



## Sense-making for beginning special educators: A systematic mixed studies review



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### HIGHLIGHTS

- BSEs require support to access resources and understand local norms and culture.
- As student needs increase, BSEs perceive a greater need for support.
- School climate is associated with a perception of relationships as collaborative.
- Principal leadership is instrumental in establishing an accepting climate.
- BSEs' roles were subjective, and shaped by local regulations, norms, and culture.

### ARTICLE INFO

#### Article history:

Received 18 October 2016

Accepted 15 May 2017

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Over the past decade, as the field of education seeks to better serve students in historically under-achieving groups and provide stable educational experiences for all students, researchers, policy-makers, and educational leaders have shifted the discussion around the teacher workforce from issues of recruitment to the retention of effective teachers (Baker-Doyle, 2010; Ingersoll & Smith, 2003). A key factor in this shift is training and retaining novice teachers because, as novices move through the revolving door of teacher attrition and migration (Boe, Cook, & Sunderland, 2008; Ingersoll & Smith, 2003), schools are tasked with the costly endeavor of training and supporting new teachers as they enter the profession (McLeskey & Billingsley, 2008).

Special education is not immune to issues of instability and has historically struggled with teacher shortages, attrition, and school migration (Boe & Cook, 2006; Boe et al., 2008; Kaiser, 2011; Sindelar, Brownell, & Billingsley, 2010). In the United States, recent data suggest nearly 22% of all special education teachers (SETs)<sup>1</sup> leave the profession or migrate to new positions and schools each year (Aud et al., 2011). As Boe (2014) underscores, the question is not whether there is an adequate supply of special education teachers; rather, the question is whether schools are able to recruit and then retain effective special education teachers. The instability that comes from personnel shifts is associated with the extent to which schools can adequately meet the needs of students with disabilities (McLeskey & Billingsley, 2008) and support beginning special educators (BSEs).

The literature in special education identifies several unique stressors special education teachers encounter as they work amidst contrasting regulations and expectations (Bettini, Crockett, Brownell, & Merrill, 2016; Billingsley, 2004; Gersten, Keating, Yovanoff, & Harniss, 2001). A related body of literature regarding induction for beginning special educators (BSEs)<sup>2</sup> as a distinct group has emerged; researchers note induction functions differently for SETs than general educators (Kamman & Long, 2010; Wasburn-Moses, 2010). However, to date there has not been a systematic review encompassing the body of evidence from quantitative, qualitative, and mixed methodologies regarding BSEs' induction experiences.

In this paper, we fill that gap by combining the “power of stories and the power of numbers” in a mixed studies review (Pluye & Hong, 2014, p. 30). We bridge distinct, yet complementary, methodologies to better understand the factors that shape BSEs' understanding of their role. This paper proceeds in six sections. First, we describe the unique needs of BSEs. Next, we outline research on induction and how it operates differently for SETs. Then, we introduce our theoretical framework, drawing on institutional and

sense-making theories. Following this, we outline our methods, including the literature search, quality appraisal, coding, and analysis. After this, we present our results, including the characteristics of our corpus and the stressors, supports, and moderating factors in BSEs' professional environment. Finally, we present empirical and practical implications.

## 1. Unique needs of beginning SETs

With their professional experiences complicated by unique stressors (Antoniou, Polychroni, & Kotroni, 2009; Bettini, Crockett, Brownell, & Merrill, 2016; Bettini, Park, Benedict, Kimerling, & Leite, 2016; Billingsley, 2004; Gersten et al., 2001), novice SETs' needs for support are clear and extend beyond formal programming to encompass the daily experiences of BSEs. Specifically, these needs relate to stressors and supports in three areas, which interact to shape BSEs' construction of their identity: social context, student or caseload characteristics, and role problems.

### 1.1. Social context

Broadly defined, social context includes BSEs' professional interactions, which are increasingly complicated by issues related to inclusion. Increasingly, policies require that SETs and general educators interact in collaborative ways to meet the needs of students with disabilities. For example, in U.S. contexts, BSEs are required to deliver services to students across general and special education settings and also in systems of tiered interventions that are increasingly intensified in response to individual student needs (Brownell, Sindelar, Kiely, & Danielson, 2010). International comparative studies highlight similar patterns emerging in integrated educational contexts that are consistent across national boundaries. Across the United States, Canada, Australia, and the United Kingdom, SETs are now required to work with general education colleagues who, in the face of inclusive education, report feeling unprepared and uncertain regarding their ability to serve students with disabilities (Mazurek & Winzer, 2011). Additionally, in surveys of general education teachers in Finland and Germany, researchers found that in inclusive or integrated contexts general educators perceive that their workload is increased, which in turn leads to a need for more support from special education teachers (Saloviita & Schaffus, 2015).

When working in these collaborative settings, SETs must learn to enact their own practices and beliefs while simultaneously navigating institutional systems, norms, and relationships. During the induction period, relationships with mentors, other SETs, administrators, and general educators are influential for BSEs as they work to understand the complexity of social contexts and their importance in serving students with disabilities (Billingsley, 2004; Billingsley, Griffin, Smith, Kamman, & Israel, 2009; Embich, 2001; Whitaker, 2001). These relationships are not consistently positive or negative, but they do exert influence on BSEs and become part of

<sup>1</sup> SETs indicates the use of the term Special Education Teachers.

<sup>2</sup> BSEs indicates the use of the term Beginning Special Educators.

their induction experiences and, therefore, the process of developing their identity and making sense of their role.

### 1.2. Caseload characteristics

Caseload characteristics such as size and diversity in language, culture, and exceptionality, are potentially influential in shaping BSEs' experiences and professional commitment. Studies note that the challenge of addressing complex student needs is associated with increased stress and burnout amongst SETs (Brunsting, Sreckovic, & Lane, 2014; Kokkinos & Davazoglou, 2009). Even though no studies directly address correlations between attrition and caseload composition, SETs note issues regarding caseload manageability as reasons for leaving the profession (Billingsley, 1993; Carlson & Billingsley, 2001), and recent studies recognize the relationship between caseload size and self-efficacy—an important factor in professional commitment (Bettini et al., 2016; Bishop, Brownell, Klingner, Leko, & Galman, 2010).

As SETs are responsible for increasingly large groups of students (Boe et al., 2013), the need for support during the induction period increases. This need is intensified in high-poverty schools where patterns of socio-economic inequality result in SETs serving higher caseloads with greater numbers of English Language Learners (ELLs) and students from culturally and linguistically diverse backgrounds (Harry & Klingner, 2006). Furthermore, the move toward non-categorical service delivery and inclusion has changed the ways in which SETs serve diverse learners. In a non-categorical orientation, students' learning and behavioral needs exist along a continuum of severity, as opposed to being identified with a specific disability category (e.g., learning disability, cognitive impairment; Brownell et al., 2010). Because of these changes, many SETs work with students with varied needs simultaneously (Billingsley, Carlson, & Klein, 2004). These shifts are salient in understanding BSEs' induction experiences.

### 1.3. Role problems

Researchers (Billingsley et al., 2009; Mastropieri, 2001) note that special educators experience significant role problems, including over-load, conflict, and ambiguity (Billingsley, 2004; Gersten et al., 2001). These questions are relevant in the U.S. and across international contexts where inclusive education is increasingly practiced. Studies in Sweden (Klang, Gustafson, Möllås, Nilholm, & Göransson, 2016), Britain (Rosen-Webb, 2011), and Israel (Lavian, 2015) have all documented the complexity of special educators' roles and the ways in which this complexity contributes to stress. In an examination of job design and stress, Gersten et al. (2001) found that SETs' stress was strongly influenced by role dissonance ( $r = 0.42$ ). Billingsley (2004) noted the optimism many BSEs possessed as they entered the field was often replaced by disillusionment. The fragmented design of the job, which requires SETs to spend much of their time engaged in tasks other than instruction (Bettini, Kimerling, Park, & Murphy, 2015; Rock & Billingsley, 2014; Vannest, Hagan-Burke, Parker, & Soares, 2011) creates a discrepancy between what teachers believe about their role (i.e., their primary function is to instruct children with disabilities) and the reality of their job (e.g., paperwork, meetings; Gersten et al., 2001; Vannest et al., 2011).

Questions about SETs' roles are connected to other stressors, including context and student characteristics. For BSEs, these stressors interact with policies, school-based norms, and cultural expectations to develop BSEs' conceptualization of their professional role. Understanding how these stressors interact is crucial to understanding the process through which BSEs build their professional identity and their commitment to the profession.

## 2. Induction

In the past decade, policymakers have focused on the induction period and the ways formal supports can alleviate some of stressors experienced by novice teachers. Researchers note that induction programming could potentially decrease attrition and improve quality (Kamman & Long, 2010; Smith & Ingersoll, 2004). Leaders often enact induction through formal mentoring (Goldrick, Osta, Barlin, & Burns, 2012), but it can also include supplementary supports such as workshops, collaborative teams, and informal support systems (Desimone et al., 2014). In practice, induction programs support novices as they gain instructional and management skills, learn curricula, and adapt to school-level norms and processes (Jones et al., 2013).

Although recent policy changes promote widespread induction programming, not all programs are equally effective in supporting teachers (Desimone et al., 2014; Smith & Ingersoll, 2004). Variations in programming (e.g., volume of mentees, content or grade-level matching of mentors, duration and intensity of support) potentially weaken the influence of supports offered to novices (Smith & Ingersoll, 2004). The consequences of this variation are exemplified in the differences between beginning general educators' and BSEs' induction experiences (Kamman & Long, 2010; Wasburn-Moses, 2010).

We posit that it is necessary to look beyond formal programming and define the induction experience to include informal professional interactions and experiences. The professional environment is particularly influential in SETs' job satisfaction and, therefore, career decisions (Bettini et al., 2016; Billingsley, 2004). With this in mind, a hypothesis underlying our work is that, for BSEs, the formal structures of the induction period (e.g., programs and regulated relationships) must be supported and affirmed by informal collegial relationships. By including interactions, we hope to identify whether and how formal and informal mechanisms relate to BSEs' situated professional identity. Amidst the push for improved educational services, researchers must examine challenges inherent in the situated experiences of BSEs and how supports and barriers during the induction period work for or against the call for effective special educators.

## 3. Theoretical framework

To frame our study, we draw on institutional and sense-making theories (Coburn, 2001). The institutional approach allows us to examine SETs' professional landscape (Anagnostopolous, Sykes, McCrory, Cannata, & Frank, 2010), and a sense-making perspective brings our focus to individual processes through which BSEs construct their own understanding of policies, norms, and cultural messages they face in their new environment (Spillane & Anderson, 2014; Weick, 1995). As they work in increasingly collaborative contexts to meet the needs of diverse student populations (Brownell et al., 2010), BSEs' experiences are simultaneously individual and institutional. They do not interpret their role in isolation, nor is it as neatly delineated as for their general education peers (Youngs et al., 2011). They negotiate their professional identity in the context of larger institutions, varied networks of relationships and resources, and ever-changing policies. However, they also bring their own beliefs, knowledge, dispositions, and practice to light as they search for meaning and purpose in their work (Cohen & Ball, 1990).

Institutional theory examines ways in which "organizational structures, norms, practices, and patterns of social relationships ... are connected to the broader social and cultural environment" (Anagnostopolous et al., 2010). By using institutional theory, we take a cultural approach to understanding the processes novices

engage in as they construct their identities (Coburn, 2001). In particular, we explore how their evolving identities are situated in regulative, normative, and cultural elements carried by individual and collective actors (e.g., mentors, colleagues, administrators, and collaborative teams) and embedded within political and legal structures. In examining interactions between these elements, theorists suggest policy messages shape patterns of action and beliefs within organizations through regulative means as they are incorporated into policy; through normative means as stakeholders take on certain practices to attain legitimacy by meeting expectations; and through cultural/cognitive means as localized understandings of practice are deemed to be the commonly understood approach to serving children (Scott, 2014). By framing our study using institutional theory, we examine ways in which BSEs' development and position are shaped by broader environmental structures.

We use sense-making theory to examine how SETs' professional environment and process of "structur[ing] the unknown" (Weick, 1995, p. 4) are addressed in the literature. Enacted during periods of uncertainty in which present experiences contrast with expectations, sense-making is the process through which newcomers construct meaning regarding roles, responsibilities, and identities (Weick, 1995). For BSEs, the process is more complicated than just being handed down from policymakers or administrators. As BSEs are confronted with multiple—and sometimes contradictory—messages regarding professional responsibilities, meeting students' needs, and normative pressures regarding their role in the school community (Coburn, 2001), they must incorporate new information into their own framework and adjust or adapt their practice in light of this new information (Coburn & Woulfin, 2012). Often, sensemaking relies on experiences within institutional structures—norms, culture, and regulations—that affirm or interrupt already held beliefs in the service of forming an identity (Weick, 1995). In Fig. 1 we provide our theoretical model.

#### 4. The present study

In this study, institutional and sense-making theories serve as a framework for a sequential explanatory synthesis (Ivankova, Creswell, & Stick, 2006; Pluye & Hong, 2014) through which we explore how BSEs' induction experiences shape their professional identity. Our work extends the literature base regarding induction by focusing on stressors and supports in BSEs' experiences to understand institutional and individual mechanisms through which sense-making occurs. We answer the following questions: As

represented in the literature, which elements of schools as organizations—including stressors and supports—are most influential in BSEs' sense-making process? How do these elements promote or hinder BSEs' development of professional identity and their response to the unique complexities of their professional role?

## 5. Methods

### 5.1. Literature search

We used a two-step approach to conduct a comprehensive search of the literature surrounding BSEs' induction and mentoring experiences (Rutter, Francis, Coren, & Fisher, 2010). First, we completed an electronic search of EBSCO and PsychNet databases to locate quantitative, qualitative, and mixed-methods studies in peer reviewed journals published between 2002 and 2015 to capture the experience of BSEs since No Child Left Behind was enacted in 2002. We used descriptors or root forms of those descriptors ("teacher induction," "teacher mentoring," "special educat\*," "special education teacher," "novice," and "begin\*") in various combinations. Following this, we conducted a hand search of two journals that featured prominently in our original search, *Teacher Education and Special Education* and *Exceptional Children*, and conducted progeny and ancestor searches to identify additional studies that met our search criteria. We reviewed titles and abstracts for each study. After removing duplicates, these steps yielded 27 potentially relevant studies for inclusion. We conducted a full-text review and, of those, 21 studies met the following criteria for inclusion:

1. Examined SETs as a distinct group in sampling and results
2. Addressed BSEs in the induction period or mentoring programs
3. Conducted in K-12 settings in the United States
4. Available in English in a peer-reviewed journal

These criteria were purposefully selected in order to focus our analysis. Because SETs' work is distinct from that of general educators (Lignugaris/Kraft, Sindelar, McCray, & Kimerling, 2014; Shepherd, Fowler, McCormick, Wilson, & Morgan, 2016; Zigmond & Kloo, 2011), an important assumption underlying this study is that their sense-making process is distinct as well. For this reason, we limited our corpus to studies in which the sampling plan and results were both focused on special educators. Furthermore, we elected to focus on studies that examined special educators' induction period or mentoring experiences. Again, this decision was a way to focus our analysis on a particular professional experience:

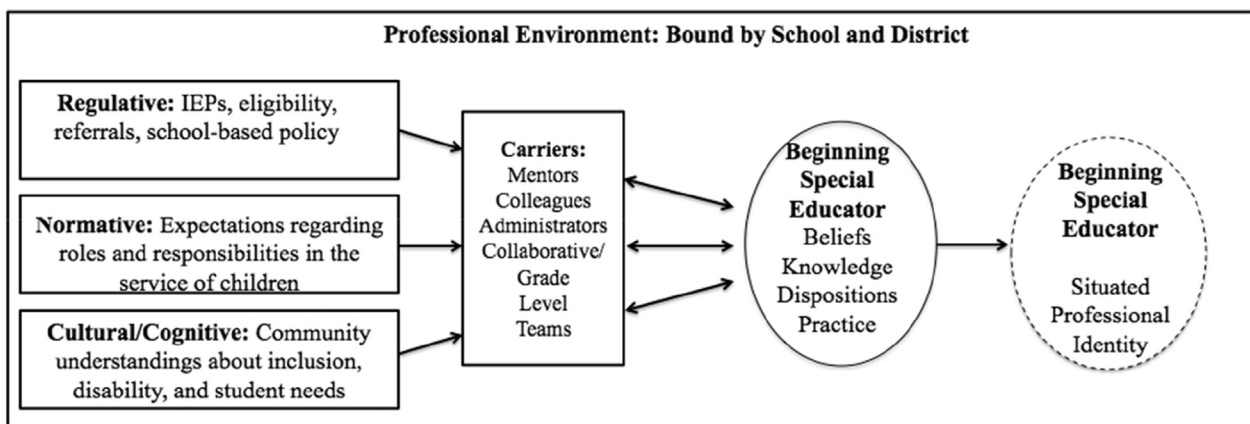


Fig. 1. Factors influencing identity construction for beginning special educators.



entry into the profession.

Finally, we purposefully decided to focus our analysis on studies of K–12 contexts in the United States. This was done in order to examine ways in which the elements of institutional theory—especially regulative aspects of institutional policy—shape the sense-making experience of BSEs. Although the experiences of BSEs internationally are relevant to the conversation (e.g., Strogilos, Nikolarazi, & Tragoulia, 2012), our research interests are focused on organizational aspects of schools, which are largely context dependent. Despite the study being bounded in this way, the findings have the potential to be transferrable to an international audience, especially given the common stressors experienced by special educators as a result of the move toward more inclusive, integrated settings similar to those in the United States (Mazurek & Winzer, 2011).

## 5.2. Quality appraisal

Our study is unique in that we synthesized data across epistemologies following quality appraisal using a modified version of the Mixed Methods Appraisal Tool (MMAT), a valid and reliable tool not yet applied in educational research (Pluye & Hong, 2014; Pluye et al., 2011). The MMAT examines common designs by addressing indicators such as research questions, sampling, and analysis. We modified the MMAT through an iterative process in which we consulted with colleagues and experts to refine the appraisal tool. We should note that we employed Pluye and Hong's (2014) definition when categorizing studies as mixed methods. This meant mixed methods studies had to satisfy three conditions: (a) qualitative and quantitative methods were combined; (b) each method was used rigorously; and (c) authors integrated data collections, and/or analyses, and/or results.

The original MMAT uses a binary scale to signal the presence or absence of indicators, but we developed a three-tiered scale for each of Pluye et al.'s (2011) questions, using guidance provided in the MMAT's supplemental materials. This tiered system allowed us to systematically evaluate the rigor with which studies addressed indicators. Additionally, when coding our qualitative data, we divided the original question regarding the linkage of data collection and analysis to the research question into two questions addressing evidence of the study's dependability (e.g., thick description, multiple researchers) and evidence of the study's credibility (i.e., member checks, triangulation). In this, we highlighted distinct strategies that increase the rigor of qualitative research rather than considering them as a single criterion.

Through multiple iterations, the research team operationalized and tested each modification. We double-coded 35% of studies and achieved an inter-rater agreement of 0.96. We present our adaptation of the MMAT in the Appendix. Based on this systematic quality appraisal, we excluded three studies from the final corpus because they did not meet the minimum criteria set by the research team for inclusion (i.e., 25% score on MMAT). A summary of the final corpus of studies ( $n = 18$ ) appears in Table 1.

## 5.3. Coding procedures

In our coding, we employed Ivankova et al.'s (2006) sequential explanatory methods to code and synthesize studies. In this approach, quantitative methods are marshaled to inform qualitative methods. We coded in two stages: (a) coding of quantitative data with regard to stressors and supports, their role in BSEs' professional experiences, and the extent to which factors such as mentoring and professional supports helped BSEs navigate those stressors; and (b) thematic coding of qualitative data to explore how BSEs became aware of and responded to stressors and

supports in their new role.

### 5.3.1. Quantitative coding

We coded all quantitative data using variables deduced from the literature on teacher attrition in special education. We coded studies on the extent to which they addressed BSEs' relationships, including (a) formal mentoring, (b) other professional relationships (e.g., informal mentors and colleagues), (c) principal/administrative leadership, and (d) relationships with general educators. We coded roles of BSEs, including (e) job assignment and/or responsibilities and (f) scheduling/time management, and (g) challenges associated with high-stakes testing. Additionally, we coded for student characteristics, including caseload diversity with regard to (h) exceptionality and (i) cultural/linguistic diversity. Inter-rater agreement at this stage was 0.75. The three-member team included all three co-authors. The team discussed and came to agreement on all codes.

### 5.3.2. Qualitative coding

We imported qualitative results sections into Dedoose software for coding (Version 6.1.18) and used open, axial, and selective coding to examine how stressors and supports identified in the quantitative literature shaped professional identity (Strauss & Corbin, 1998). This process proceeded in several steps. First, the research team reviewed the results sections of the qualitative studies; we read to identify the themes that were prominent in BSEs' sense-making process and how these themes were related to stresses and supports. Based on our theoretical framework, we developed a codebook for data processing. Next, we coded data to understand BSEs' experiences through a sense-making perspective. We then met to discuss, refine, and come to consensus on emerging codes and themes, as well as develop operational definitions and identify examples and non-examples of each code. Our final qualitative coding scheme included three codes: affirmation, interruption, and identity construction. We provide an excerpt of the codebook in Table 2. We then reread and re-coded all qualitative data using our final codes. Following this, qualitative excerpts were organized into data matrices and linked to the stressors and supports from the first round of coding to facilitate data analysis.

## 5.4. Data analysis

Using a sequential analytic process (Heyvaert, Maes, & Onghena, 2013), we began by analyzing findings regarding the stressors and supports in our quantitative codes to frame our analysis and organize qualitative assertions. This allowed us to examine BSEs' experiences with respect to social context, student characteristics, and role. Through this phase, we synthesized information regarding the opportunities BSEs had to engage in sense-making during the induction experience (e.g., relationships with mentors, administrators, and other professionals). We used the MMAT evaluation as a guide during this stage of the analysis. If studies were evaluated as less rigorous during quality appraisal (less than 75% on MMAT), we required that a more rigorous study (more than 75% on MMAT) support the claims as well. If only less rigorous studies supported a claim, this claim was not included in the analysis. In this way, our quality appraisal helped to systematically guide synthesis of the data and the claims we put forth.

During qualitative analysis, we reviewed our data looking for emerging themes, relationships among those themes, and disconfirming evidence. We refrained from an actuarial approach; instead of counting instances of phenomena, we looked for consistent phenomena across studies. Then, we grouped these phenomena to examine the influence of institutional elements on BSEs' sense-making.

**Table 1**  
Studies reviewed.

Study	BSEs	Data Sources <sup>a</sup>	State or Region <sup>b</sup>	Context/Level/Setting <sup>c</sup>	Key Features
<b>Quantitative</b>					
Billingsley et al. (2004)	1153	survey	NTL	V; V; V	Working conditions; induction support
Conderman and Johnston-Rodriguez (2009)	28	survey	MW	V; V; V	Novice teachers' views of collaborative roles
Fall and Billingsley (2011)	935	survey	NTL	V; V; V	Working conditions in high- and low-poverty districts
Griffin et al. (2009)	596	survey	FL, WI	V; V; V	Influence of contextual factors on BSEs' professional accomplishments and problems
Jones et al., 2013	47	survey	MI; IN	NR; ES, MS; NR	Role of colleagues in shaping BSEs' commitment
Pogrud and Cowan (2013)	56	survey	TX	V; V; IT	Perceptions of a mentoring program by vision specialists
Wasburn-Moses (2010)	232	survey	MW	Urban; V; V	Mentoring policy and practice
Whitaker (2003)	156	survey	SC	V; V; V	Needs of BSEs
White and Mason (2006)	244	survey	NR	V; V; V	Mentoring for BSEs
<b>Qualitative</b>					
Babione and Shea (2005)	5	int, jnl, obs	IN	Rural; ES, MS; NR	Mentoring for BSEs
Dieker et al. (2003)	4	Int	FL	Urban; MS, HS; NR	CLD BSEs; Alternative certification
Gehrke and McCoy (2007a)	10	survey	SW	Urban; ES, Res, Incl	Differences in environments of BSEs who stay and BSEs who leave
Gehrke and McCoy (2007b)	5	int, obs	NR	V; ES, MS, HS; SC, Res	BSEs perceptions of induction experiences
Gehrke and Murri (2006)	8	Int	SW	NR; ES, MS; SC, Incl	BSEs' intent to stay
Guteng (2005)	5	int	MW, SW	Urban, Rural; NR; SC; IT	Concerns of BSEs working with deaf and hard of hearing students
Israel et al. (2014)	16	int, time, eval	NR	Urban; V; V	Mentoring and teacher evaluation
Youngs et al., 2011	2	int, survey	MI	Urban; ES; Res, Incl	Negotiating role expectations; access to resources
<b>Mixed Methods</b>					
Griffin et al. (2008)	36	int, obs, survey	FL, WI	V; Pre-K, ES, MS; V	BSEs' relationships with general education colleagues

<sup>a</sup> NTL = National; MW = Midwest; SW = Southwest; NR = not reported.

<sup>b</sup> V = varied; NR = not reported; ES = elementary; MS = middle school; IT = itinerant; HS = high school; Res = resource; Incl = inclusion; SC = self contained.

<sup>c</sup> int = interview; jnl = journal; obs = observation; eval = evaluation materials (e.g., records, time charts).

**Table 2**  
Qualitative code book.

Code	Definition
Interruption	<ul style="list-style-type: none"> <li>• Experience that differs from what was expected or anticipated</li> <li>• Might have elements of emotional response, conflict, or surprise</li> <li>• Might be connected to an opportunity for the BSE to reflect</li> </ul>
Affirmation	<ul style="list-style-type: none"> <li>• Experience that confirms what was expected or anticipated</li> <li>• An experience wherein their beliefs about their professional role and or other stakeholders were confirmed</li> </ul>
Identity Construction	<ul style="list-style-type: none"> <li>• Experience that defines or clarifies the BSE's professional role, responsibilities, and position within an organization</li> <li>• Might shape the BSEs' role or position, as well as the responsibilities of the BSE within that role or position.</li> </ul>

## 6. Results

We present our results in three sections. First, we report characteristics of the studies in our corpus. Next, we identify the information gleaned from quantitative data; for each quantitative finding, we explore the nuances highlighted in qualitative data to explain ways in which these stressors and supports—using an institutional theory lens—function with regard to BSEs' sense-making. Finally, we present the information regarding three factors that—based on information in multiple studies in our corpus—could potentially moderate BSEs' experiences: student needs, school climate, and principal leadership.

### 6.1. Overall characteristics of the data

The 18 included studies (see Table 1) involved a total of 2461 BSEs and reported results from surveys (13), interviews (9),

observations (3), journals or written reflections (1), teacher evaluation documents (1), and mentoring time charts (1).

Participants came from geographically diverse schools, representing the Southeast, Southwest, South, Midwest, and Western regions of the United States. Additionally, two studies used nationally-collected survey data (Billingsley et al., 2004; Fall & Billingsley, 2011). Settings were diverse, including studies in urban (6), rural (2), and other (9) locations. Three studies did not report location. Included studies reported BSEs' experiences in a range of levels, including Pre-K (1), elementary (8), middle (6), and high school (2). Ten studies reported data from varied levels or did not explicitly note grade level. Finally, BSEs in the included studies worked across the continuum of services. Most studies reported diverse settings (i.e., self-contained, resource, inclusive), with researchers conducting the majority of the analysis irrespective of service delivery model. However, two studies reported on the work of itinerant specialists working with students with hearing

(Guteng, 2005) or vision (Pogrund & Cowan, 2013) impairment.

## 6.2. The need for support

BSEs reported a need for support in the professional aspects of their work (Whitaker, 2003; White & Mason, 2006). This expressed need related to skills such as navigating the regulations (e.g., policies, guidelines, procedures) and norms (e.g., unwritten rules, collaboration) they encountered in their school as well as instructional aspects of teaching (e.g., planning, finding resources, developing curricula, meeting student needs; Conderman & Johnston-Rodriguez, 2009; Pogrund & Cowan, 2013; Whitaker, 2003; White & Mason, 2006). BSEs also noted a need for emotional support, but with less frequency and urgency than professional support (Whitaker, 2003). Qualitative studies affirmed the power of providing professional support for BSEs (Babione & Shea, 2005; Dieker et al., 2003; Gehrke & McCoy, 2007a, 2007b; Israel, Kamman, McCray, & Sindelar, 2014). In the context of one structured mentoring and evaluation program, BSEs “almost always tied those [emotional] supports to instructional and professional assistance. These two distinct functions appeared to be melded into one construct” (Israel et al., 2014, p. 58). The need for emotional support was linked to the process of constructing meaning regarding their role and responsibilities in their context.

However, deeper analysis revealed BSEs not only needed skills and strategies, but they also needed support in the messy work of interpreting local norms and culture (Babione & Shea, 2005; Gehrke & McCoy, 2007a; Guteng, 2005), or, as one BSE explained regarding her difficulty understanding school policy, “I just felt kind of lost the first year. I wish there was some kind of orientation to the actual school” (Guteng, 2005, p. 23). This novice's words are telling; BSEs may enter the field with a sense of what it means to teach special education, but their experience is often shaped not by the normative elements taught in their pre-service programs, but by their local school context.

## 6.3. Supports

### 6.3.1. Formal mentoring

Even though BSEs expressed a need for support, school districts did not consistently provide mentoring (Billingsley et al., 2004; Fall & Billingsley, 2011; Wasburn-Moses, 2010) that followed guidelines established in the literature (Smith & Ingersoll, 2004). In qualitative studies, this finding was reiterated (Youngs et al., 2011; Gehrke & McCoy, 2007b; Guteng, 2005), but less consistently than in quantitative studies. In quantitative work, which primarily consisted of broad descriptions of typical practice, mentoring was often portrayed as unhelpful or unavailable and, at best, was inconsistent with BSEs' needs (Conderman & Johnston-Rodriguez, 2009; Fall & Billingsley, 2011; Pogrund & Cowan, 2013; Wasburn-Moses, 2010; Whitaker, 2003; White & Mason, 2006). In contrast, several qualitative studies emphasized BSEs positive mentoring experiences implemented in collaboration with institutes of higher education (Babione & Shea, 2005; Dieker et al., 2003) or as a part of established district- or state-wide programs (Gehrke & McCoy, 2007a; Israel et al., 2014).

From the large-scale quantitative data, however, it was clear this type of mentoring intervention was atypical, and BSEs were often left without mentors able to meet their needs, resulting in frustration and confusion. In this interview excerpt, Gehrke and McCoy (2007a) highlight the experiences of two BSEs who eventually left their positions:

You have to really be in dire straights [*sic*] to get some help. I was supposed to have a mentor. Right... never did get one!” Andy

[another BSE] ... shared that he was not assigned a mentor until November and at that time, it was “... too little, too late... and the mentor was not in special education anyway! (p. 36).

Here, we see the nexus of the *need for a mentor* and the *difficulty in providing a mentor who is able to meet BSEs' needs* (Youngs et al., 2011; Gehrke & Murri, 2006; Guteng, 2005). In analyzing our corpus, it was clear these frustrations were due in large part to inconsistencies between policy and its enactment in context. Youngs et al., 2011 highlight this in their analysis of BSEs' experiences:

Potter's assigned mentor worked at a different school. While [they] had similar teaching assignments and shared the same beliefs about the importance of developing relationships with students, Potter had little contact with her during her first year of teaching because they worked at different sites. (p. 1525–1526).

These authors shed light on what seems to be typical practice, underscoring the inconsistencies Smith and Ingersoll (2004) found to weaken the effectiveness of mentoring for novice teachers. In particular, when BSEs' mentors were not SETs, were not located in their school building, or did not teach the same grade and content, new teachers did not find their support helpful (Youngs et al., 2011; Guteng, 2005). The unique stressors of being an SET and, further, the local-level cognitive understandings necessary to work collaboratively to provide services and supports to students, made the lack of a mentor who understood the context and the profession particularly challenging.

### 6.3.2. Informal professional supports

Because BSEs were “less likely to receive school-based support from mentors or colleagues who taught the same curriculum that they taught or who worked with students with the same disabilities” (Youngs et al., 2011, p. 1525), they often looked to a broader network of professionals for necessary guidance (Billingsley et al., 2004; Gehrke & McCoy, 2007b; Gehrke & Murri, 2006; Griffin et al., 2009; Whitaker, 2003; White & Mason, 2006). In an interview, a participant noted, “If I didn't have the support that I had and all the avenues to go to for different things, ... I don't know that I would still be doing this ... It's emotionally ... [and] physically draining” (Gehrke & McCoy, 2007b, p. 36). Each of these varied avenues served a distinct function, contributing to the special educator's understanding of their role within the school.

Overall, BSEs identified other SETs as their most influential source of support (Billingsley et al., 2004; Gehrke & McCoy, 2007b; Griffin et al., 2009; Whitaker, 2003). Qualitative studies corroborated these findings but also highlighted contributions of other parties such as general educators, school psychologists, social workers, and reading specialists (Youngs et al., 2011; Dieker et al., 2003; Gehrke & McCoy, 2007a, 2007b; Gehrke & Murri, 2006). General education colleagues were important in helping BSEs access information about general education curriculum and materials (Youngs et al., 2011; Gehrke & McCoy, 2007a, 2007b; Gehrke & Murri, 2006; Griffin, Kilgore, Winn, & Otis-Wilborn, 2008). School psychologists helped navigate procedural aspects of the job (Gehrke & McCoy, 2007a, 2007b), social workers helped BSEs understand their students' social/emotional needs (Youngs et al., 2011), and reading specialists were noted as a source of information regarding students' academic needs (Gehrke & McCoy, 2007a). Either in the absence of or in addition to a formal mentor, these sources of support were helpful and provided access to resources such as curricular materials and information BSEs needed to

complete the tasks associated with their role.

The need for varied support, as Youngs et al., 2011 point out, was not only due to BSEs' needs for access, information, and role definition, but also a need to understand norms and expectations surrounding their role and responsibilities:

[D]ue to the nature of the curricular and role expectations they faced, the early career special educators were much more dependent on their general education colleagues ... and they were expected to develop relationships with a greater number and wider range of individuals. (p. 1525).

For BSEs, relationships were valuable, not only for accessing resources needed to complete the job, but for understanding the unwritten rules of their environment (Babione & Shea, 2005). Their role, which relied upon professional relationships, required them to navigate complex and often competing regulative, normative, and cognitive elements within their school context (Youngs et al., 2011; Israel et al., 2014), and, to make sense of this complexity, BSEs required a diverse network of supports.

### 6.3.3. In-service training

Another form of support noted by BSEs was in-service training or professional development. In two large-scale surveys, researchers found the majority of BSEs reported staff development (Fall & Billingsley, 2011) and orientations (Billingsley et al., 2004) were helpful to a moderate or great extent. Qualitative studies revealed that, when they were deemed helpful, trainings highlighted curriculum, materials, and practices BSEs needed to meet their students' diverse needs (Dieker et al., 2003; Gehrke & McCoy, 2007a, 2007b; Gehrke & Murri, 2006). BSEs noted these trainings provided "the foundation for what I do with my students" and allowed them to "supplement materials and modify ... instructional approaches" (Gehrke & McCoy, 2007a, p. 495). Additionally, many BSEs stated new teacher seminars, while not favored by all participants (Gehrke & Murri, 2006), were valuable even with the additional time commitment; they "shifted their thinking about the [professional development]—from an excessive time burden to a valuable opportunity to grow professionally in a collaborative and supportive environment" (Israel et al., 2014, p. 58). BSEs viewed trainings as helpful when they provided an avenue through which they could begin to make sense of—and then address—complexities surrounding student needs.

## 6.4. Stressors

### 6.4.1. Inclusion

Although sometimes a source of support, collaboration with general education colleagues was also one of BSEs' most prominent stressors (Conderman & Johnston-Rodriguez, 2009; Griffin et al., 2008; 2009; Pogrud & Cowan, 2013; White & Mason, 2006). BSEs viewed these colleagues as a potential source of resources and support related to their own instruction, but they noted general educators' responses to inclusion, accommodations, and student needs often created tension or resulted in conflicts (Youngs et al., 2011; Babione & Shea, 2005; Dieker et al., 2003; Gehrke & McCoy, 2007a; Gehrke & Murri, 2006; Griffin et al., 2008; Guteng, 2005; Israel et al., 2014).

Instantiated in the following excerpt, BSEs reported a lack of understanding regarding students with disabilities was one of the first barriers they experienced as they worked to provide services in the least restrictive environment (LRE).

I still struggle with teachers scared to teach my students ... I offer assistance but [they] just want me to take [my students]

out. I wish teachers ... had to go through a training process in understanding [students with disabilities]. (Dieker et al., 2003, p. 336, p. 336).

When misunderstanding turned to conflict with general educators, BSEs often felt powerless to enact requirements of students' Individualized Education Plans (IEPs), especially around accommodations and access to the LRE (Babione & Shea, 2005; Guteng, 2005). Attempts at advocacy—a role that emerged from these dissonant experiences—often created a rift between these novices and their colleagues.

I found out this year it is a struggle getting the regular ed. teachers to do what the IEP says because they think they don't have to do what the IEP says ... Yeah, it's the law, you have to do it. (Babione & Shea, 2005).

These stressful relationships contributed to BSEs' sense-making and understanding of their organization in varied ways. First, in these encounters they worked to challenge cognitive conceptions of disability and inclusion in their school settings and to shift norms around inclusion toward a sense of collective responsibility for students with disabilities (Dieker et al., 2003; Griffin et al., 2008; Guteng, 2005). However, without adherence to regulative elements they assumed held coercive power (i.e., IEPs), their efforts fell short, and they were left to try to meet students' needs without colleagues' support.

### 6.4.2. Communication and collaboration

When considering inclusion, communication and collaboration surfaced as moderators for success and were related to the level of support BSEs perceived (Conderman & Johnston-Rodriguez, 2009; Pogrud & Cowan, 2013; White & Mason, 2006). Communication was often impeded by location and time (Griffin et al., 2008, 2009). For example, 70% of the BSEs with rooms near a general education classroom felt accomplished in their communication and collaboration. On the other hand, only 27–29% of BSEs with rooms in a separate building or wing felt they accomplished positive communication and collaboration (Griffin et al., 2009). When communication was a problem, BSEs viewed relationships with other educators as less supportive; when it was not a problem, they viewed these relationships as more supportive (Griffin et al., 2008, 2009). This was linked to their advocacy work; BSEs who perceived advocacy to be a problem struggled with less supportive relationships (Griffin et al., 2009).

Qualitative studies illustrated how difficulties collaborating with peers connected to BSEs' understanding and enactment of their roles and responsibilities. First, because of the need to plan coordinated service delivery, logistical concerns such as proximity to and time to plan with colleagues contributed to disrupted communication. As one BSE stated,

Timing and scheduling [are problems] not only on your part, but also on [the teachers'] part. There is not enough time to coordinate all of the lesson planning, all of the time together, and all of the modifications. There is just not enough time. (Guteng, 2005, p. 22, p. 22).

BSEs, who already felt stretched, were responsible for coordinating services and schedules, and responding to general educators' needs to plan and deliver instruction in the LRE.

In most studies, BSEs viewed collaborating to increase their students' access to the general education classroom as a battle in which the primary responsibility for providing that access fell on



them (Youngs et al., 2011; Dieker et al., 2003; Gehrke & McCoy, 2007a; Griffin et al., 2008; Guteng, 2005). As a BSE stated in Griffin et al.'s (2008) study:

Mainstreaming is up to the special education teachers. It's up to you, the special educator, to approach the general education teachers ... [P]eople here don't come up to you to say, I would like to have the ESE [Exceptional Student Education] kids in my classroom. I have to approach them and that's hard to do as a first year teacher. (p. 152).

Across studies, these novices felt a key aspect of their role, beyond advocacy for students' rights, was to enable access to the general education curriculum, which resulted in them exerting "significant amounts of effort in co-teaching classes and developing relationships with general education colleagues" (Youngs et al., 2011, p. 1523). To enable this, they often struggled with the extent to which they should subordinate their needs and their students' needs to those of the broader population (Youngs et al., 2011; Dieker et al., 2003; Gehrke & Murri, 2006; Griffin et al., 2008; Guteng, 2005); Babione and Shea (2005) noted the collaboration necessary to ensure inclusion often threatened norms of autonomy and collegiality established in schools. In practice, this shaped BSEs' role in that, when working in general education classrooms, they often worked with students not on their caseload or did not provide services in the inclusive setting to avoid conflict and maintain positive rapport with coworkers (Youngs et al., 2011; Guteng, 2005). Their responses to conflict, which emerged from perceived school norms regarding responsibility for students with disabilities, potentially diluted service delivery.

## 6.5. Moderating factors

Three factors moderated how BSEs experienced induction and the extent to which they felt included in their school: extent of student needs, school climate, and principal leadership.

### 6.5.1. Student needs

We coded for two student characteristics: cultural and linguistic diversity and exceptionality. In most reviewed studies, authors did not include details regarding these factors. Billingsley et al. (2004) reported approximately a third of BSEs worked with students from backgrounds different than their own, and Conderman and Johnston-Rodriguez (2009) found BSEs felt prepared to meet the needs of culturally diverse learners, but we did not find evidence of how this was a part of the sense-making process in the qualitative data. No studies reported data regarding BSEs' experiences of high-stakes testing.

Although authors reported caseload diversity with regard to exceptionality, reports were descriptive, and findings were inconsistent. There was inconsistency between large-scale studies—which reported 75% of BSEs worked with more than one disability category (Billingsley et al., 2004; Griffin et al., 2009)—and smaller studies, which reported most SETs worked with students from a single disability category (Jones et al., 2013). In qualitative literature, however, student disability level was often a source of stress for BSEs. This stress emerged as they tried to meet their own expectations and their colleagues' needs; students' needs often created barriers to inclusion and heightened the need for advocacy (Youngs et al., 2011; Dieker et al., 2003; Gehrke & Murri, 2006). Instead of focusing on grade level content, BSEs addressed individual needs, consistent with special education law. However, this often required them to locate and modify materials from other personnel and address challenging behaviors—needs that required them to know which resources to access for which types of support

(Youngs et al., 2011; Gehrke & McCoy, 2007a; Gehrke & Murri, 2006; Israel et al., 2014).

### 6.5.2. School climate

Across methodologies, school climate was important in BSEs' work and was associated with the strength of collaborative relationships (Conderman & Johnston-Rodriguez, 2009). When school climate was perceived as problematic or BSEs experienced stigma regarding their role or their students' needs, BSEs were less involved in the school, which was related to difficulty with collaborative efforts (i.e., promoting access to the general curriculum, working with a professional team, and co-teaching; Conderman & Johnston-Rodriguez, 2009; Griffin et al., 2008; 2009). A troubling finding was 24% of BSEs reported their principal—an important source of support and leadership—did not understand their work. In contrast, BSEs felt 90% of other SETs understood their work to a moderate or great extent (Billingsley et al., 2004).

Overall, most BSEs believed they worked in a positive school climate (Billingsley et al., 2004), but some studies pointed to tension and stigma (Conderman & Johnston-Rodriguez, 2009; Fall & Billingsley, 2011). This stigma was often connected to resistance to inclusion, but also prompted feelings of isolation within the school (Conderman & Johnston-Rodriguez, 2009; Griffin et al., 2008; 2009). One BSE pointed out her colleagues' lack of understanding regarding her work:

It's been tough because I feel like I kind of get the cold shoulder ... but they [general education teachers] have no idea that I don't just teach. I test. I write ... There's all kinds of stuff in this job that they don't have to do ... I wish they ... had more understanding or more patience for the kids and for me, especially being a new teacher. (Gehrke & McCoy, 2007a, p. 497, p. 497).

This stigma and lack of understanding could play an important role in BSEs' access to the very relationships that were most important in ensuring commitment to their work (Jones et al., 2013): informal colleague support. Dissonance between BSEs' experiences and colleague expectations resulted in frustration and a further need for support. Even in the face of isolating experiences, BSEs were often the ones responsible for acknowledging their needs and seeking out the support necessary to meet those needs (Gehrke & McCoy, 2007a). BSEs identified trust as a school-level variable that either supported or hindered their willingness to reach out to others for support (Guteng, 2005). BSEs' level of perceived proficiency and resilience also impacted the process of looking to others for support in understanding their role. BSEs perceived environments characterized by trust and professional community helped them access the training necessary to meet students' needs (Dieker et al., 2003; Gehrke & McCoy, 2007a). Even so, BSEs often felt isolated and unsure of how to access support to meet their job requirements (Youngs et al., 2011; Gehrke & McCoy, 2007a, 2007b; Guteng, 2005).

### 6.5.3. Principal leadership

Across quantitative studies, authors highlighted the importance of principals to the work of BSEs. The majority of novice SETs reported principals were somewhat to very supportive (Billingsley et al., 2004; Fall & Billingsley, 2011; Griffin et al., 2009; White & Mason, 2006), but there was a statistically significant difference between the level of perceived support in high- and low-poverty districts, with BSEs in more affluent districts perceiving higher levels of support (Fall & Billingsley, 2011).

The type of support principals provided, though, was not completely clear in the quantitative literature. The results of two

large-scale surveys provided some descriptive information regarding principals' work with BSEs (Billingsley et al., 2004; Griffin et al., 2009). Billingsley et al. (2004) found fewer administrators provided support related to instruction when compared to other colleagues. Griffin et al. (2009) found BSEs who noted time as a problem had significantly different relationships with their principals ( $p = 0.003$ ); teachers who ranked time as one of their most pressing problems perceived their principal as more supportive.

Although principal support did not mitigate two stressors new teachers typically experienced (i.e., addressing complex student needs and lack of time), principals were pivotal in providing structure regarding BSEs' roles and responsibilities. They set school norms, helped create a vision for and establish culture, and were yet another source of support for BSEs as they worked to understand and respond to unwritten rules of their context (Dieker et al., 2003; Griffin et al., 2008). The following account illustrates one way administrators supported BSEs:

Her principal sent out 'a school-wide e-mail talking about NCLB and why it's important that [students with disabilities] are in the classroom. She [told] them to put me to work when I'm in there. She's been very helpful with that.' (Youngs et al., 2011, p. 1526).

Administrators helped with logistics such as scheduling and communication (Youngs et al., 2011; Gehrke & Murri, 2006), but they also helped BSEs define their role within the school and navigate difficult circumstances with general educators to help them provide services to students (Youngs et al., 2011; Griffin et al., 2008). Conversely, administrators were also perceived as unsupportive on these same issues (Dieker et al., 2003; Gehrke & Murri, 2006) when they did not adhere to or honor procedural requirements (Guteng, 2005) or had differences of opinion regarding service delivery and student matters such as curriculum (Gehrke & McCoy, 2007a) and discipline (Guteng, 2005). In multiple studies authors suggested administrators' influence, but they also noted it could be a support or a barrier (Dieker et al., 2003; Gehrke & Murri, 2006) depending on the administrator's beliefs about students with disabilities and the extent to which they trusted SETs (Dieker et al., 2003; Guteng, 2005).

## 7. Discussion

In this study, we conducted a systematic mixed studies review (Pluye & Hong, 2014) of BSEs' induction experiences. The careful integration of qualitative, quantitative, and mixed methods studies presents a unique contribution to research in education. Through the use of a quality appraisal across mixed methodologies (Pluye & Hong, 2014) and the use of Ivankova et al.'s (2006) sequential explanatory design, we were able to make inferences regarding the ways that stressors identified as unique to special educators—such as student needs, school culture, and principal leadership—function in BSEs' induction experiences. The decision to draw on these varied methodologies was instrumental in understanding induction from an institutional theory perspective.

Furthermore, this study contributes to our understanding of BSEs' induction experiences because we elected to examine induction using an institutional theory framework. Whereas previous studies examine either formal mentoring or informal sources of support, in this study we integrated evidence regarding the varied supports utilized by this unique population of teachers. Because of our focus on understanding the induction experience at an institutional level—incorporating the ways that normative, regulative and cultural cognitive elements all act on the BSE's induction experience—we were able to examine factors relevant to BSEs'

induction that might not have been evident if these sources of support were examined in isolation.

In examining the experience of BSEs' using the three aspects of institutional theory, we found BSEs required significant professional support from varied parties as they entered the field; these supports helped them access resources to enhance their performance and guided their understanding of their school's cultural and normative interpretations of special education policy. BSEs perceived formal mentoring as valuable, but it was often unavailable or ineffective due to poor design (Desimone et al., 2014; Smith & Ingersoll, 2004). Thus, BSEs were by default tasked with recognizing their own needs and proactively accessing support through informal professional relationships. Although general educators were potential supports regarding resources and curriculum, inclusion and communication/collaboration were prominent stressors that emerged from cultural and normative elements of BSEs' professional environment. In our analysis, three interrelated factors moderated the extent to which BSEs' induction experiences could be termed supportive: student needs, school climate, and principal leadership. As student needs increased, BSEs perceived a greater need for support in securing resources and advocating for access to inclusive experiences, adding to their stress. School climate, including acceptance of students with disabilities and collective responsibility for student needs, was associated with a perception of relationships as collaborative. Principal leadership was instrumental in establishing school norms that supported a climate accepting of students with disabilities and in clarifying the role of SETs. Again, regulative elements were superseded by the normative and cultural elements present in institutions.

BSEs experienced significant ambiguity regarding their role as they enter the field (Billingsley, 2004; Gersten et al., 2001) compared to their general education colleagues (Youngs et al., 2011). In our analysis, BSEs' professional identities and roles were highly subjective, shaped less by set, regulated structures and more by local, dynamic interpretations of regulations, norms, and culture. These findings are consistent with institutional theorists' understanding of the ways in which misalignment or inconsistencies between regulative, normative, and cognitive elements can result in confusion (Scott, 2014). This misalignment can lead to reflection, noticing, and bracketing which prompts sense-making and identity construction (Weick, 1995). BSEs may have entered their profession believing regulative elements (e.g., IEPs) would drive their work, but the power of school culture to supersede regulations produced an unanticipated need for support. Part of this may have emerged from the power imbalance experienced by BSEs as new professionals required to monitor colleagues and convince them to follow special education regulations.

In this power imbalance, BSEs had to expend energy connecting to others who would either help them secure authority (e.g., principals or other SETs) or help them understand the cultural forces shaping their identity. This created a distinct dependence on others. Establishing professional relationships may have alleviated some of this stress; advocating for student needs may have exacerbated it.

### 7.1. Limitations

The extent to which we can make large-scale claims is limited by several factors. First, we conducted our analysis using secondary data; therefore, our findings are limited to what researchers have explored in previous studies. Secondly, we are limited by the number and type of studies; the 18 included studies were descriptive, and most of them relied primarily on self-report. This is a function of the current research base in this area; few randomized experiments have been conducted on induction, and none have

specifically examined the experience of BSEs (Glazerman et al., 2010). Additionally, although our data represent typical practice as described in policy (Goldrick, Osta, Barlin, & Burn, 2012), we cannot characterize these data as representative of the population of BSEs as a whole. Only two studies (Billingsley et al., 2004; Fall & Billingsley, 2011) used data from a random sample. All other studies relied upon volunteer or convenience samples, which could have introduced sampling bias and distorted results. Finally, our data were fully based on self-report. Employing observational data in induction studies would better help us examine the relationship between factors salient to the sense-making process and BSEs' professional practice. Although we cannot claim our study represents the population as a whole, we cannot completely discount the generalizability of our present findings. Considering the convergence of evidence and the current policy background (Goldrick et al., 2012), we speculate our findings—which are descriptive in nature—represent many BSEs' experiences.

7.2. Implications

Empirically, our findings regarding how institutional interpretations are enacted in practice highlight the need to further explore BSEs' sense-making processes. Future work could examine ways in which varied institutional factors affect practice, investigate the influence of institutional carriers (e.g., principals, general educators) on professional growth and development, and explore how purposeful work around induction with influential colleagues could influence the sense-making inherent in BSEs' induction experiences. Furthermore, our study highlights a gap in the contemporary literature. Our coding scheme attended to two aspects we hypothesized would exert a considerable amount of pressure on BSEs: cultural and linguistic diversity and high-stakes testing. While two studies described BSEs' caseloads with regard to diversity (Billingsley, 2004; Conderman & Johnston-Rodriguez, 2009), their findings were merely descriptive in nature and did

not explore the potential benefits and challenges of working with culturally and linguistically diverse learners. Surprisingly, none of the studies addressed BSEs experiences with reference to high-stakes testing. Considering the contemporary focus on accountability and the effect this could have on the individual needs of students with disabilities, exploring the ways in which these two factors affect BSEs' experience and their perceptions of the role of changing regulations is a timely question.

Practically, our findings support the need for induction support for BSEs as they enter the field. Over 50% of states have mentoring and induction requirements for novice teachers (Goldrick et al., 2012), but policies are not uniform (Desimone et al., 2014; Smith & Ingersoll, 2004), nor do they consistently provide the type of support our work identifies as pivotal for BSEs (Youngs et al., 2011). Sustained, structured support consisting of larger networks to help BSEs navigate their complex roles within schools could positively impact BSEs and their students. The successful programs described in several of the reviewed studies (Babione & Shea, 2005; Dieker et al., 2003; Israel et al., 2014) included levels of structured supports to meet BSEs' needs. Unfortunately, these programs did not represent typical practice. As BSEs enter a field in flux (Brownell et al., 2010), policy makers and teacher educators must be forward-thinking about how they train and support BSEs and consider empirically-supported induction programs as an imperative to continued teacher training.

Funding statement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Appendix

Quality Appraisal Coding: Modified Mixed Methods Appraisal Tool (adapted from Pluye et al., 2011).

Qualitative	0	1	2
1. Are the sources of qualitative data relevant to address the research question (objective)?	No description or very poor description of sampling strategy OR does not use strategic sampling OR sampling does not clearly align with the research question	Sample addresses the research question; Some evidence of strategic sampling; describes efforts to connect sample to qualitative research question(s)	Systematic sampling strategy clearly aligned to the research question(s)
2. Does the process for data collection and analysis increase the dependability/reliability of the study?	No strategies employed to increase dependability/reliability of data collection and analysis	Researchers note strategies employed to increase dependability/reliability of data collection and analysis	Researchers fully describe the strategies and processes employed to increase dependability/reliability of data collection and analysis (e.g. thick description of the context, methods, and analysis; multiple researchers; low inference descriptors; systematic, detailed listing and discussion of codes and how they relate to larger themes)
3. Is the process for data collection and analysis relevant to address the research question (objective) and support the credibility/validity and of the study?	No steps described to ensure the quality of the data	Researchers note strategies employed to increase credibility/validity of data collection and analysis	Data collection and analysis includes purposeful strategies and processes to increase the credibility/validity of the data: member checks; triangulation of data sources, time periods, or data collection methods; prolonged engagement in the field
4. Is appropriate consideration given to how findings relate to the context, e.g. the setting, in which data were collected?	No discussion	Some information; provides acknowledgment of context	Discussion of several aspects related to context (e.g. disability of students, SES of students, other descriptive aspects of educational context)

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Qualitative	0	1	2
5. Is appropriate consideration given to how findings relate to researchers' influence, e.g., through their interactions with participants?	No discussion	Some discussion and consideration of researchers' influence and/or potential bias	Describe the reflexive process: Explicitly address researchers' role in the study, their potential bias, and whether/how this was addressed
Quantitative	0	1	2
1. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed methods question)?	No description or very poor description of sampling strategy OR does not use strategic sampling; sampling does not clearly align with the research question	Some evidence of strategic sampling; describes efforts to connect sample to quantitative research question(s)	Systematic sampling strategy clearly aligned to the research question(s)
2. Is the sample representative of the population under study?	Demographics not consistent with objective of the study; low response rate	Provide demographics; sample represents the population under study; low response rate	Provide demographics; sample represents the population under study; adequate response rate
3. Are measurements appropriate (clear origin, or validity known, or standard instrument)?	Very little information about how the variables are constructed	Some information; might report survey items that make up a given variable; Possibly report basic means and standard deviations, don't talk about how items perform (i.e., Cronbach alphas)	Constructs clear; provides information about validity and reliability (i.e., Cronbach alphas) of measures
4. Is there an acceptable response rate?	Very low response rate (<30%)	Poor response rate (between 30 and 60%)	Response rate is 60% or higher
Mixed Methods	0	1	2
1. Is the mixed methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed methods question (or objective)?	The research questions or objectives do not lead to a mixed methods design. There is no rationale for conducting a mixed methods study.	There is a brief explanation for integrating methods, but more explanation would strengthen the rationale.	The rationale for integrating qualitative and quantitative methods to answer the research question is clearly explained and adds to the relevance of the study.
2. Is the integration of qualitative and quantitative data (or results*) relevant to address the research question (objective)?	There is no attempt to integrate qualitative and quantitative data; using both types of data was unnecessary or distracting.	There is an attempt to integrate both types of data in order to add rigor and to the study; the purpose of using a mixed methods design is perfunctory and is not fully integrated or detailed for the reader; authors explain when integration occurred	There is ample evidence that data gathered through both research methods was integrated purposefully to form a complete picture and answer the research question; authors explain when integration occurred (e.g. during the data collection-analysis or/ and during the interpretation of qualitative and quantitative results) <b>as well as</b> how integration occurred and who participated in this integration.
3. Is appropriate consideration given to the limitations associated with this integration?	No consideration is given to the limitations of using a mixed methods design.	Researchers note limitations briefly but do not attempt to mitigate their influence; influence of limitations on findings is not adequately discussed	Acknowledge limitations of using a mixed methods design; limitations do not interfere with purpose; address issues of time (e.g. time period, time of data collection, order and amount of time for data collection) and sampling (e.g. overlap and relationship between samples) in methodology; if there are inconsistent findings, researchers discuss this and provide a hypothesis or theory to explain divergent findings

**Criteria for the qualitative component and appropriate criteria for the quantitative component must be also applied.**

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