

# AN EXAMINATION OF PREPARATION PRACTICES TEACHER EDUCATORS USE TO DEVELOP UNDERSTANDINGS FOR LEARNER DEVELOPMENT, LEARNING DIFFERENCES, AND LEARNING ENVIRONMENTS AMONG PRESERVICE SPECIAL EDUCATORS

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## Abstract

*Special education teacher educators face increasing demands to prepare competent and high-quality novice special education teachers. During special education teacher preparation, teacher educators must develop preservice special educators' understandings with the specialized expertise required in the field. Recently, we conducted a state-based analysis of special education teacher preparation in Texas to gain a better understanding of the preparation practices teacher educators use to prepare preservice special educators. In the present research, we focused our analysis on two important areas of special education expertise: 1) learner development and individual learning differences, and 2) learning environments. Our findings showed strengths and shortcomings in special education teacher preparation. We provided a discussion of these findings, implications for teacher preparation program stakeholders, limitations in the present research, and recommendations for future studies.*

*Keywords:* learner development, learning differences, learning environments, special education, teacher preparation

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Teacher quality is a major determinant that contributes to academic success among PK-12 students (Darling-Hammond, 2000; Goldhaber, 2016; Hightower et al., 2011). In an effort to ensure novice teachers enter the teacher workforce as high-quality, well-prepared professionals, they must first experience effective teacher training in their teacher preparation programs (Darling-Hammond, Hammerness, Grossman, Rust, & Shulman, 2005; Feiman-Nemser, 2001; Hollins, 2011; Zeichner, 2006, 2012). Teacher preparation programs must offer preservice teachers a coherent sequence of closely aligned coursework and field experiences that develop a foundation of knowledge about content, learners, and pedagogical practices. Additionally, teacher preparation programs must provide preservice teachers with frequent opportunities to practice learned aspects of teaching with actual students in authentic classroom contexts.

Within the area of special education teacher preparation, a primary goal is to prepare confident and competent special

educators who understand how to select and implement evidence-based practices that enhance and individualize learning among students with exceptionalities (Richards, 2010; Scheeler, Budin, & Markelz, 2016; Shepherd, Fowler, McCormick, Wilson, & Morgan, 2016). However, rising concerns about teacher effectiveness have placed greater expectations on teacher preparation programs to ensure novice special educators receive sufficient preparation with “the full range of special education candidate knowledge, skills, and dispositions” (McCall, Alvarez-McHatton, & Shealey, 2014, p. 65). Demands placed on teacher preparation programs in the field of special education have significantly changed by the need to improve accountability in teacher preparation programs (McCall et. al, 2014), the expectation that novice special educators are able to address the needs of all learners (Smith et. al, 2010), pervasive special education faculty shortage (Robb, Smith & Montrosse, 2012; West & Hardman, 2012), and decreased supply and demand of special education teachers (Tyler, Montrosse & Smith, 2012). Teacher preparation programs that train special educators grapple with how to implement a more cohesive program that aligns with changes in teacher education and yield’s a beginning educator that is prepared to face the realities of today’s classroom (Dukes, Darling, & Doan, 2014; Markelz, Riden, & Scheeler, 2017).

Developing pedagogical content knowledge among future teachers is a central aspect of teacher preparation (Shulman, 1986). In the field of special education, the Council for Exceptional Children (CEC, 2015) defined the specialized expertise required among novice special educators in the form of six initial preparation standards (see Figure 1). These standards provide teacher preparation programs with an invaluable guide with which to develop and evaluate the content of their programs.

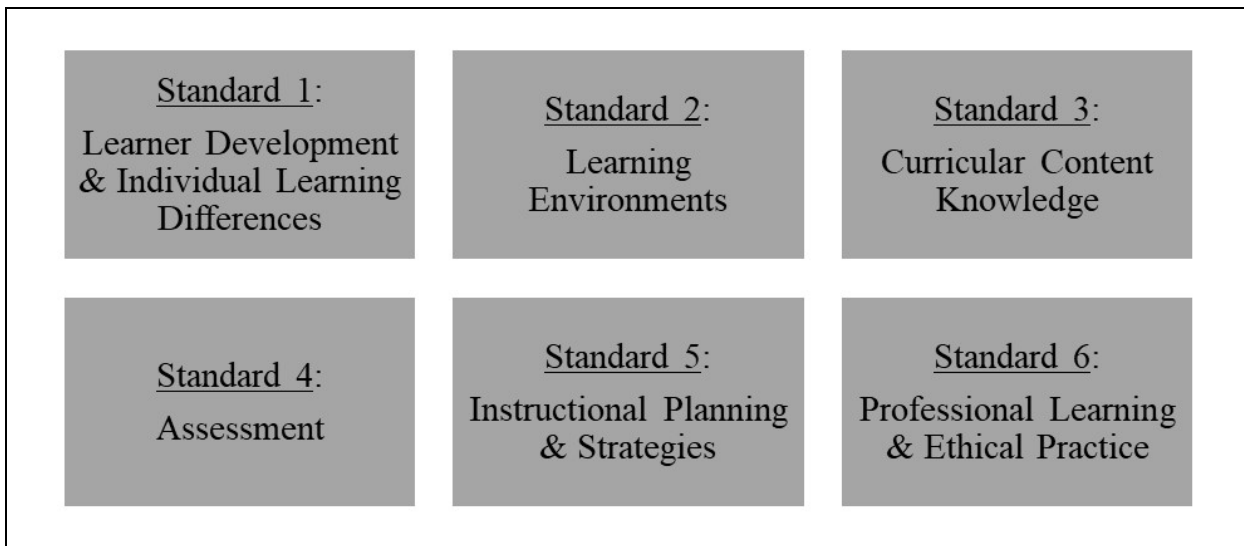


Figure 1. CEC’s (2015) six initial preparation standards.

Building upon the initial standards for professional practice identified by the Council for Exceptional Children (CEC), CEC and the Collaboration for Effective Educator, Development, Accountability, and Reform (CEEDAR) Center recently published a collection of 22 high-leverage practices (Riccomini, Morano, & Hughes, 2017; TEC, 2017). These high-leverage practices (HLPs) identified by the CEC and CEEDAR Center are professional practices special education researchers and relevant organizations determined must be taught in all special education teacher preparation programs. The CEC and CEEDAR Center replicate and reinforce the initial preparation standards required of special education teachers identified in Standards 1 and 2 of Standards for Professional Practice (CEC, 2015) in the 22 HLPs by stating that “teaching students with disabilities is a strategic, flexible and recursive process” that requires special education teachers develop specially designed instruction (McClesky et. al, 2017, p. 17). Effective special education teachers must design instruction and create learning environments that are based upon the learning differences and individual needs of each student (CEC, 2015; McClesky et. al, 2017; Riccomini et. al, 2017; TEC, 2017).

The focus of the present research was on the first two CEC initial preparation standards (CEC, 2015). The first standard specifies that novice special educators must understand the interaction between disabilities and student development and learning (CEC, 2015). There are two key elements associated with this standard:

- 1) Novice special educators understand how culture, family background, and language influence learning among students with disabilities.
- 2) Novice special educators design responsive instruction based upon student needs.

The second standard specifies that novice special educators know how to establish culturally responsive, inclusive, and safe learning environments to develop self-determination and social-emotional wellbeing among students with disabilities. There are three key elements associated with this standard:

- 1) Novice special educators collaborate with others to engage students with disabilities in relevant learning activities and positive social interactions.
- 2) Novice special educators use interventions that empower students with disabilities to be adaptable in various environments.
- 3) Novice special educators know how to intervene appropriately and safely when students with disabilities are in crisis.

Special educators contend with job responsibilities and work that is “more complex, intensive, and demanding” than mainstream teachers (Hillel Lavian, 2015, p. 109). To ensure students with disabilities make sufficient educational progress, special educators must use high-leverage practices that are “evidence-based and highly responsive” to the varied learning needs of students with disabilities (CEC & CEEDAR Center, 2017, p. 8).

Ensuring that novice special educators enter the teaching workforce well prepared for the myriad of responsibilities involved in special education, makes critical the examination of teacher preparation practices by researchers. Although recent research has emphasized a great need for improvement with special education teacher preparation (Brownell, Sindelar, Kiely, & Danielson, 2010; Leko, Brownell, Sindelar, & Kiely, 2015; Markelz et al., 2017; Shepherd et al., 2016), we located only two published studies that examined teacher preparation in relation to the CEC’s (2015) most recent version of their initial preparation standards. Both of these studies focused on perceived levels of self-efficacy among preservice (Lombardo-Graves, 2017) and practicing special educators (Gavish, Bar-On, & Shein-Kahalon, 2016). We were unable to locate any corresponding studies that ascertained the views of preparedness from those who prepare special educators—teacher educators. To address this gap in available research, we conducted a Texas-based study to gain a better understanding of the preparation practices teacher educators use to prepare preservice special educators for proficiency with each of the CEC’s (2015) initial preparation standards. Since the focus of the present research was on the first two standards, the following research questions guided our qualitative inquiry: How do teacher educators develop preservice special educators’ understandings with learner development and individual learning differences? How do teacher educators develop preservice special educators’ understandings with learning environments?

## Methods

### Participants

We used purposive sampling techniques to create a research sample of teacher educators in Texas. Using the Texas Education Agency’s (TEA) website, we identified 55 state-accredited, university-based teacher preparation programs that prepare special educators (TEA, n.d.). Among these teacher preparation programs, we accessed publicly available information on each university’s website (i.e., class schedules, departmental faculty listings) to create a participant pool of teacher educators who specialize in special education. Our efforts resulted in a participant pool of 283 members.

### Instrumentation

For the larger scale, state-level study, we developed an electronic questionnaire in Google Forms that included the following items:

- 1) demographic questions to collect information for gender, age range, and years of experience in teacher education;
- 2) 28 Likert-scale questions to collect information related to respondents’ views of preservice special educators’ preparedness with the key elements associated with the CEC’s (2015) standards; and
- 3) six open-ended questions for respondents to describe in their own words preparation practices they use to develop preservice special educators’ understandings with each of the CEC’s (2015) standards.

When the electronic questionnaire was developed, we conducted a pilot test to evaluate the appropriateness, clarity, and readability of items and test functionality of the electronic platform. We invited 20 individuals from our professional networks to participate in the pilot test, which included 10 teacher educators who were affiliated with teacher preparation programs beyond Texas and 10 special education teachers who were employed in school districts located in Texas. All individuals agreed to participate and emailed us feedback after they completed the electronic questionnaire. We reviewed all feedback provided, as well as their responses to the questionnaire items, and made only minor revisions in wording to enhance readability.

## Data Collection and Analysis

For the larger scale, state-level study, we collected data for three months. First, we sent an initial email to all members of the participant pool requesting their participation. In the email, we explained the purpose of our study, provided pertinent information (e.g., confidentiality statement, institutional review board approval, instructions on how to participate), and included a web link to the electronic questionnaire. Once respondents accessed the questionnaire, they had to provide consent before they were given access to questionnaire items. After the initial email was sent, we sent two monthly follow-up emails to encourage participation. When the response period closed, we received 46 completed questionnaires, thereby yielding a return rate of 16%.

The present research was a smaller part of the larger scale, state-level study. Our goal was to identify preparation practices that respondents use to develop preservice special educators' understandings with learner development and individual learning differences and learning environments. To achieve this goal, we retrieved demographic data and qualitative data respondents provided for the following two open-ended questions on the completed questionnaires: 1) Specifically, how do you promote special educators' understanding with learner development and individual learning differences? 2) Specifically, how do you promote special educators' understandings with learning environments?

Prior to beginning data analysis, we met as a research team and developed a systematic coding scheme for the qualitative data retrieved using two levels of coding (Corbin & Strauss, 2015). The first author reviewed all data independently, and used open coding to assign preliminary codes to initial concepts. Second, axial coding was used to organize related codes together, form categories, and identify the presence of sub-categories. While coding, the first author kept anecdotal notes and maintained a codebook to document the occurrence and frequency of codes (Saldaña, 2016). All authors collaborated frequently to discuss internal thoughts, explore emerging ideas, and ensure accuracy among the data. Once independent analysis was complete, a thorough review of data was performed to cross-check and corroborate findings.

## Results

We received completed questionnaires from 46 respondents, who were mostly female ( $n = 36$ ), over 40 years of age ( $n = 38$ ) and had five or more years of experiences with preparing special educators ( $n = 41$ ). Of the 46 completed questionnaires, 39 respondents provided responses to the first open-ended question in the present research (i.e., Specifically, how do you promote special educators' understanding with learner development and individual learning differences?), which consisted of 703 words. Alternatively, 37 respondents provided responses to the second open-ended question in the present research (i.e., Specifically, how do you promote special educators' understandings with learning environments?), which consisted of 700 words. Therefore, we analyzed a total of 1,403 words qualitatively from which three themes emerged: Field Experiences, Coursework, and Culturally Responsive Pedagogy. Below, we provided a description of each theme and included direct excerpts from questionnaire responses.

### Field Experiences

Within this theme, respondents made references to field experiences that enhance special educators' understandings of learner development, learner differences, and learning environments. Respondents shared that they provide preservice special educators with "repeated exposure to various special education settings." Within these settings, preservice special educators "conduct observations," "meet with the teachers," and engage in a wide range of "face-to-face experiences with individuals with disabilities." In addition to providing preservice special educators with regular access to actual students in authentic school contexts, respondents recognized the importance of ensuring that "fieldwork aligns with and provides opportunities to apply course content." A common way that respondents connected field experiences with course content was by requiring preservice special educators to "write and teach lesson plans to meet the needs of all learners with a focus on engaging all students. [Lesson plans] are evaluated by both mentor teachers and university supervisors, and include self-evaluations." Similarly, one respondent described a more in-depth field experience that provided preservice special educators with a "hands-on experience" to practice using positive behavioral supports among students with challenging behaviors:

I have my preservice [special educators] select a student with disabilities who demonstrates challenging behaviors. They are tasked to conduct observations, select a target behavior, gather data, use assessment tools, and have the parents, teachers or whomever is willing to participate, to also fill out the tools on the target behavior. Then, preservice [special educators] create a plan to address the target behavior so that it helps the student gain more instructional time and have appropriate social interactions with peers without the competing problem behaviors.

Respondents emphasized that field experiences provide preservice special educators with opportunities to “apply what they are learning and move from theory to practice.” However, there did not appear to be consistency in how field experiences were addressed among different teacher preparation programs. For example, one respondent stated that preservice special educators “participate in special education K-12 field experiences in every course they take.” Alternatively, another respondent shared, “We provide field experience opportunities throughout the program, but we need more hours to be truly impactful.”

### Coursework

Within this theme, respondents made references to learning experiences that occur within the context of university-based coursework. Respondents indicated that they primarily rely on “in-depth,” “explicit instruction” to address “learner development,” “individual learning differences,” and “varied learning environments.” Examples of lecture topics included “developmental trajectories,” “learning characteristics of students based on their cognitive strengths and deficits,” “the C-H-C [Cattell-Horn-Carroll] theory” of cognitive abilities,” “least restrictive environments,” “how to respond to behavior,” and “how to set up [learning environments] for engagement and accessibility.”

In addition to lectures, respondents also relied heavily upon “course discussion” to promote deeper thinking among preservice special educators. Respondents indicated that class discussions were an effective way to stimulate deep thinking about:

- the array of special education services (e.g., “We discuss LRE [least restrictive environment] and the continuum of service offered.”),
- learning environments (e.g., “We talk about different environments, but specifically creating a learning environment that is successful and safe for all individuals.”), and
- responsive instruction based upon learner differences (e.g., “We talk extensively about how each learner is different and will bring different characteristics to our classrooms, and they [preservice special educators] learn to design their interventions with this in mind.”).

Following class discussions, respondents often provided preservice special educators with opportunities “to apply the knowledge to demonstrate skill acquisition” through hands-on, “application-based assignments” and “authentic assessments.” For example, following an instructor-led class discussion on assessment practices, preservice special educators may “practice using data-based decision making . . . to consider individual differences in their instruction” or “using results of assessments (both formal and informal) to design individualized goals and select subsequent intervention strategies.”

Overall, respondents seemed confident with the content and learning experiences addressed in university-based coursework. Respondents conveyed that they drew upon “current research” to design “carefully-constructed curricula with specific, evidence-based practices and applied examples.” As a result of these efforts, one respondent asserted, “Our [preservice special educators] are very well trained in classroom structures and management and how to integrate behavioral components into their instruction and interventions.” Likewise, another respondent maintained that the courses in their respective teacher preparation program were “in direct alignment” with specialized expertise required among novice special educators. However, some respondents expressed concerns about specific topics that were not addressed during special education teacher preparation. These included “crisis intervention,” “collaboration with general education,” “severe disabilities,” and “self-contained environments.”

### Culturally Responsive Pedagogy

Within this theme, respondents referred to ways in which they promote the development of culturally responsive pedagogy among preservice special educators. In most cases, the focus on culturally responsive pedagogy was connected to teacher certification requirements. For example, one respondent explained that preservice special educators enrolled in their teacher preparation program are required to obtain Texas teacher certification for both English as a second language (ESL) and special education. This respondent further explained that preservice special educators completed “an ESL block” of courses to “allow them more exposure to differences across time, [thereby] increasing the opportunity to gain a solid understanding.”

In other cases, respondents indicated that culturally responsive pedagogy was a topic “embedded in many courses” throughout their respective teacher preparation programs. Within their courses, respondents lectured to “build [preservice special educators’] knowledge of strategies when working with LEP [limited English proficiency] students;” facilitated class discussions “about second language development, culture, and individual differences, some of which are considered disabilities;” prepared “demonstrations of pedagogy associated with working with students with disabilities and ELLs [English



language learners];” and provided guided learning experiences that appraise the influence of “cultural and language impacts.” Respondents also noted they bridge preservice special educators’ understandings about culturally responsive pedagogy learned during coursework with field experiences in diverse school settings.

### Discussion

Findings from the present research have provided fresh insights to an under-researched area and generated a preliminary snapshot of special education teacher preparation in Texas. Specifically, we elicited the viewpoints of teacher educators to identify specific preparation practices they use to develop preservice special educators’ understandings for three specific areas delineated in two of the CEC’s (2015) initial preparation standards: learner development, learning differences, and learning environments. Our qualitative analysis of data produced three themes (i.e., Field Experiences, Coursework, Culturally Responsive Pedagogy) from which we identified strengths and shortcomings.

With respect to strengths, it is evident that respondents were familiar with the specific key elements associated with the two CEC (2015) standards used as the framework in the present research. This was not surprising being that the majority of questionnaire respondents had several years of teaching experiences with preservice special educators. This finding also further confirmed that the research sample was a representative group of experienced teacher educators who were knowledgeable of the specialized expertise required among novice special educators. In Table 1 below, we provided sample direct excerpts from respondents’ questionnaire responses that describe preparation practices they use to develop preservice special educators’ understandings of each key element associated with learner development, individual learning differences, and learning environments.

Table 1

*Sample Excerpts in Relation to Key Elements Associated with CEC’s (2015) Standards 1 and 2*

Standard 1: Learner Development and Individual Learning Differences	
Key Elements	Sample Excerpts
1) Novice special educators understand how culture, family background, and language influence learning among students with disabilities.	“We look at assessment results based on cultural and language impacts.” “I talk extensively with [preservice special educators] about second language development, culture, and individual differences, some of which are considered disabilities.”
2) Novice special educators design responsive instruction based upon student needs.	“We emphasize learning characteristics of students based on their cognitive strengths and deficits and help [preservice special educators] learn to differentiate instruction based on individual learning needs.” “[Preservice special educators] write and teach lesson plans to meet the needs of all learners with a focus on engaging all students.”
Standard 2: Learning Environments	
Key Elements	Sample Excerpts
1) Novice special educators collaborate with others to engage students with disabilities in relevant learning activities and positive social interactions.	“. . . preservice [special educators] create a plan to address the target behavior so that it helps the student gain more instructional time and have appropriate social interactions with peers without the competing problem behaviors.”
2) Novice special educators use interventions that empower students with disabilities to be adaptable in various environments.	“We emphasize learning styles and classroom environments that meet the learning needs of students with disabilities. This includes lighting, seating, arrangement of learning area, and instructional technology.”
3) Novice special educators know how to intervene appropriately and safely when students with disabilities are in crisis.	“Crisis/safety issues are covered in one designated course each semester.” “[Preservice special educators] do not receive specific training on crisis intervention.”

With respect to shortcomings, our findings suggested that field experiences and coursework continue to be predominantly addressed as separate program requirements during special educator teacher preparation. For over a decade, education researchers have advocated for a practice-based approach in teacher preparation that situates learning in actual school-based contexts (Darling-Hammond et al., 2005; Hollins, 2011; Zeichner, 2012). Through a practice-based approach, coursework and field-based experiences occur in tandem and reinforce “learning to teach” through “collaboration, coherence, continuity and consistency, and integrity and trustworthiness” (Hollins, 2011, p. 405). In today’s schools, special educators

grapple with a myriad of complexities, including greater accountability, standardization, and increased diversity among students (Shepherd et al., 2016). Therefore, it is imperative that novice special educator enter schools as well-trained and highly competent professionals (Vernon-Dotson, Floyd, Dukes, & Darling, 2014).

In addition to programmatic structure, our findings suggested a need for teacher educators to review the program content addressed in their teacher preparation programs to ensure its relevance. We found it interesting that respondents made no specific references to high-leverage practices (HLPs) in their questionnaire responses. These HLPs reinforce the key elements defined within the CEC's (2015) initial preparation standards through four different aspects of practice in special education: Assessment, Collaboration, Social/Emotional/Behavioral Practices, and Instruction. Given the complexities associated with special education, special educators must have a deep and comprehensive understanding of students with disabilities that allows them to support and respond to the diverse and complex needs of students with disabilities (McLeskey et al., 2017). In the present research, we acknowledge that we did not make specific inquiries about HLPs in the questionnaire. However, we did find it interesting that respondents did not mention them.

With these shortcomings in mind, our findings have important implications for multiple teacher preparation program stakeholders, including administrators, staff members, and teacher educators. All teacher preparation program stakeholders must be committed to ensuring that the design of their teacher preparation programs align with the CEC's (2015) initial preparation standards, address HLPs, and incorporate a range and variety of practice-based opportunities with real students in authentic school contexts. Given this information, it is recommended that teacher preparation program stakeholders conduct thorough program evaluations as a collective group to evaluate the effectiveness of coursework and field experiences. By working as a collective group, teacher preparation program stakeholders have the opportunity to engage in dialogue, hear multiple perspectives, and resolve discrepancies to strengthen the quality of special education teacher preparation. Moreover, each teacher preparation program stakeholder must stay current with research in special education teacher preparation and promote collective capacity with evidence-based preparation practices that strengthen program effectiveness.

An obvious limitation in the present research was the low response rate for the electronic questionnaires. Despite attempts to remedy nonresponse bias, the survey response return rate was only 16%. A number of factors may have influenced participation in the present research, such as accuracy of information among participant pool member, hesitancy to participate in an online questionnaire, or receipt of the emailed invitation to participate. In order to address this limitation, future studies may consider using a variety of strategies to increase participation. Possible strategies may be partnering with a state-based professional organization or recruiting participants at discipline-based professional conferences and meetings. Another limitation in the present research was the data collection method. It is understood that data collected were limited to respondents' understandings and interpretations of the open-ended questions, as well as their availability and willingness to provide specific responses. One way in which future studies may overcome this limitation is by using alternative data collection methods, such as individual or focus group interviews. By doing so, the interviewer is able to establish welcoming atmosphere that helps participants feel at ease and use probing techniques that elicit more detailed responses.

### Conclusion

The roles and responsibilities of special educators continually evolve, particularly in an era of ever-changing legislation and mandates. Novice special educators must leave their teacher preparation programs and enter school contexts as competent, well-trained professionals. Thus, teacher educators who are responsible for preparing future special education teachers for crossing the thresh hold of university programs to classroom contexts must grapple with standards-based content delivery and evidence-based pedagogical practices. Specifically, special education teachers must be able to provide students with learning differences individualized instruction, and supportive learning environments. Teacher educators can ensure the targeted delivery of instructional services through authentic instructional experiences, connectivity between course instruction and field-based experiences, and culturally responsive pedagogical practices.

## References

- Brownell, M. T., Sindelar, P. T., Kiely, M. T., & Danielson, L. C. (2010). Special education teacher quality and preparation: Exposing foundations, constructing a new model. *Exceptional Children, 76*(3), 357-377. doi:10.1177/001440291007600307
- Corbin, J., & Strauss, A. (2015). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (4th ed.). Thousand Oaks, CA: SAGE Publications, Inc.
- Council for Exceptional Children. (2015). *What every special educator must know: Professional ethics and standards*. Arlington, VA: Author.
- Council for Exceptional Children, & CEEDAR Center. (2017). *High-leverage practices in special education*. Arlington, VA: Author.
- Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives, 8*(1), 1-44. doi:10.14507/epaa.v8n1.2000
- Darling-Hammond, L., Hammerness, K., Grossman, P., Rust, F., & Shulman, L. (2005). The design of teacher education programs. In L. Darling-Hammond, & J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do*, pp. 390-441). San Francisco, CA: Jossey-Bass.
- Dukes, C., Darling, S. M., & Doan, K. (2014). Selection pressures on special education teacher preparation: Issues shaping our future. *Teacher Education and Special Education, 37*(1), 9-20. doi:10.1177/0888406413513273
- Feiman-Nemser, S. (2001). From preparation to practice: Designing a continuum to strengthen and sustain teaching. *Teachers College Record, 103*(6), 1013-1055. doi:10.1111/0161-4681.00141
- Gavish, B., Bar-On, S., & Shein-Kahalon, R. (2016). Beginning special education teachers in Israel: Perceived self-efficacy. *International Journal of Special Education, 31*(1), 10-22. Retrieved from <http://www.internationalsped.com/>
- Goldhaber, D. (2016). In schools, teacher quality matters most. *Education Next, 16*(2), 56-62. Retrieved from <http://educationnext.org>
- Hightower, A. M., Delgado, R. C., Lloyd, S. C., Wittenstein, R., Sellers, K., & Swanson, C. B. (2011). *Improving student learning by supporting quality teaching: Key issues, effective strategies*. Bethesda, MD: Editorial Projects in Education, Inc. Retrieved from [http://www.edweek.org/media/eperc\\_qualityteaching\\_12.11.pdf](http://www.edweek.org/media/eperc_qualityteaching_12.11.pdf)
- Hillel Lavian, R. (2015). Masters of weaving: The complex role of special education teachers. *Teachers and Teaching, 21*(1), 103-126. doi:10.1080/13540602.2014.928123
- Hollins, E. R. (2011). Teacher preparation for quality teaching. *Journal of Teacher Education, 62*(4), 395-407. doi:10.1177/0022487111409415
- Leko, M. M., Brownell, M. T., Sindelar, P. T., & Kiely, M. T. (2015). Envisioning the future of special education personnel preparation in a standards-based era. *Exceptional Children, 82*(1), 25-43. doi:10.1177/0014402915598782
- Lombardo-Graves, M. M. (2017). Building resiliency: Introducing the pre-service special educator efficacy scale. *Issues in Educational Research, 27*(4), 803-821. Retrieved from <http://www.iier.org.au/iier.html>
- Markelz, A., Riden, B., & Scheeler, M. C. (2017). Generalization training in special education teacher preparation: Does it exist? *Teacher Education and Special Education, 40*(3), 179-193. doi:10.1177/0888406417703752
- McCall, Z., Alvarez-McHatton, P., & Shealey, M. W. (2014) Special education teacher candidate assessment: A review. *Teacher Education and Special Education, 37*(1), 51-70. doi: 10.1177/0888406413512684



- McLeskey, J., Barringer, M., Billingsley, B., Brownell, M., Jackson, D., Kennedy, M., Ziegler, D. (2017). *High-quality practices in special education*. Arlington, VA: Council for Exceptional Children & CEEDAR Center.
- Riccomini, P. J., Morano, S., Hughes, C. A. (2017). Big ideas in special education: Specially designed instruction, high-leverage practices, explicit instruction and intensive instruction. *TEACHING Exceptional Children* 50(1), 20-27. doi: 10.1177/0040059917724412.
- Richards, G. (2010). 'I was confident about teaching but SEN scared me': Preparing new teachers for including pupils with special education needs. *Support for Learning*, 25(3), 108-115. doi:10.1111/j.1467-9604.2010.01448.x
- Robb, S. M., Smith, D. D., & Montrosse, B. E. (2012). The context of the demand for special education faculty: A study of special education teacher preparation programs. *Teacher Education and Special Education* 35(2), 128 – 139. Doi: 10.1177/0888406412444760.
- Saldaña, J. (2016). *The coding manual for qualitative researchers* (3rd ed.). Thousand Oaks, CA: SAGE Publications, Inc.
- Scheeler, M. C., Budin, S., & Markelz, A. (2016). The role of teacher preparation in promoting evidence-based practice in schools. *Learning Disabilities: A Contemporary Journal*, 14(2), 171-187. Retrieved from <http://www.ldw-ldcj.org/>
- Shepherd, K. G., Fowler, S., McCormick, J., Wilson, C. L., & Morgan, D. (2016). The search for role clarity: Challenges and implications for special education teacher preparation. *Teacher Education and Special Education*, 39(2), 83-97. doi:10.1177/0888406416637904
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14. doi:10.3102/0013189X015002004
- Smith, D. D., Robb, S. M., West, J., Tyler, N. C. (2010). The changing education landscape: How special education leadership preparation can make a difference for teachers and their students with disabilities. *Teacher Education and Special Education* 33(1), 25 – 43. doi: 10.1177/0888406409358425.
- Teaching Exceptional Children. (2017). *High-leverage practices in special education* 49(5), 355 - 360. doi:10.1177/0040059917713206. Author.
- Texas Education Agency. (n.d.). Educator certification online system: Approved programs. Retrieved from <https://secure.sbec.state.texas.us/SBECOnline/approvedprograms.asp>
- Tyler, N. C., Montrosse, B. E., & Smith, D. D. (2012). The supply: Profile of current student and recent graduates in special education. *Teacher Education and Special Education* 35(2), 114 – 127. doi: 10.1177/0888406412444762.
- Vernon-Dotson, L. J., Floyd, L. O., Dukes, C., & Darling, S. M. (2014). Course delivery: Keystones of effective special education teacher preparation. *Teacher Education and Special Education*, 37(1), 34–50. doi:10.1177/0888406413507728
- West, J. E. & Hardman, M. L. (2012) Averting current and future special education faculty shortages: Policy implications and recommendations. *Teacher Education and Special Education* 35(2), 154 – 160. doi: 10.1177/0888406412444456.
- Zeichner, K. (2006). Reflections of a university-based teacher educator on the future of college- and university-based teacher education. *Journal of Teacher Education*, 57(3), 326-340. doi:10.1177/0022487105285893
- Zeichner, K. (2012). The turn once again toward practice-based teacher education. *Journal of Teacher Education*, 63(5), 376-382. doi:10.1177/0022487112445789