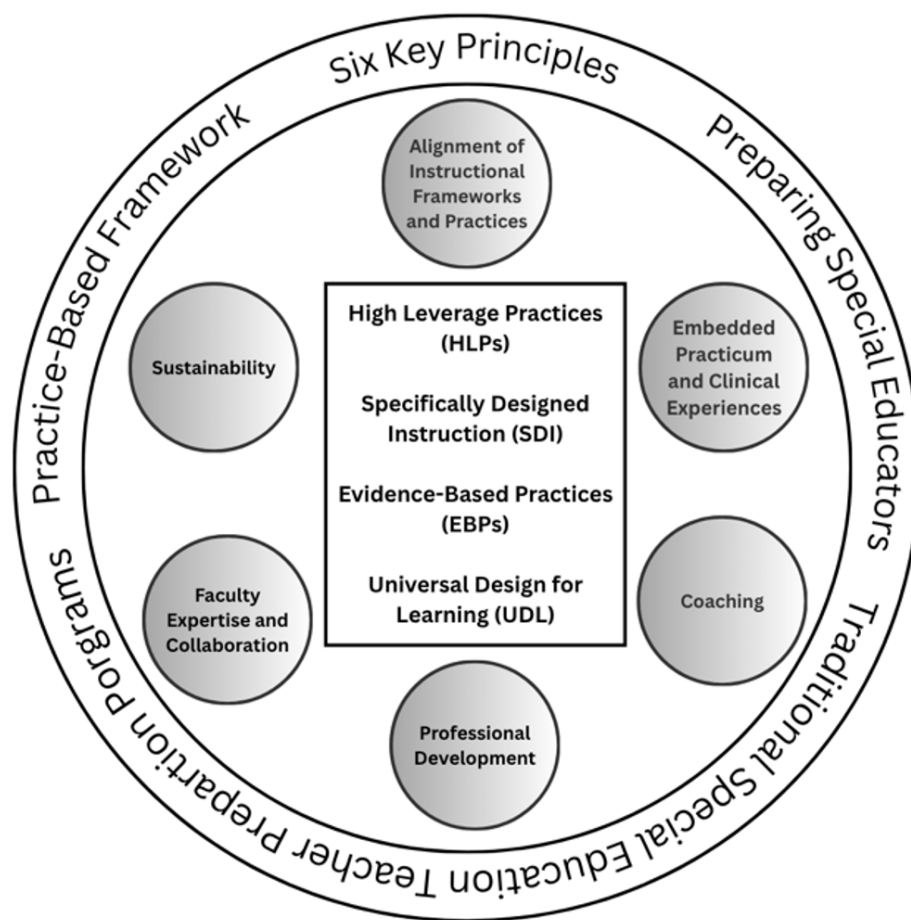
During the 2022–2023 school year, approximately 7.5 million students ages 3–21 received services under IDEA, representing 15% of all public school students, compared to 6.4 million students and 13% of public school enrollment a decade earlier (NCES, 2024). These trends highlight a growing mismatch between the increasing number of students requiring special education services and the supply of certified special educators entering the workforce. This shortage is particularly concerning because students with disabilities rely on highly prepared teachers to deliver specially designed instruction (SDI), implement evidence-based practices (EBPs), and

provide individualized supports that improve academic, behavioral, and post-school outcomes (Billingsley & Bettini, 2019; Council for Exceptional Children, 2020). When schools experience persistent vacancies, high turnover, and teacher attrition, students with disabilities may face disruptions in instructional continuity, reduced access to specialized expertise, and fewer opportunities to receive individualized supports aligned with their needs.

In response to persistent teacher shortages, many states have expanded alternative pathways for educator preparation and licensure to increase the supply of qualified teachers (Rudder, 2024). Unfortunately, given the current statistics on special education teacher retention and vacancies, there are not enough special education teachers to fill the nation's current need. Special educators are expected to navigate increasingly complex instructional, legal, collaborative, and case management responsibilities while addressing the diverse needs of students with disabilities (Billingsley & Bettini, 2019; Brownell et al., 2019). Research suggests that inadequate preparation, insufficient induction supports, and challenging working conditions contribute to teacher stress and attrition, particularly among novice special educators (Hagaman & Casey, 2018; Zhang & Zeller, 2016). Consequently, no matter the pathway, preparation programs play a critical role not only in developing instructional competence, but also in fostering educator readiness, effectiveness, and long-term retention.

As a result, ensuring that special educators receive comprehensive preparation and ongoing support is critical, not only for strengthening the workforce, but also for promoting positive outcomes for students with disabilities. Preparation programs must prepare special educators for increasingly complex instructional, legal, and collaborative

FIGURE 1: Practice-Based Conceptual Framework for Preparing Special Educators



responsibilities while simultaneously addressing workforce shortages, turnover, and high attrition (Diliberti & Schwartz, 2025). In this article, we describe a coherent framework for this comprehensive preparation and ongoing support that is grounded in practice and that incorporates EBPs for teacher preparation (Leko et al., 2015). We present and describe each component of the framework, providing examples from our own traditional preparation program work.

A PRACTICEBASED FRAMEWORK: INTEGRATION OF SIX KEY PRINCIPLES

Responding effectively to the multifaceted demands of special education requires a coherent preparation frame-

work (see Figure 1) that intentionally integrates evidence-based practices, embedded practicum experiences, professional development, instructional coaching, faculty expertise and collaboration, and long-term sustainability. This framework was developed by synthesizing recommendations from the special education teacher preparation literature and organizing these recommendations into an integrated model designed to support teacher candidate learning and implementation.

At the core of the framework are four complementary instructional constructs: high-leverage practices (HLPs), SDI, EBPs, and universal design for learning (UDL). Research suggests that effective special educator preparation requires

TABLE 1: Instructional Frameworks and Practices

Framework/ Practices	Definition/Core Features	Why Special Education Majors Must Know This	Policy/Legal Foundations
Universal Design for Learning (UDL)	Instructional design approach to reducing instructional barriers	Prioritizes proactively incorporating universal supports that benefit all students	Higher Education Opportunity Act (2008); Every Student Succeeds Act (2015)
Differentiated Instruction (DI)	Adapts instruction and instructional delivery by student readiness, interests, and learning profiles	Helps respond to variability within classrooms; bridges whole-group instruction and individualized supports	Every Student Succeeds Act (2015)
Specially Designed Instruction (SDI)	The delivery of individualized instruction based on content, methodology, and delivery	Overseen and delivered by special educators to ensure progress on IEP goals	IDEA (34 CFR §300.39)
High-Leverage Practices (HLPs)	Evidence-based practices for students with disabilities	Provides practical strategies to implement UDL, DI, and SDI effectively	CEC Standards; IDEA Considerations

Note. UDL (whole class), DI (groups), and SDI (individualized) operate across tiers; HLPs support all levels.

candidates to learn research-supported instructional methods and apply them within inclusive, data-driven decision-making processes (Council for Exceptional Children, 2020). HLPs provide a common set of teachable and assessable instructional practices, while EBPs provide the empirical foundation for effective instruction (Aceves & Kennedy, 2024; Grobart & Zepp, 2024). These practices come together in SDI that operationalizes the individualized instruction required under IDEA (2004). UDL offers a proactive framework for creating accessible and inclusive learning environments across groups of students (Marino et al., 2024). Together, these approaches form an integrated instructional core for special educator preparation.

The framework is also informed by the Collaboration for Effective Educator Development Accountability and Reform (CEEDAR) national reform efforts, which emphasize EBPs, structured clinical experiences, and continuous program improvement (McCray et al., 2017). Extending these efforts, the framework identifies six principles that support implementation across educator preparation programs.

Framework Architecture

Principle one, Alignment of Instructional Frameworks and Practices, ensures coherence among coursework, field experiences, assessments, and instructional approaches. Research and professional standards suggest that candidates experience stronger outcomes when preparation components emphasize the same instructional practices (Benedict et al., 2016; CEC, 2020; McLeskey et al., 2017). The second principle, Embedded Practicum and Clinical Experiences, provides opportunities for candidates to apply and refine skills in authentic educational settings. The third principle, Coaching, offers ongoing feedback and support as candidates develop instructional competence.

The remaining principles support continuous improvement across the preparation system. Professional Development promotes ongoing learning among candidates, faculty, cooperating teachers, and university supervisors. The principle of Faculty Expertise and Collaboration emphasizes a shared responsibility for modeling and reinforcing effective practices. Finally, Sustainability focuses on maintaining program quality and continuous improvement over time.

Encircling these principles is a broader context representing practice-based preparation, traditional special education preparation programs, and a practice-based framework. Together, the instructional core and six principles create a comprehensive framework for preparing special educators who can implement effective, inclusive, and research-supported practices in diverse educational settings. For each of the six highlighted principles, this article provides individual tables illustrating actions that have been implemented within the practice-based framework to ensure alignment is occurring (see Tables 2–7).

Key Principle One: Alignment of Instructional Frameworks and Practices

Effective special education preparation requires instructional coherence across coursework, clinical experiences, assessments, and professional learning opportunities. Research suggests that teacher candidates develop stronger instructional competence when preparation programs present key instructional frameworks as interconnected rather than isolated concepts (Cook & Cook, 2011; Grossman et al., 2009; McLeskey et al., 2017). Within this framework, UDL, EBPs, SDI, and HLPs function as

TABLE 2: Actions to Ensure Alignment of Instructional Frameworks and Instructional Practices

General Action Items	Specific Examples of Action Items
Identify and prioritize a core set of HLPs across the program	Teacher Preparation Programs within the university's EPPs identify 6–7 priority HLPs that all preservice teachers master and can generalize to classroom settings. This was done through a voting/consensus system allowing all faculty to have a voice. All 22 HLPs are addressed across program-level courses.
Align syllabi, assignments, and assessments to shared instructional practices	Faculty develop course crosswalks aligning state competencies, HLPs, and assignments, and include them in syllabi.
Use common language and definitions across faculty and courses	Faculty conduct curricular reviews to align state competencies, HLPs, assignments, and levels of implementation (introduction, developing, applying). Program handbooks include common acronyms, and modules reinforce shared language and key concepts.
Develop or adopt shared planning templates grounded in HLPs	Programs use a common lesson plan template across courses within each program, scaffold expectations as students' progress, and review the template annually.
Regularly review coursework for alignment as students progress through teacher preparation programs	Faculty conduct annual curriculum reviews to evaluate competencies, HLPs, assignments, course sequencing, and rigor to ensure program alignment. Skills are mapped within a curriculum matrix that identifies where they are introduced, developed, and applied across the program. This process enables faculty to monitor skill progression and ensure that students have opportunities to build and demonstrate competencies throughout the curriculum.
Provide professional development	Provide professional development trainings for student teachers, cooperating teachers, and university supervisors (triad), explicitly covering the four instructional frameworks and practices.

Note. HLPs = high-leverage practices; EPPs = educator preparation providers

complementary components of a unified instructional system (see Table 1). UDL supports proactive lesson design, EBP provides research-supported instructional methods, DI and SDI address learner variability and individualization, and HLPs operationalize these approaches through observable teacher actions (CAST, 2018, 2024; IDEA, 2004; McLeskey et al., 2019; Tomlinson, 2014).

The alignment of these frameworks across preparation experiences promotes consistency in instructional language, expectations, and candidate practice. Rather than encountering competing approaches, candidates learn how these frameworks collectively support effective instruction for students with disabilities. This integrated approach is reinforced throughout coursework, clinical experiences, coaching, and professional development, creating a coherent preparation system that supports candidate readiness for practice (Darling-Hammond et al., 2020; Grossman et al., 2009).

Our Program Experience. Table 2 summarizes the specific strategies used

within the program to promote alignment across instructional frameworks and practices. Actions were delivered to faculty (where we started), preservice candidates, and cooperating teachers and university supervisors that work with preservice candidates.

Key Principle Two: Embedded Practicum and Clinical Experiences

Field experiences and embedded clinical experiences are foundational components of effective teacher preparation, particularly in special education. Research consistently demonstrates that the quality of field experience placements and mentorship significantly influences pre-service teachers' preparedness, self-efficacy, career decisions, and long-term retention (Bastian et al., 2022; Brown et al., 2015; Corcoran & O'Flaherty, 2018; Theobald et al., 2021). High-quality placements are characterized by effective cooperating teachers, supportive school environments, and alignment with candidates' intended teaching fields. Studies have

shown that candidates who engage in hands-on teaching, observe experienced educators, and receive strong mentorship report greater confidence and readiness to teach (National Council on Teacher Quality, 2024). Furthermore, placements in high-performing schools and mentorship from cooperating teachers with relevant credentials, particularly special education endorsements, are associated with stronger early-career effectiveness and increased likelihood of entering and remaining in special education careers (Bastian et al., 2022; Theobald et al., 2021).

Mentorship is a critical element of high-quality clinical experiences, shaping candidates' instructional skills, professional beliefs, and career trajectories. Brown et al. (2015) identified the relationship between the cooperating teacher and preservice candidate as one of the most valuable aspects of the student teaching experience. Effective university supervisors and cooperating teachers provide constructive feedback, model evidence-based instructional practices, and foster professional growth. Research

TABLE 3: Actions to Ensure Alignment of Instructional Frameworks and Instructional Practices

General Action Items	Specific Examples of Action Items
Integrate practicum experiences early and throughout the program	Embedded practicum experiences begin in the fall of students' sophomore year and continue through their senior year, providing one practicum placement per semester.
Structure repeated teach–reflect–revise cycles for candidates	Students engage in a variety of teaching cycles. For example, they teach a lesson, debrief with a university supervisor or cooperating teacher using a formal observation tool (including SDI, HLPs, and OTRs), watch recordings of their teaching, and complete guided reflections using prompted questions. Students then develop goals to improve their next lesson.
Align practicum expectations with coursework objectives	At the start of each practicum, students complete a Practicum Information/Course Alignment Form. This form outlines all assignments, provides brief descriptions, identifies required steps in the practicum classroom, and lists due dates for all related coursework. In addition, course syllabi, practicum syllabi, and the Program Handbook are aligned to ensure consistent expectations and coursework objectives.
Ensure candidates have multiple opportunities to teach and refine lessons	Students teach between two and six formal lessons per practicum placement, following the teach–reflect–revise cycle. The number of required lessons increases as students advance through the program.
Build structured, intentional reflection protocols tied to HLPs	Students participate in structured reflection activities, such as debriefing with a university supervisor or cooperating teacher using formal observation tools (including SDI, HLPs, and OTRs), completing guided reflection questions after reviewing lesson recordings, and discussing teaching practices in content-specific courses. After these reflections, students set goals for improvement. At the end of each semester, they write a comprehensive reflection on their progress and identify areas for continued growth.
Provide resources from professional organizations to support the use of the four instructional frameworks and practices	In addition to providing professional development to student teachers, cooperating teachers, and university supervisors, we also provide a plethora of resources from professional organizations to support their development in using HLPs, EBPs, SDI and UDL.

Note. SDI = specifically designed instruction; HLPs = high-leverage practices; OTRs = opportunities to respond; EBPs = evidence-based practices; UDL = universal design for learning

further indicates that cooperating teacher characteristics, including instructional effectiveness, licensure performance, and leadership capacity, are positively related to future teacher performance and retention (Bastian et al., 2022). These findings highlight the importance of strategic placement and mentor selection for candidates as mechanisms for strengthening teacher recruitment, effectiveness, and long-term retention, particularly in high-need areas such as special education.

Embedded practicums extend these benefits by integrating clinical experiences throughout coursework rather than limiting them to a single student teaching semester (Grossman et al., 2009; Kavanagh, 2023). Within this framework, candidates participate in early and ongoing field experiences that provide opportunities to apply instructional theories, EBPs, and pedagogical strategies in

authentic classroom settings. Candidates engage in teaching cycles that include lesson delivery, observation and feedback using tools focused on SDI, HLPs, opportunities to respond, video analysis of their instruction, and guided reflection activities that inform future growth goals (see Table 3). These experiences are particularly important in special education because they help bridge the gap between theory and practice while developing competence in explicit instruction, progress monitoring, data-based decision making, and collaboration with multidisciplinary teams (Hilaski et al., 2021; O’Brien et al., 2024). This developmental approach is also consistent with recommendations for supporting special educators beyond initial preparation. Billingsley et al. (2019) emphasize the importance of ongoing induction and mentoring opportunities that reinforce HLP implementation during teachers’

early years in the profession. By providing repeated opportunities to practice, receive feedback, and reflect on the use of HLPs throughout preparation, educator preparation programs can establish a foundation that extends into induction and early-career support. Such continuity may strengthen teacher effectiveness, confidence, and long-term retention in special education.

Our Program Experience. The selection and sequencing of these activities should align with candidates’ developmental progression across the preparation program. Early coursework may emphasize structured observations, guided reflection, and rehearsals to develop foundational HLPs and instructional knowledge. As candidates advance through methods and practicum courses, opportunities for coached teaching, lesson implementation, video-based reflection, and data-based

TABLE 4: Actions to Ensure Coaching

General Action Items	Specific Examples of Action Items
Develop or adopt shared observation and feedback tools aligned to HLPs	Programs use a common observation tool highlighting HLPs, OTRs, and instructional media during practicum and student teaching.
Train supervisors and cooperating teachers in coaching strategies	Programs provide structured training at the beginning and end of each semester, with mid-point check-ins, for triads (students, supervisors, and cooperating teachers). Training focuses on HLPs, explicit instruction, questioning, OTRs, assistive technology, feedback, UDL, and differentiation.
Emphasize actionable, practice-based feedback over evaluation	Supervisors practice delivering affirmative, corrective, specific, and resource-linked feedback, supported by group discussion and reflection.
Structure post-observation debriefs around reflection and next steps	Supervisors conduct immediate debriefs with written feedback, set goals for future observations, and require students to reflect on recorded lessons using guided prompts.
Monitor feedback quality for consistency and specificity	Researchers listen to audio recordings of debrief sessions to analyze feedback quality and useful findings to inform ongoing professional development with university supervisors and cooperating teachers.

Note. HLPs = high-leverage practices; OTRs = opportunities to respond; UDL = universal design for learning

decision making can be incorporated to support increasingly complex HLPs and instructional responsibilities. During field experiences, candidates engage in integrated practice across multiple HLPs while assuming greater instructional responsibility. This intentional sequencing helps ensure that clinical experiences are aligned with course objectives, HLP development, and candidates' readiness for practice.

Research also highlights the value of aligning embedded practicums with HLPs to provide repeated, supported opportunities for candidates to practice essential teaching skills across multiple contexts (Grobart & Zepp, 2024). The use of structured observation and reflection protocols promotes instructional coherence and the development of transferable teaching competencies. Beyond improving instructional readiness, extended and mentored clinical experiences increase teacher retention and workforce sustainability in special education, leaving candidates feeling better prepared for the profession and more likely to remain in high-need settings (Francies et al., 2021). Utilizing the six-principle preparation framework,

Table 3 illustrates how embedded practicums serve as the primary mechanism through which EBPs, systematic and explicit instruction, and HLPs are enacted in authentic settings, strengthening the connection between preparation and practice while supporting the long-term sustainability of the special education workforce.

Key Principle Three: Coaching

Although embedded practicums provide important opportunities for teacher candidates to apply instructional practices in authentic classroom settings, research indicates that these experiences are most effective when supported through structured coaching and collaboration among program personnel. Coaching provides candidates with ongoing observation, feedback, modeling, and guided reflection that strengthen the connection between coursework and practice (Darling-Hammond et al., 2020; Grobart & Zepp, 2024; O'Brien et al., 2024). Within this framework, coaching serves as a program-level support that enhances candidates' ability to implement instructional frameworks such as UDL, EBPs, SDI, and HLPs. As illus-

trated in Figure 1, coaching and faculty collaboration transform clinical experiences from simple exposure to teaching into intentional learning opportunities that promote instructional competence and professional growth.

Our Program Experience. In special education teacher preparation, coaching is particularly valuable for developing candidates' skills in evidence-based instruction, explicit teaching, progress monitoring, and data-based decision making. Research demonstrates that candidates who receive sustained coaching during practicum experiences are more likely to implement instructional practices with fidelity and develop a deeper understanding of how to respond to diverse student learning needs (O'Brien et al., 2024). To support this process, university supervisors and cooperating teachers receive training in effective coaching and feedback practices. This preparation emphasizes delivering feedback that is specific, actionable, affirmative, and corrective while engaging candidates in reflective conversations about their teaching. As outlined in Table 4, candidates participate in observation cycles that include immediate debriefing, writ-

ten feedback, goal setting, and reflection on recorded lessons, creating repeated opportunities for growth and refinement of practice.

Collaboration among university faculty, university supervisors, and cooperating teachers further strengthens the impact of coaching by ensuring consistency across preparation settings. When clinical partners share common expectations, language, and instructional priorities, candidates experience greater coherence between coursework and field experiences (Grossman et al., 2009). This alignment reinforces key preparation frameworks, including UDL, EBPs, SDI, and HLPs, while reducing fragmentation in candidate learning. Beyond improving instructional competence, coaching has also been associated with increased confidence, stronger professional identity, and improved retention, particularly in high-need areas such as special education (Francies et al., 2021). Within the six-principle preparation framework, coaching functions as a critical mechanism that connects clinical experiences, instructional frameworks, and faculty collaboration, ultimately enhancing teacher readiness and supporting long-term success in the profession.

Key Principle Four: Professional Development

For the purpose of this article, professional development is defined as additional training given to preservice teachers beyond what they receive in their coursework sequence. Such professional development may take the form of workshops or training sessions developed and delivered by professors or other experts, as well as professional conferences attended by preservice candidates, cooperating teachers, and university supervisors. Research consistently indicates that professional development is most effective when it is ongoing, connected to authentic teaching

responsibilities, and embedded within clinical experiences rather than delivered as isolated training events (Darling-Hammond et al., 2020). In special education teacher preparation, professional development helps candidates deepen their understanding and application of EBPs, systematic and explicit instruction, and HLPs. Because novice special educators often face unique instructional and compliance-related challenges, targeted professional learning can address the specific needs of the field (Sindelar et al., 2010). Integrating professional development throughout preparation programs also helps address longstanding concerns regarding early-career preparedness by connecting learning directly to candidates' classroom experiences (Billingsley & Bettini, 2019; Leko et al., 2015). When aligned with coursework and field experiences, professional development supports candidates in consolidating instructional knowledge, analyzing student data, and developing the professional judgment needed to respond effectively to diverse classroom demands.

Our Program Experience. Professional development is particularly important given documented gaps between special educators' knowledge of effective practices and their ability to implement those practices consistently in classroom settings (McCall et al., 2014; Nagro & deBettencourt, 2017). Within this framework, professional development works in conjunction with embedded practicums and coaching to strengthen candidate learning. Practicum experiences provide opportunities for candidates to apply their learning in authentic settings, and coaching offers individualized feedback and opportunities for reflection. Professional development complements these experiences by providing structured learning that helps candidates interpret feedback, address instructional challenges, and connect

daily practice to broader pedagogical frameworks. As illustrated in Figure 1, professional development serves as a program-level support that promotes coherence across coursework, clinical placements, and coaching interactions. This alignment ensures that candidates encounter consistent instructional language, expectations, and priorities, strengthening their ability to implement UDL, EBPs, SDI, HLPs and aligned lesson design with increasing confidence and independence.

Beyond preservice preparation, professional development contributes to long-term workforce sustainability by fostering habits of continuous learning and supporting teachers as they transition into full-time practice (Billingsley & Bettini, 2017). Candidates who experience preparation programs that emphasize ongoing professional growth report greater preparedness and resilience, particularly in high-need special education settings (Darling-Hammond et al., 2020). Table 5 outlines our program's approach to professional development, which includes ongoing, role-specific learning opportunities for faculty, university supervisors, and cooperating teachers. In many cases, these groups participate in shared professional development focused on topics such as explicit instruction and effective feedback, creating a common language and shared expectations for supporting teacher candidates. Professional development is also informed by program data and participant feedback, allowing learning opportunities to be refined over time and tailored to emerging needs. Within the six-principle framework, professional development complements embedded practicums, coaching, and faculty collaboration by reinforcing instructional competence, promoting program coherence, and supporting teacher retention and success in the field.

Key Principle Five: Faculty Expertise

TABLE 5: Actions to Ensure Professional Development

General Action Items	Specific Examples of Action Items
Provide ongoing, role-specific PD for faculty, supervisors, and cooperating teachers	Departments and colleagues provide ongoing professional development each semester, including targeted sessions for university supervisors and cooperating teachers. Faculty draw on conference attendance, professional journals, research, webinars, and institutional training to inform and enhance PD content.
Focus PD on shared instructional practices (e.g., feedback, explicit instruction)	Programs design and deliver PD based on end-of-semester feedback, with a focus on HLPs, questioning techniques, explicit instruction, OTRs, assistive technology, feedback, UDL, and differentiation. Supervisors also engage in video-based practices to strengthen instructional understanding.
Differentiate PD for new versus returning participants	Programs provide separate PD sessions for new and returning university supervisors and cooperating teachers. Feedback data are used to tailor the content, ensuring participants build on prior learning. Returning participants engage in advanced or differentiated training rather than repeating the same PD sessions.
Use data and field feedback to refine PD topics	Programs collect data from end-of-semester focus groups and other feedback sources to identify areas of need and adjust PD topics accordingly.
Create opportunities for joint learning across roles	Programs facilitate collaborative PD sessions in which students, supervisors, and cooperating teachers participate in triad-based learning, discussion, and video analysis to strengthen shared understanding and practice.
Attend professional conferences	Senior preservice candidates had the opportunity to attend three additional professional conference over the course of the academic year (e.g. TechKnowledge, TTAC Community of Practice for Literacy and Assistive Technology).

Note. PD = professional development; HLPs = high-leverage practices; OTRs = opportunities to respond; UDL = universal design for learning

and Collaboration

Faculty expertise and collaboration are essential program-level supports within effective special education teacher preparation frameworks. Research suggests that preparation programs are strongest when faculty possess deep knowledge of special education content and work collaboratively to align coursework, clinical experiences, and program expectations (Grossman et al., 2009; National Academy of Education, 2024). Such collaboration promotes coherence across the preparation program and helps bridge the gap between university-based learning and clinical practice (Brownell et al., 2005). Faculty with expertise in EBPs, systematic and explicit instruction, inclusive pedagogy, and special education law are particularly well positioned to help candidates develop instructional competence and professional judgment. By coordinating content across courses, including UDL, EBPs, SDI, and HLPs, faculty can pro-

vide candidates with a more unified and consistent learning experience.

Collaboration among university faculty, university supervisors, and school-based partners further strengthens program quality by creating consistency across preparation contexts. Research indicates that strong partnerships between faculty and clinical mentors improve alignment among practicum expectations, coaching practices, and candidate assessments (Brownell et al., 2005; Grossman et al., 2009). This coordination ensures that candidates encounter common instructional language, shared performance expectations, and consistent feedback throughout their preparation. As illustrated in Figure 1, faculty expertise and collaboration function as a program-level support that connects the instructional components of the framework. Through this collaborative structure, embedded practicums and coaching become integrated experiences that support candidates in applying UDL, EBPs,

SDI, HLPs and aligned lesson design in authentic educational settings.

Faculty collaboration also contributes to candidate confidence, professional identity development, and long-term commitment to the profession. Candidates who experience consistent messaging and coordinated support across courses and clinical experiences report greater preparedness and confidence, particularly in high-need areas such as special education (Darling-Hammond et al., 2020).

Our Program Experience. Within the six-principle framework, faculty expertise and collaboration support both instructional coherence and continuous program improvement. Key strategies include engaging faculty in collaborative decision making, using program data to guide improvement efforts, establishing shared responsibility for candidate outcomes, partnering with stakeholders, and conducting curriculum mapping to identify gaps, redundancies, and

TABLE 6: Actions to Ensure Faculty Expertise and Collaboration

General Action Items	Specific Examples of Action Items
Establish regular cross-faculty collaboration meetings	Program faculty meet monthly during the semester to collaborate, address program issues, and share ideas. Summer workgroups support program and course revisions. Additionally, research teams meet regularly to analyze and discuss data, plan future studies and PD, and identify professional development needs.
Use program data to guide decision-making and improvements	Faculty review program data annually and use stakeholder feedback to guide continuous program improvements.
Create shared responsibility for candidate outcomes across courses	Faculty hold end-of-semester student review meetings using consistent performance measures to identify struggling students early and provide targeted support.
Engage partners (e.g., technical assistance, professional organizations, other preparation programs, school divisions) in program alignment	Programs collaborate with partners to align coursework with field expectations, refine clinical experiences, and ensure candidate readiness. Students participate in partner-led professional learning opportunities.
Map curriculum to identify gaps and overlaps	Faculty review the curriculum sequentially to identify gaps and overlaps, add missing content, and scaffold instruction to ensure coherence and progression are maintained.

Note. PD = professional development

opportunities for scaffolding learning. Table 6 provides examples of how these strategies are implemented within our program.

To support continuous improvement, program faculty meet regularly throughout the academic year to address program needs, share ideas, and evaluate candidate outcomes. Faculty also participate in summer workgroups focused on course revision and enhancement, while research teams meet to examine student needs and identify opportunities for innovation. Program data are reviewed annually to inform decision making, strengthen instruction, and monitor candidate progress. Curriculum reviews are used to identify areas of overlap and missing content, ensuring a coherent sequence of learning experiences across the program. In addition, faculty conduct end-of-semester student review meetings to identify students requiring additional support and coordinate interventions that promote candidate success. Through these sustained collaborative structures, faculty expertise serves as both a content foundation and an organizational mechanism that strengthens teacher preparation and helps develop special educators who

are instructionally skilled, professionally resilient, and prepared to meet the evolving demands of the field.

Key Principle Six: Sustainability

Sustainability represents the culminating element of a coherent special education teacher preparation framework, focusing on the development of long-term instructional effectiveness, professional resilience, and workforce stability. Rather than emphasizing only program completion or initial readiness, sustainability considers whether candidates are prepared to thrive and remain in the profession over time. Research has consistently noted that many special education teachers enter the workforce feeling underprepared for the realities of their roles, contributing to ongoing challenges with retention and effectiveness (Billingsley et al., 2019; Leko et al., 2015). Importantly, attrition in special education is often linked less to workload itself and more to inadequate preparation, insufficient support, and fragmented learning experiences that leave beginning teachers struggling to meet complex classroom demands (Billingsley & Bettini, 2019; Ingersoll et

al., 2018). Within the six-principle framework, sustainability is not viewed as a separate intervention but as the result of a well-aligned preparation system. As illustrated in Figure 1, sustainability emerges when the instructional core, including UDL, EBPs, SDI, and HLPs, is reinforced through embedded practicums, coaching, professional development, and faculty collaboration (Darling-Hammond et al., 2020; Grossman et al., 2009). This coherent approach helps candidates develop the knowledge, skills, and confidence needed to navigate the realities of special education classrooms. By minimizing the disconnect between preparation and practice, programs can better equip future teachers to manage the instructional, behavioral, and compliance-related challenges they will encounter during their early careers. Each component of the framework contributes to sustainability in a distinct but interconnected way. Embedded practicums allow candidates to apply instructional practices in authentic settings, build problem-solving skills, and gain experience working with diverse learners (O’Brien et al., 2024). Coach-

TABLE 7: Actions to Ensure Sustainability

General Action Items	Specific Examples of Action Items
Embed practices into program structures (not just individual courses)	All courses have an attached practicum where competencies and HLPs are practiced and then discussed in aligned courses.
Develop systems that endure beyond specific grants or personnel	Programs conduct end-of-semester student reviews to monitor skill development and professional dispositions. Faculty develop targeted support or intervention plans based on identified needs.
Collect and use longitudinal data on candidate outcomes and retention	The program conducts student reviews at the end of each semester. Skill development and professional dispositions are discussed. Student support plans or interventions plans are developed based on the need to support the student moving forward in the program.
Reinforce habits of reflection, coaching, and collaboration	The EBP of reflection is utilized in all practicum and field placements in a variety of ways. Expectation and rigor increase as students progress in the program.
Partner with schools to support induction and early career retention	Programs collaborate with school partners to support induction efforts, provide ongoing mentorship, and strengthen early career retention (e.g., meet with school systems to discuss issues they are seeing with first-year teachers, utilize coaching models within school systems, share research data with school systems).

Note. HLPs = high-leverage practices; EBP = evidence-based practice

ing provides ongoing, job-embedded feedback that strengthens instructional decision-making, reflective practice, and professional efficacy. Professional development reinforces a mindset of continuous improvement, helping candidates view adaptation and lifelong learning as essential aspects of effective teaching rather than responses to shortcomings (Darling-Hammond et al., 2020). Together, these supports create a foundation for continued growth and resilience as candidates transition into professional practice.

Faculty expertise and collaboration strengthen sustainability by ensuring alignment across coursework, clinical experiences, and program expectations. Research indicates that programs characterized by strong collaboration among faculty and clinical partners are more successful in fostering a sense of support, instructional coherence, and professional belonging among candidates (Grossman et al., 2009; National Academy of Education, 2024). Consistent instructional language, coordinated expectations, and meaningful partnerships help candidates connect what they learn in coursework to what they

experience in the field. These factors not only enhance instructional competence but also contribute to teacher confidence and persistence in the profession.

Sustainability is also closely connected to the development of professional identity and agency. Preparation experiences that emphasize collaboration, evidence-based decision-making, and instructional problem solving help candidates view themselves as capable and adaptable educators who can effectively serve students with disabilities (Shulman, 1986). This sense of competence and professional purpose has been associated with higher levels of career commitment and retention, particularly in high-need special education settings (Billingsley & Bettini, 2019). When candidates believe they possess the skills and support necessary to address classroom challenges, they are more likely to remain engaged in the profession.

Our Program Experience. As the capstone principle of the framework, sustainability reflects the collective effectiveness of the preceding components. Table 7 outlines key action steps for promoting sustainability: integrating EBPs throughout program structures;

adopting a systems-oriented approach to improvement; collecting and analyzing longitudinal data on candidate outcomes and retention; strengthening habits of reflection and collaboration; and partnering with schools to support induction and early-career development. Within our program, sustainability is fostered by aligning each course with a corresponding practicum experience, providing ongoing opportunities for reflection and feedback, conducting end-of-semester candidate reviews, and using targeted supports to address individual student needs. Faculty also collaborate closely with local school partners to ease graduates' transition into the profession and support induction efforts. In this way, sustainability functions not only as an outcome for individual teachers but also as an indicator of program quality, coherence, and responsiveness to the long-term needs of schools, students, and the special education workforce.

CONCLUSION

Persistent shortages of qualified special educators, coupled with high rates of early-career attrition, require educator preparation programs to move beyond

isolated program improvements toward comprehensive, coherent systems of preparation. Preparing special educators is not simply a matter of increasing coursework or expanding clinical hours; rather, it requires intentional alignment among instructional frameworks and practices, embedded practicum opportunities, coaching, professional learning, expert faculty collaboration for long-term program sustainability. Research consistently demonstrates that practice-based preparation, high-quality clinical experiences, instructional coaching, and coherent program design contribute to stronger instructional competence, greater confidence, and increased teacher retention (Billingsley & Bettini, 2019; Darling-Hammond et al., 2020; Grossman et al., 2009).

After implementing this framework across multiple programs at our institution, pilot findings indicate a positive impact on the final stages of teacher preparation for student teachers, cooperating teachers, and university supervisors. Pre- and post-assessments showed significant increases in confidence and self-reported competence across nearly all prioritized HLPs for student teachers, cooperating teachers, and university supervisors. While growth was consistent across most HLPs, there were still indicators for more support around certain topics (e.g., assistive technology, metacognition). Participants revealed through semi-structured focus groups that repetition, structured practice, specific feedback, and collaboration were the most influential factors supporting growth. Supervisors and cooperating teachers, through recorded debriefs with the student teachers, provided predominantly positive, affirmative, and specific feedback on the student teachers' implementation of HLPs. However, the data suggested a continued need for greater emphasis on goal setting, resource connections, and actionable improvement

strategies. Overall, the findings indicate that sustained exposure to HLPs, structured observation tools, reflective coaching, and collaborative mentoring can meaningfully improve teacher candidates' confidence, instructional decision making, and implementation of the HLPs while strengthening the quality of supervision and feedback provided during teacher preparation.

The practice-based framework presented in this article synthesizes these findings into a unified model for special education teacher preparation. Rather than treating UDL, EBPs, SDI, and HLPs as separate initiatives, the framework positions them as complementary instructional components reinforced through the six principles. This systems perspective recognizes that teacher effectiveness develops through repeated opportunities to learn, rehearse, receive feedback, reflect, and refine practice within authentic educational settings. The intentional integration of these components reduces fragmentation across coursework and clinical experiences while promoting instructional coherence and stronger transfer from university preparation to classroom practice.

The framework also has important implications beyond individual educator preparation programs. Institutions of higher education, school division partners, technical assistance providers, and policymakers all play essential roles in creating preparation systems that prioritize coherence, shared instructional language, collaborative partnerships, and continuous program improvement. Investments in high-quality clinical partnerships, structured coaching systems, and coordinated faculty learning should be viewed not as supplemental supports but as essential infrastructure for preparing an effective and sustainable workforce. Such investments have the potential to improve candidate readiness while addressing the persistent recruitment

and retention challenges that continue to affect special education nationwide.

Finally, this framework provides a foundation for future research. Although each of the six principles is individually supported in the literature, additional research is needed to examine the effectiveness of implementing this practice-based framework as an integrated preparation model. Longitudinal studies that examine candidate readiness, instructional quality, teacher retention, and student outcomes across programs implementing this framework would strengthen the evidence base and inform continuous refinement. As schools continue to face increasing demands for highly qualified special educators, preparation programs must adopt approaches that are not only evidence-based, but also coherent, sustainable, and responsive to the realities of today's classrooms. By intentionally integrating these six principles into a unified preparation system, educator preparation programs can better develop special educators who are instructionally competent, professionally resilient, and equipped to improve outcomes for students with disabilities while strengthening the long-term stability of the special education profession.

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