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Comparison of State Certification and Professional Association Personnel Standards in Early Childhood Special Education

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Abstract

An item-by-item comparison of states' certification standards and/or competencies for Early Childhood Special Education (ECSE) with those of national professional association standards (i.e., Council for Exceptional Children [CEC] Common Core, Division for Early Childhood [DEC] of CEC ECSE, and the National Association for the Education of Young Children personnel standards when relevant) is reported in this article. Results of the content analysis are reported specific to the percentage of national standards met by states' policies overall and the percentage of national standards met for each of the five major certification models found to be used by states for certifying personnel to work with young children with delays and disabilities. Descriptive information is also provided as to the professional association standards most and least likely to be included in state standards. Implications for state and professional association policy are provided, as well as recommendations for further research.

Keywords

personnel standards, ECSE standards, teacher certification, standards alignment

Teacher certification refers to the requirements by which individuals qualify to teach and is the responsibility of states and territories in the United States. Certification requirements vary across states and sometimes within states. Certification policies change over time and are influenced by state and federal legislation, research and recommended practices in the specific educational discipline, and direct service needs of local communities. Certification requirements affect the education and training that teacher candidates receive in that higher education curricula must adhere to state certification policies. Therefore, it follows that certification reflects the knowledge and skills established in research as affecting the quality of Early Childhood Special Education (ECSE) programs (Early et al., 2007).

Recent federal legislation has had a significant impact on the certification of teachers, including early childhood special educators. The Elementary and Secondary Education Act amendments of 2001 (U.S. Department of Education, 2002) require that teachers be highly qualified. *Highly qualified* is defined as any elementary or secondary school teacher being certified in the area in which he or she is teaching and demonstrating content knowledge in that area through an exam or a degree in that discipline, or both. The 2004 reauthorization of the Individuals With Disabilities Education Improvement Act (IDEIA) clarified that the term *highly qualified* also applies to special educators.

The regulations of IDEIA 2004 stipulate that highly qualified teachers have obtained full state certification as a special education teacher, or have passed the state-required special education teacher licensing exam, and hold a license to teach in the state as a special education teacher (CFR 300.18). Federal law, while requiring that special education teachers be "highly qualified," defers to state certification policies for the specified standards to define the knowledge and skills.

In Early Childhood Education (ECE; i.e., the provision of educational services for children birth through 8 years who are developing typically) and ECSE (i.e., the provision of educational services for children birth through 8 years with developmental delays or disabilities), research suggests

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that the quality of early childhood staff is one of the most important factors in determining program quality and outcomes for children (e.g., Buysse, Wesley, Bryant, & Gardner, 1999; Cost, Quality, and Child Outcomes Study Team, 1995; Early et al., 2007; Sanders & Horn, 1998). Furthermore, several researchers have reported a statistically significant correlation between specialized education and the quality of learning environments (Epstein, 1993; Kontos, Howes, Shinn, & Galinsky, 1995). Kontos and Wilcox-Herzog (2001) conducted a review of research that investigated the relationship between formal education and professional experience to quality, and concluded that (a) formal education positively correlates with classroom quality, (b) specialized education is positively correlated with teacher behavior, and (c) experience is not consistently correlated to program quality or effective teacher behavior.

For approximately three decades, professional associations have advocated that higher education programs and state certification be based on personnel standards that reflect the research base in the respective field. In 1981, the Council for Exceptional Children's (CEC) Delegate Assembly (part of CEC's governance structure at the time) charged CEC with the development, dissemination, and implementation of personnel standards for special educators. The initial set of CEC standards, the CEC Common Core (CC) of Knowledge and Skills Essential for All Beginning Special Education Teachers, was finalized in 1992. CEC divisions, including the Division for Early Childhood (DEC), began development of specialization standards in 1993. In 2000, an effort to develop a process to update and refine the CEC CC and the specialization standards was initiated. The process for validating any new standards and revalidating existing standards was approved in 2003 (CEC, 2009).

The DEC of CEC provided a leadership role for the CEC divisions in the development and dissemination of personnel standards. In 1988, DEC developed and disseminated personnel competencies designed to provide guidance for institutions of higher education (IHEs) programs and state certification (McCollum, McLean, McCartan, Odom, & Kaiser, 1989). Subsequently, the National Association for the Education of Young Children (NAEYC), the Association of Teacher Educators (ATE), and DEC jointly advocated that states develop freestanding certificates for educators working with all children birth through age 8, with the age range and standards for certificates based on recommended practices and philosophical orientations in the field (DEC, 2006; Hyson, 2003; Sandall, McLean, & Smith, 2000). This joint advocacy resulted in a new set of personnel standards that were first approved by DEC in 1993, and then, approved by CEC as the specialization standards for ECSE (CEC, 2003). These standards were revised and revalidated through the CEC process in 2007 (CEC, 2009).

Many states base certification on the standards of the professional associations representing the various disciplines within teacher education. Through the National Council for the Accreditation of Teacher Education's (NCATE) State Partnership Program (NCATE, 2011), all 50 states have developed partnerships with NCATE through which joint accreditation reviews of teacher education programs within IHEs are conducted based on state and national personnel standards of specialty professional associations (SPAs). Within those states, teacher education programs are reviewed using state and national standards even though an individual IHE may not seek NCATE accreditation. Thus, an ECSE program would address any state, DEC/CEC ECSE, and CEC CC Standards (CEC, 2009). Blended ECE and ECSE programs would include any state standards, the above-mentioned professional association standards, and the NAEYC Standards (Hyson, 2003; R. Mainzer, personal communication, October 20, 2011).

Personnel standards identify the knowledge, skills, and dispositions (i.e., values, attitudes, beliefs) that early childhood and early childhood special educators must possess to work effectively with young children and their families. Thus, standards define what early childhood professionals must know and be able to do. The standards across the professional associations identified previously emphasize that all early childhood educators must demonstrate a CC of knowledge and skills for working with all young children and their families (DEC, 2006; NAEYC, 2010a). The CEC CC and DEC/CEC ECSE Standards are organized by the following 10 categories: Foundations, Development and Characteristics of Learners, Individual Learning Differences, Instructional Strategies, Learning Environments and Social Interactions, Language, Instructional Planning, Assessment, Professional and Ethical Practice, and Collaboration (CEC, 2003). The NAEYC Standards are organized similarly but with fewer categories: Promoting Child Development and Learning; Building Family and Community Relationships; Observing, Documenting, and Assessing to Support Young Children and Families; Using Developmentally Effective Approaches to Connect With Children and Families; Using Content Knowledge to Build Meaningful Curriculum; and Becoming a Professional (NAEYC, 2010a). Field experiences are emphasized and integrated throughout the standards.

Although professional associations have developed personnel standards to guide state certification requirements and all 50 states are NCATE partnership states, limited research has examined the extent to which state certification policies align with national personnel standards promulgated by professional associations. For example, Geiger, Crutchfield, and Mainzer (2003) interviewed respondents from all 50 states and the District of Columbia and found that 29 states incorporated some degree of the CEC CC in their special education certification requirements,

yet 10% of the respondents did not know whether national standards were addressed. In the age specialization of ECSE, there has only been one study conducted, which attempted to illuminate the origin and alignment of ECSE certification requirements (Center to Inform Personnel Preparation Policy and Practice in Early Intervention and Preschool Education, 2008a).

The purpose of this article is to expand this line of inquiry on ECSE certification. This study was also conducted by The Center to Inform Personnel Preparation and Policy and Practice in Early Intervention and Preschool Education, which was funded by the U.S. Department of Education, Office of Special Education Programs, to examine the status of personnel preparation for those serving young children with disabilities age birth to 5 years.

In particular, this study involved a content analysis to determine the extent to which states' ECSE certification standards required of individuals working with children through Part B, section 619, align with professional association national standards. The national standards used in the comparison were as follows: CEC CC and CEC/DEC ECSE Standards, and Knowledge and Skills and NAEYC Standards and Substandards, if relevant. The purpose of this manuscript is to discuss the results of the content analysis specific to the percentage of national standards met by states' policies overall and the percentage of national standards met for each of the five major certification models used by states for certifying personnel to work with 3- to 5-year-olds with delays and disabilities: (a) ECSE, (b) Special Education, (c) Blended ECE and ECSE, (d) ECSE endorsement on ECE or special education certification, and (e) ECE endorsement on special education certification (see Center to Inform Personnel Preparation Policy and Practice in Early Intervention and Preschool Education, 2008a, or Stayton et al., 2008, for a more detailed discussion of the five certification models). In addition, the results address the individual professional association standards that are most and least likely to be included in state personnel standards.

Method

The study described in this article was the third study in a set of studies to analyze state certification requirements for early childhood special educators who provide services through Part B, section 619. The set of studies included three discrete components: (a) searches of websites of state departments of education and state educational licensing/certification boards to collect and code in table format certification requirements in ECSE (i.e., certification model, age range, degree level, admission requirements, exit requirements, induction year requirements, and any alternative routes to certification); (b) interviews with state Part B, section 619 coordinators to gather descriptive information about the state's certification policies, to verify the accuracy of the information in the certification tables developed by the researchers, and to request any other relevant documents specific to the state's ECSE certification; and (c) the content analysis discussed in this article.

For the purposes of this study, the following definitions were utilized:

1. Certification—the set of state-regulated requirements that lead to initial preparation in ECSE.
2. Endorsement—the set of state-regulated ECSE requirements that exist in addition to the requirements for a specific certificate, such as ECE, K–12 Special Education.
3. Blended ECE and ECSE certification—the set of state-regulated requirements that lead to initial preparation in ECE and ECSE through a single certificate.

Sample

Part B, section 619 coordinators in all 50 states and the territories were contacted by telephone with a follow-up email to request their participation in the studies. Part B, section 619 coordinators in 38 states participated in structured telephone interviews and reviewed summary documents based on the researchers' review of the respective state certification policies for accuracy. (See Stayton et al., 2008, for a more detailed discussion.)

A sample of certification policies from 17 states included in the interviews was used for this content analysis. Purposeful sampling of states was used to ensure that the sample reflected the five major certification models found to be used by states for certifying personnel to work with young children with delays and disabilities: (a) ECSE, $n = 4$; (b) Special Education, $n = 3$; (c) Blended ECE and ECSE, $n = 5$; (d) ECSE endorsement on special education certification, $n = 3$; and (e) ECSE endorsement on ECE certification, $n = 3$. One state in the sample had 2 separate certification models resulting in a sample of 18 state certification policies.

Instrumentation and Procedures

The content analysis consisted of an item-by-item comparison of the state certification standards and/or competencies to the CEC CC, CEC/DEC ECSE, and NAEYC Standards. These national standards were selected as the national policies for the comparison for several reasons: (a) the CEC and its DEC are the professional organizations for early childhood special educators, (b) the CEC Standards incorporate the standards for special educators and the DEC Standards for early childhood special educators, (c) NAEYC is the professional organization for early childhood educators,

and (d) the CEC and NAEYC Standards are used by NCATE to approve higher education programs preparing early childhood special educators through blended ECE and ECSE models (R. Mainzer, personal communication, October 20, 2011).

The content analysis employed the 2003 versions of the CEC/DEC ECSE and NAEYC Standards (Hyson, 2003). This content analysis was conducted immediately prior to the final validation and publication of the 2010 NAEYC Standards. The standards utilized are similar to the current standards and are organized into the same categories with the exception that NAEYC separated Standard 4 into two separate categories, with one focusing on instructional methods and one on early childhood content (NAEYC, 2010a). Higher education programs are not required to use these standards for accreditation purposes until Fall 2012 (NAEYC, 2010b). Similarly, data were collected and the analysis was completed prior to the validation in 2007 and publication of the current ECSE standards (CEC, 2009). IHEs were not required to use the new ECSE standards until 2010 (K. Shank, personal communication, October 25, 2011).

Two tables were developed for data recording. One table included all CEC CC and ECSE Standards and Knowledge and Skills statements organized by the 10 categories of standards with a column to record if the state standards/competencies addressed an individual CEC CC or ECSE Knowledge and Skills statement. Similarly, a table was developed with all NAEYC Standards and Substandards organized by categories of standards with a column to record if the state standards/competencies addressed an individual NAEYC Substandard.

After individual review of the three sets of national personnel standards, three senior investigators engaged in multiple discussions to determine the decision rule for determining alignment of state standards/competencies with the national personnel standards. A state standard/competency was determined to be aligned with a national personnel standard if the state policy (a) specifically referenced adoption of the national standards in full, (b) used exact wording from the national standards, or (c) worded the state standards/competencies in such a way that the intent of the national standard was evident. State standards were read literally with no interpretation of meaning made by the researchers.

Two senior investigators conducted the policy analysis on three states policies to establish reliability. Interrater reliability is a measure used to examine the agreement between two people (raters/observers) on the assignment of categories of a categorical variable. It is an important measure in determining how well an implementation of some coding or measurement system works.

Thus, 3 of the 18 state policies, 17% of the total sample, were analyzed for reliability purposes (Lombard, Snyder-Duch, & Bracken, 2010) with three different certification models represented: (a) ECSE, (b) ECSE endorsement on special education certification, and (c) Blended ECE and ECSE certification. Overall reliability using percentage of agreement over percentage of disagreement resulted in an 80% reliability coefficient. Another statistical measure of interrater reliability is Cohen's kappa, which ranges generally from 0 to 1.0 where large numbers mean better reliability, and values near or less than zero suggest that agreement is attributable to chance alone. A kappa of 0.494, representing moderate agreement, was obtained for this reliability sample (Smith, Vannest, & Davis, 2011). One senior investigator completed the policy analysis on the remaining 14 state policies.

After completion of the content analysis, charts displaying the results of the document analysis for the relevant sets of national standards (i.e., CEC CC, ECSE, and NAEYC, if relevant) were emailed to the Part B, section 619 coordinators in each respective state. Coordinators were asked to verify the results and submit any questions that they might have regarding the analysis (Denzin & Lincoln, 2011).

Data Analysis

Percentages of standards from the state documents that matched Knowledge and Skills statements (i.e., for CEC and DEC) and Substandards (i.e., for NAEYC) from the national standards were computed by state and by certification model. In addition, data were coded to determine the total number of state policies that had a standard or competency that aligned with each national standard. Only the 15 state policies for which state standards or competencies existed were included in this analysis. This analysis was conducted to provide descriptive information regarding standards that were most and least likely to be addressed by state certification/licensure policies.

Results

First, results are reported for the percentage of items from the state documents that align with the national standards by state and by certification model. Then, data are reported as to which categories of standards were more likely to be included in state policies.

Percentage of CEC Standards Met by States' Policies

The percentage of items in the state documents that match the CEC Standards was computed by state. Three (17%) of the states' policies met or nearly met 100% of the CEC Standards for ECSE. These state certification policies either aligned directly with the CEC Standards or they stipulated in writing that they adopted the CEC Standards. Two (11%) of the states' policies met 56% and 81% of the

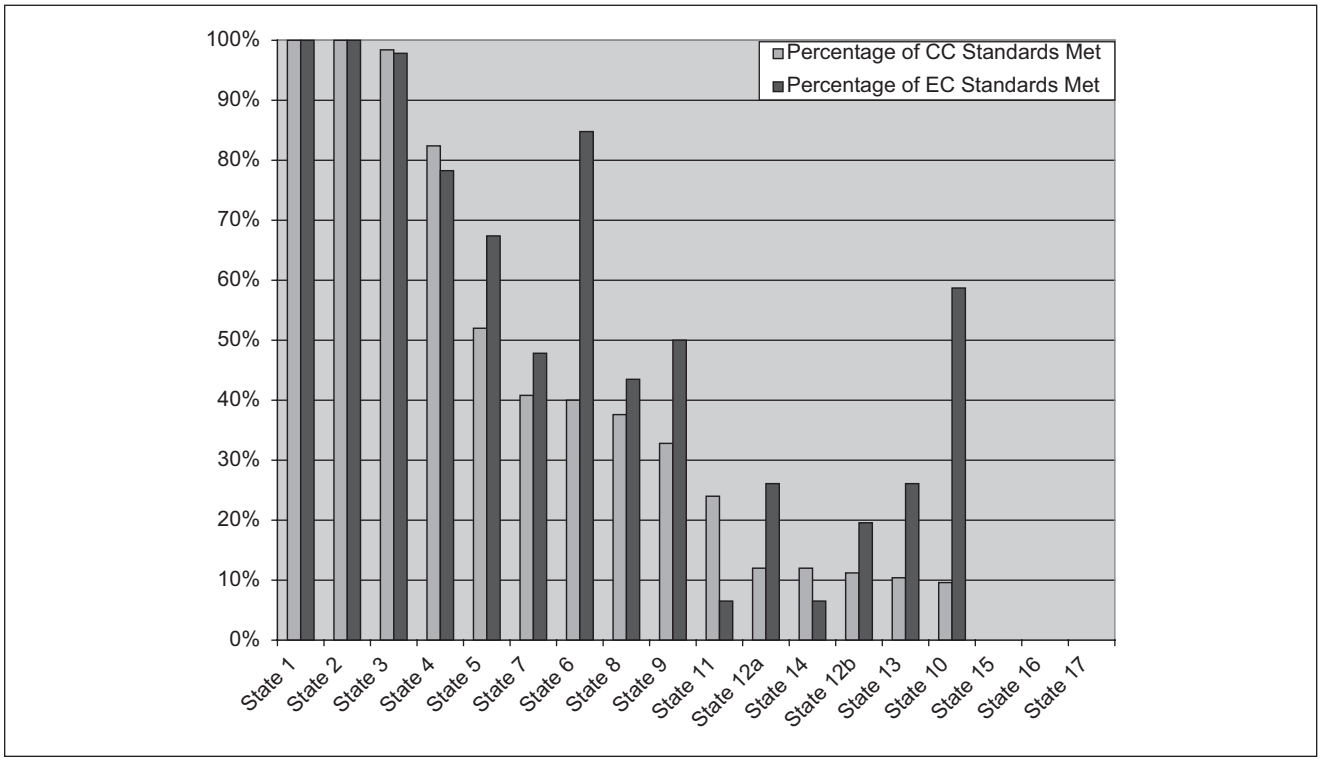

Figure 1. Percentage of CEC common core (CC) and early childhood (EC) standards met by each state.

CEC standards. Thirteen (70%) of the states' policies met 52% or less of the CEC standards. Three state certification policies did not include any standards or competencies and did not reference professional association standards (i.e., CEC CC, ECSE, or NAEYC).

Percentage of CEC CC Versus CEC Early Childhood Standards Met by States' Policies

Within the comparison with the CEC Standards, percentages were computed for state policy standards matching either the CEC CC Standards or the ECSE Standards (see Figure 1). States' ECSE certification policies met a higher percentage of the CEC ECSE standards than the CEC CC standards. Three (17%) of the states' policies met or nearly met 100% of the CEC Standards for ECSE. These state certification policies either aligned directly with the CEC Standards or they stipulated in writing that they adopt the CEC standards. Eight (44%) of the states' policies met or exceeded 50% of the CEC ECSE Standards.

Percentage of CEC Standards Met by States Representing Five Certification Models

Data were compared by certification model(s) used by the states in the sample to determine whether there was a difference in the alignment with national standards depending on the state certification model (see Figure 2). A higher percentage of CEC Standards was met by the policies of the states representing the (a) ECSE endorsement on ECE and (b) ECSE certification models.

Percentage of NAEYC Standards Met by State's Certification Policies

The state certification policies related to ECSE personnel were compared with the NAEYC Standards as well as the CEC standards if the state used two of the five models: Blended ECE and ECSE or ECSE endorsement on ECE. Six state policies (five states including one state with two separate models, resulting in six state policies) were compared with the NAEYC Standards as well as the CEC Standards. Four out of the six policies (66%) met 53% or more of the NAEYC Standards. Two (30%) of the policies met 89% or more of the NAEYC Standards.

Percentage of NAEYC Standards Met by States Representing Two Certification Models

As noted previously, the state policies for two certification models (Blended ECE and ECSE and ECSE endorsement on ECE) were compared with the NAEYC Standards as well as the CEC Standards. Figure 3 displays the percentage of item match with the NAEYC standards by certification

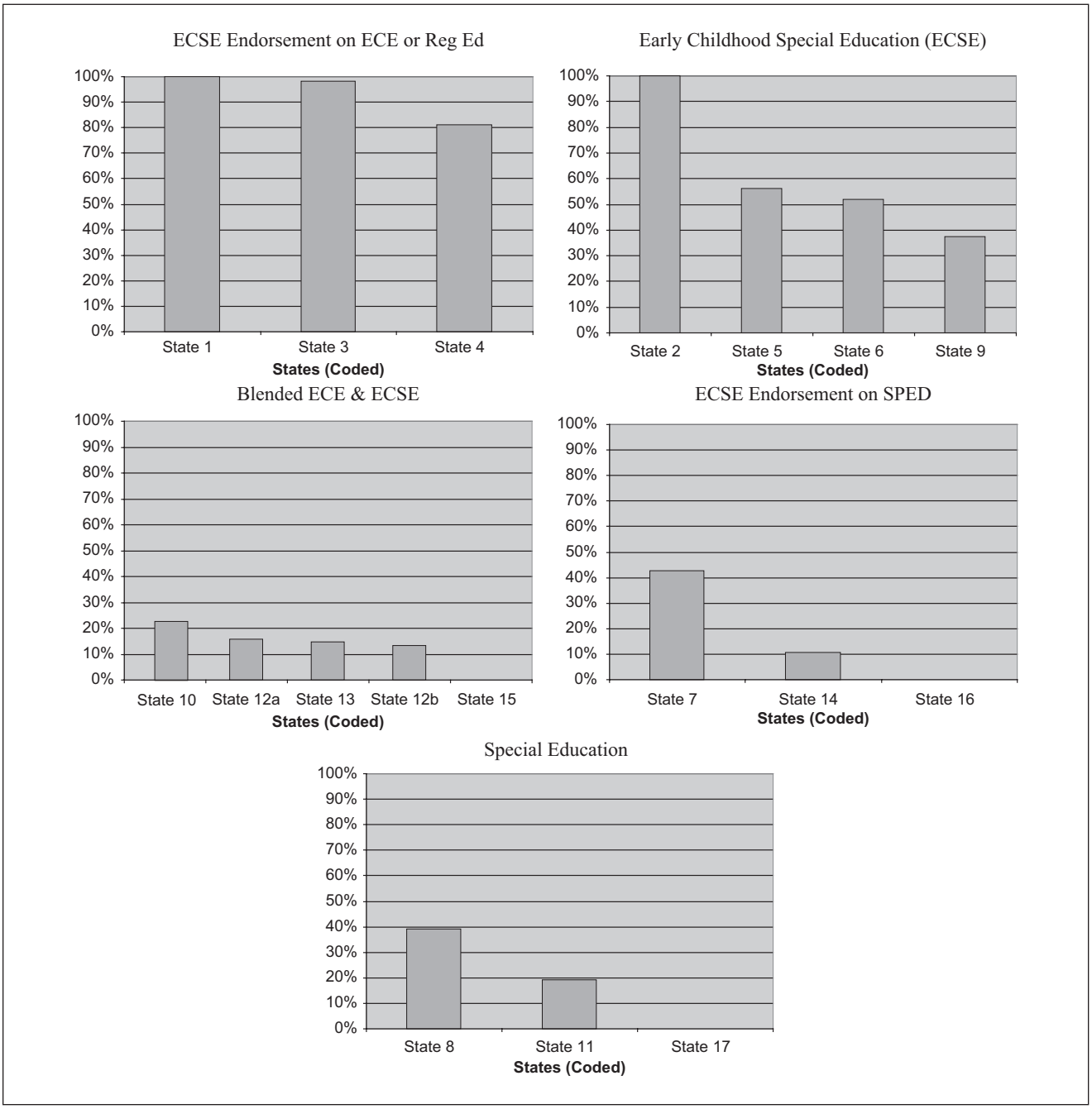

Figure 2. Percentage of CEC standards met by each state (arranged by certification model).
Abbreviations: CEC, Council for Exceptional Children; ECE, Early Childhood Education; Reg Ed, regular education; SPED, special education.

model. One state used the ECSE endorsement on ECE model. Four states (one with two separate certifications) used the Blended ECE and ECSE.

Professional Association Standards Addressed by State Standards

Alignment of individual state standards or competencies with individual CEC CC and CEC/DEC ECSE Knowledge and Skills statements and NAEYC Substandards was determined to identify which categories of standards and individual CEC/DEC Knowledge and Skills or NAEYC Substandards were more likely to be included in state standards or competencies. The total number of states that had a similar standard or competency statement for each CEC CC, CEC/DEC ECSE, or NAEYC Standard was determined. The alignment for the CEC CC and ECSE Standards and Knowledge and Skills was based on 15 sets of state

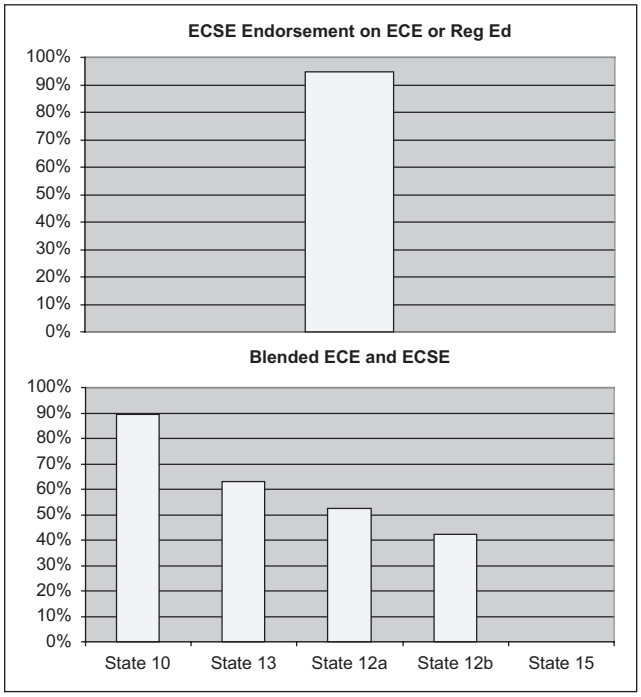

Figure 3. Percentage of NAEYC standards met by each state (arranged by certification model).
Abbreviations: NAEYC, National Association for the Education of Young Children; ECE, Early Childhood Education; ECSE, Early Childhood Special Education.

standards or competencies as three states did not include standards as part of their certification policy. The alignment of state standards with the NAEYC Standards and Substandards was based on five states' certification policies as the other states whose certification should have addressed NAEYC standards did not include standards in their certification policies.

For each of the 10 categories of standards for the CEC CC and the ECSE Standards, the range of states whose standards aligned with individual knowledge and skills statements was (a) Foundations: CC 3 to 12, ECSE 8 to 13; (b) Development and Characteristics of Learners: CC 5 to 12, ECSE 7 to 11; (c) Individual Learning Differences: CC 6 to 8, ECSE 8 (only 1 standard); (d) Instructional Strategies: CC 4 to 11, ECSE 5 to 10; (e) Learning Environments and Social Interactions: CC 4 to 10, ECSE 6 to 12; (f) Language: CC 4 to 8, ECSE 7 (only 1 standard); (g) Instructional Planning: CC 4 to 12, ECSE 6 to 11; (h) Assessment: CC 3 to 13, ECSE 5 to 12; (i) Professional and Ethical Practice: CC 3 to 10, ECSE 5 to 10; and (j) Collaboration: CC 5 to 11, ECSE 5 to 10.

Table 1 delineates the CEC CC and ECSE Standards and Knowledge and Skills that were most likely to align with state standards. The table identifies the specific knowledge and skills statements that were evident in 10 or more of the 15 sets of state standards for both the CEC CC and ECSE Standards and reports the total possible number of Knowledge and Skills per standard for both the CEC CC and ECSE Standards.

Table 2 delineates the CEC CC and ECSE Knowledge and Skills that were least likely to align with state standards. The table identifies the specific knowledge and skills statements that were evident in five or fewer sets of state standards for both the CEC CC and ECSE Standards and reports the total possible number of Knowledge and Skills per standard for the CEC CC and ECSE Standards.

Based on the data reported in Table 1, the CEC CC Knowledge and Skills most likely to be represented in 10 or more sets of state standards were Assessment with 6 of 14 (43%) and Development and Characteristics of Learners with 3 of 7 (43%). Perusal of these data to determine which categories of standards were represented in only 1 to 5 of the state policies indicates that the least likely CEC CC Standards to be represented were as follows: Assessment, Instructional Planning, Learning Environments and Social Interactions, Language, and Professional and Ethical Practice. The percentage of Knowledge and Skills represented in 5 or fewer sets of state standards were as follows, respectively: 50%, 52%, 54%, 67%, and 81%.

The number of CEC/DEC ECSE Knowledge and Skills within the categories of standards is small with only 1 each for Individual Learning Differences and Language and with the largest number in Professional and Ethical Practice ($n = 9$). Therefore, the reader should consider these results with caution. The CEC/DEC ECSE Standards most likely to be represented in state standards were Instructional Planning with 2 of 4 (50%) and Assessment with 3 of 6 (50%) knowledge and skill statements represented in 10 or more state policies. The least likely standard to be represented in state policy was Instructional strategies with only 1 of the 3 knowledge and skill statements represented in 5 or fewer state policies (33%).

For each of the five categories of standards for NAEYC, the range of states whose standards aligned with key elements or Substandards was as follows: (a) Promoting Child Development and Learning = 3 to 4; (b) Building Family and Community Relationships = 3 to 4; (c) Observing, Documenting, and Assessing to Support Young Children and Families = 2 to 5; (d) Teaching and Learning = 2 to 5; and (e) Becoming a Professional = 1 to 5. Table 3 delineates the number of states whose certification policy included a standard for each individual statement within standard category. The NAEYC Standards have such a small number of Substandards per Standard (range of 3 to 5 Substandards) that it does not seem meaningful to discuss the most and least likely Standards to be represented in state policies. All 5 state policies represented in this analysis did address Building Family and Community Relationships Substandard 3b, Teaching and Learning Substandards 4b and 4c, and Becoming a Professional Substandard 5b. Only one state policy addressed Becoming a Professional Substandards 5a and 5d.

Table 1. State Standards Most Likely to Align With CEC Common Core and Early Childhood Special Education Knowledge and Skill Statements

CEC Common Core and Early Childhood Special Education Knowledge and Skill Standards		Number of states with standards in alignment
Standard 1: Foundations (CC *n* = 11, EC *n* = 3)		
CC1K6	Issues, assurances, and due process rights related to assessment, eligibility, and placement within a continuum of services.	12
CC1K7	Family systems and the role of families in the educational process.	11
EC1K3	Law and policies that affect young children, families, and programs for young children.	13
Standard 2: Development and Characteristics of Learners (CC *n* = 7, EC *n* = 6)		
CC2K1	Typical and atypical human growth and development.	11
CC2K2	Educational implications of characteristics of various exceptionalities.	11
CC2K4	Family systems and the role of families in supporting development.	12
EC2K2	Effect of biological and environmental factors on pre-, peri-, and postnatal development.	11
EC2K3	Influence of stress and trauma, protective factors and resilience, and supportive relationships on the social and emotional development of young children.	10
Standard 3: Individual learning differences (CC *n* = 5, EC *n* = 1)		
Standard 4: Instructional strategies (CC *n* = 6, ECSE *n* = 3)		
CC4S3	Select, adapt, and use instructional strategies and materials according to characteristics of the individual with exceptional learning needs.	12
CC4S6	Use strategies that promote successful transitions for individuals with exceptional learning needs.	11
EC4S3	Prepare young children for successful transitions.	10
Standard 5: Learning environments and social interactions (CC *n* = 26, EC *n* = 6)		
CC5S6	Use performance data and information from all stakeholders to make or suggest modifications in learning environments.	10
CC5S10	Use effective and varied behavior management strategies.	10
EC5S3	Design, implement, and evaluate environments to assure developmental and functional appropriateness.	12
Standard 6: Language (CC *n* = 6, EC *n* = 1)		
Standard 7: Instructional planning (CC *n* = 19, EC *n* = 4)		
CC7S13	Make responsive adjustments to instruction based on continual observations.	12
EC7S1	Implement, monitor, and evaluate individualized family service plans and individualized education plans.	11
EC7S4	Implement developmentally and functionally appropriate individual and group activities including play, environmental routines, parent-mediated activities, group projects, cooperative learning, inquiry experiences, and systematic instruction.	10
Standard 8: Assessment (CC *n* = 14, EC *n* = 6)		
CC8K3	Screening, prereferral, referral, and classification procedures.	10
CC8K4	Use and limitations of assessment instruments.	10
CC8S2	Administer nonbiased formal and informal assessments.	11
CC8S5	Interpret information from formal and informal assessments.	10
CC8S6	Use assessment information in making eligibility, program, and placement decisions for individuals with exceptional learning needs, including those from culturally and/or linguistically diverse backgrounds.	13
CC8S8	Evaluate instruction and monitor progress of individuals with exceptional learning needs.	12
EC8S1	Assess the development and learning of young children.	11
EC8S2	Select, adapt, and use specialized formal and informal assessments for infants, young children, and their families.	12
EC8S3	Participate as a team member to integrate assessment results in the development and implementation of individualized family service plans and individualized education plans.	10
Standard 9: Professional and ethical practice (CC *n* = 16, EC *n* = 9)		
CC9S1	Practice within the CEC Code of Ethics and other standards of the profession.	10
EC9S2	Use family theories and principles to guide professional practice.	10
Standard 10: Collaboration (CC *n* = 15, EC *n* = 7)		
CC10K1	Models and strategies of consultation and collaboration.	11
CC10S3	Foster respectful and beneficial relationships between families and professionals.	11
CC10S11	Observe, evaluate, and provide feedback to paraeducators.	10
EC10S5	Establish and maintain positive collaborative relationships with families.	10

Abbreviations: CEC, Council for Exceptional Children; CC, Common Core Knowledge and Skills; EC, Early Childhood Special Education Knowledge and Skills; S, Skills; K, Knowledge; Example: CC1K1 refers to Common Core Standard 1 Knowledge statement 1; n, the total number of CC and EC Knowledge and Skills for each Standard. These data are based on 15 state policies out of the 18 in the sample as 3 states did not have state standards or competencies or reference the CEC common core or ECSE standards.

Table 2. State Standards Least Likely to Align With CEC Common Core and Early Childhood Special Education Knowledge and Skill Statements

CEC Common Core and Early Childhood Special Education Knowledge and Skill Standards		Number of states with standards in alignment
Standard 1: Foundations (CC *n* = 11, EC *n* = 3)		
CC1K3	Relationship of special education to the organization and function of education agencies.	3
CC1K8	Historical points of view and contribution of culturally diverse groups.	4
CC1K9	Impact of the dominant culture on shaping schools and the individuals who study and work in them.	3
CC1S1	Articulate personal philosophy of special education.	5
Standard 2: Development and Characteristics of Learners (CC *n* = 7, EC *n* = 6)		
CC2K5	Similarities and differences of individuals with and without exceptional learning needs.	5
Standard 3: Individual Learning Differences (CC *n* = 5, EC *n* = 1)		
Standard 4: Instructional Strategies (CC *n* = 6, EC *n* = 3)		
CC4S2	Teach individuals to use self-assessment, problem solving, and other cognitive strategies to meet their needs.	4
CC4S4	Use strategies to facilitate maintenance and generalization of skills across learning environments.	5
EC4S1	Use instructional practices based on knowledge of the child, family, community, and the curriculum.	5
Standard 5: Learning Environments and Social Interactions (CC *n* = 26, EC *n* = 6)		
CC5K1	Demands of learning environments.	4
CC5K4	Teacher attitudes and behaviors that influence behavior of individuals with exceptional learning needs.	4
CC5K6	Strategies for crisis prevention and intervention.	4
CC5K7	Strategies for preparing individuals to live harmoniously and productively in a culturally diverse world.	4
CC5K8	Ways to create learning environments that allow individuals to retain and appreciate their own and each others' respective language and cultural heritage.	5
CC5K9	Ways specific cultures are negatively stereotyped.	3
CC5K10	Strategies used by diverse populations to cope with a legacy of former and continuing racism.	3
CC5S4	Design learning environments that encourage active participation in individual and group activities.	5
CC5S5	Modify the learning environments to manage behaviors.	5
CC5S7	Establish and maintain rapport with individuals with and without exceptional learning needs.	4
CC5S8	Teach self-advocacy.	5
CC5S12	Design and manage daily routines.	4
CC5S13	Organize, develop, and sustain learning environments that support positive intracultural and intercultural experiences.	4
CC5S14	Mediate controversial intercultural issues among students within the learning environment in ways that enhance culture, group, or person.	5
Standard 6: Language (CC *n* = 6, EC *n* = 1)		
CC6K2	Characteristics of one's own culture and use of language and the ways in which these can differ from other cultures and uses of languages.	5
CC6K3	Ways of behaving and communicating among cultures that can lead to misinterpretation and misunderstanding.	4
CC6S1	Use strategies to support and enhance communication skills of individuals with exceptional learning needs.	5
CC6K2	Use communication strategies and resources to facilitate understanding of subject matter for students whose primary language is not the dominant language.	5
Standard 7: Instructional Planning (CC *n* = 19, EC *n* = 4)		
CC7K2	Scope and sequences of general and special curricula.	5
CC7K4	Technology for planning and managing the teaching and learning environment.	5

(continued)

Table 2. (continued)

CEC Common Core and Early Childhood Special Education Knowledge and Skill Standards		Number of states with standards in alignment
CC7S5	Use task analysis.	5
CC7S6	Sequence, implement, and evaluate individualized learning objectives.	6
CC7S7	Integrate affective, social, and life skills with academic curricula.	5
CC7S8	Develop and select instructional content, resources, and strategies that respond to cultural linguistic, and gender differences.	5
CC7S10	Prepare lesson plans.	4
CC7S11	Prepare and organize materials to implement daily lesson plans.	4
CC7S12	Use instructional time effectively.	4
CC7S14	Prepare individuals to exhibit self-enhancing behavior in response to societal attitudes and actions.	4
Standard 8: Assessment (CC *n* = 14, EC *n* = 6)		
CC8K1	Basic terminology used in assessment.	5
CC8K5	National, state or provincial, and local accommodations and modifications.	3
CC8S1	Gather relevant background information.	4
CC8S3	Use technology to conduct assessments.	4
CC8S4	Develop or modify individualized assessment strategies.	4
CC8S8	Evaluate instruction and monitor progress of individuals with exceptional learning needs.	12
CC8S9	Create and maintain records.	5
EC8S6	Evaluate services with families.	5
Standard 9: Professional and Ethical Practice (CC *n* = 16, EC *n* = 9)		
CC9K1	Personal cultural biases and differences that affect one's teaching.	4
CC9K2	Importance of the teacher serving as model for individuals with exceptional learning needs.	4
CC9K3	Continuum of lifelong professional development.	4
CC9K4	Methods to remain current regarding research-validated practice.	6
EC9K1	Organizations and publications relevant to the field of early childhood special education.	6
CC9S2	Uphold high standards of competence and integrity and exercise sound judgment in the practice of the professional.	5
CC9S3	Act ethically in advocating for appropriate services.	5
CC9S4	Conduct professional activities in compliance with applicable laws and policies.	6
CC9S5	Demonstrate commitment to developing the highest education and quality-of-life potential of individuals with exceptional learning needs.	4
CC9S6	Demonstrate sensitivity for the culture, language, religion, gender, disability, socioeconomic status, and sexual orientation of individuals.	5
CC9S7	Practice within one's skill limit and obtain assistance as needed.	4
CC9S8	Use verbal, nonverbal, and written language effectively.	4
CC9S10	Access information on exceptionalities.	4
CC9S12	Engage in professional activities that benefit individuals with exceptional learning needs, their families, and one's colleagues.	3
EC9S6	Participate in activities of professional organizations relevant to the field or early childhood special education.	5
Standard 10: Collaboration (CC *n* = 15, EC *n* = 7)		
EC10K1	Dynamics of team building, problem solving, and conflict resolution.	5
CC10S1	Maintain confidential communication about individuals with exceptional learning needs.	5

Abbreviations: CEC, Council for Exceptional Children; CC, Common Core Knowledge and Skills; EC, Early Childhood Special Education Knowledge and Skills; S, skills; K, knowledge; Example: CC1K3 refers to Common Core Standard 1 Knowledge statement 3; n, the total number of CC and EC Knowledge and Skills for each Standard. These data are based on 15 state policies out of the 18 in the sample as 3 states did not have state standards or competencies or reference the CEC Common Core or ECSE standards.

Table 3. State Standards Alignment With NAEYC Standards

NAEYC Standards and Substandards	Number of states with standards in alignment
Standard 1: Foundations ($n = 3$)	
1.a. Knowing and understanding young children's characteristics and needs.	4
1.b. Knowing and understanding the multiple influences on development and learning.	4
1.c. Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments.	3
Standard 2: Building Family and Community Relationship ($n = 3$)	
2.a. Knowing about and understanding family and community characteristics.	3
2.b. Supporting and empowering families and communities through respectful, reciprocal relationship.	4
2.c. Involving families and communities in their children's development and learning.	4
Standard 3: Observing, Documenting, and Assessing to Support Young Children and Families ($n = 4$)	
3.a. Understanding the goals, benefits, and uses of assessment.	3
3.b. Knowing about and using observation, documentation and other appropriate assessment tools and approaches.	5
3.c. Understanding and practicing responsible assessment.	2
3.d. Knowing about assessment partnerships with families and other professionals.	3
Standard 4: Teaching and Learning ($n = 4$)	
4.a. Knowing, understanding, and using positive relationships and supportive interactions.	2
4.b. Knowing, understanding, and using effective approaches, strategies, and tools for early education.	5
4.c. Knowing and understanding the importance, central concepts, inquiry tools, and structures of content areas or academic disciplines.	5
4.d. Using own knowledge and other resources to design implement, and evaluate meaningful, challenging curriculum to promote positive outcomes.	3
Standard 5: Becoming a Professional ($n = 5$)	
5.a. Identifying and involving oneself with the early childhood field.	1
5.b. Knowing about and upholding ethical standards and other professional guidelines.	5
5.c. Engaging in continuous, collaborative learning to inform practice.	3
5.d. Integrating knowledgeable, reflective, and critical perspectives on early education.	1
5.e. Engaging in informed advocacy for children and the profession.	3

Abbreviation: NAEYC, National Association for the Education of Young Children.

Discussion

Comparison of State Standards With National Standards

Although previous research has suggested that state special education and ECSE certification requirements were based, at least in part, on national standards (Geiger, Crutchfield, & Mainzer, 2003; Stayton et al., 2008), this content analysis as opposed to the self-report data indicated that there was limited use of national standards in state certification requirements for ECSE. In fact, this study found that only 4 of the 18 examined state policies reflected 80% or more of national standards. Although some states used national standards in their certification documents (or referred to them), other states developed their own standards using national standards and other resources. Three of the states represented in this analysis did not even have any standards or competencies, and they did not refer to professional association standards.

State standards seem to be lacking in specificity in wording as compared with the language used in the national standards. This can create ambiguity when trying to interpret the origin and validity of state certification requirements. For example, in one state, two of the ECSE competencies specific to Instructional Strategies were worded as "developmentally appropriate practice" and "developmentally appropriate play" with no elaboration of meaning. Another state had a total of 10 generally stated competencies for ECSE and as an example, the one that seemed to relate to the CEC/DEC ECSE Development and Characteristics of Learners standard supported by six knowledge and skill statements was worded as "knowledge of child development from conception to age 8." The investigators found this lack of specificity in wording when comparing state standards with the CEC and NAEYC standards. Inconsistency was also noted across states in wording and requirements specific to ECE and ECSE. An implication of this finding is the confusion created when attempting to

create and facilitate reciprocal policies and practices across state lines. Furthermore, both of these findings create challenges for those attempting to prepare students to meet state ECSE certification requirements in higher education programs.

Another finding of this study was the difficulty encountered when attempting to identify and access the necessary documents related to ECSE certification. This task was very time-consuming and confusing, even when attempting to navigate states' websites. Locating the state's requirements took several days with needed verification from officials that the accurate documents had been located. This difficulty in determining what is required for an ECSE certificate has implications for prospective ECSE teacher recruits as well as the higher education programs preparing ECSE personnel because state certification requirements provide guidance to higher education curriculum development (CEC, 2009; Hyson, 2003).

However, university ECSE curricula do not seem to reflect professional association standards to the extent advocated by professional associations and accrediting bodies. In an attempt to determine the extent to which universities base their curricula on professional association standards (Center to Inform Personnel Preparation Policy and Practice in Early Intervention and Preschool Education, 2008b), documents from 15 IHE programs representing the 5 ECSE certification models were analyzed to determine the percentage of CEC CC and CEC/DEC Knowledge and Skills, as well as NAEYC Substandards, if relevant, represented in the program curricula. The percentage of representation of standards was higher for university curricula than for state policies with the range for the CEC CC and ECSE Knowledge and Skills being 33% to 93% and 21% to 98%, respectively, for an average percentage of 65% and 54%, respectively. The range for the NAEYC Substandards was 84% to 100% with an average percentage of 94%. Considering that all 50 states have partnership agreements with NCATE (NCATE, 2011) and that as such, professional association standards serve as the basis for state certification policies and higher education curricula, it seems that there is a disconnect in the application of professional association standards in state policies and university curricula.

Professional Association Standards Addressed by State Standards

Data were also analyzed to determine which CEC CC, CEC/DEC ECSE, and NAEYC Standards and Knowledge and Skills or Substandards were most and least likely to be included in state standards. The CEC CC Knowledge and Skills most likely to be represented in state standards were Assessment with 6 of 14 (43%) and Development and Characteristics of Learners with 3 of 7 knowledge and skill statements represented in 10 or more state policies. The least likely CEC CC Standards to be represented were Assessment, Instructional Planning, Learning Environments and Social Interactions, Language, and Professional and Ethical Practice. It is interesting to note that the assessment standard had 43% of the knowledge and skill statements represented in 10 or more state policies, with only 50% of the knowledge and skill statements included in 5 or fewer state policies.

The number of CEC/DEC ECSE Knowledge and Skills within the categories of standards is small with only 1 each for Individual Learning Differences and Language and with the largest number in Professional and Ethical Practice (n = 9). The CEC/DEC ECSE Standards most likely to be represented in state standards were Instructional Planning with 2 of 4 (50%) and Assessment with 3 of 6 (50%) knowledge and skill statements represented in 10 or more state policies. The least likely standard to be represented in state policy was Instructional strategies with only 1 of 3 knowledge and skills statements represented in 5 or fewer state policies (33%).

The NAEYC Standards have such a small number of Substandards per standard (range of 3 to 5 Substandards) that discussion of most and least likely standards to be represented in state policies may not be very meaningful. All five state policies represented in this analysis did address Building Family and Community Relationships Substandard 3b, Teaching and Learning Substandards 4b and 4c, and Becoming a Professional Substandard 5b. Only 1 state policy addressed Becoming a Professional Substandards 5a and 5d.

Limitations of the Study

The content analysis was based on only 18 sets of state certification standards. However, comparison of the state standards to professional association standards was a time intensive process. The standards employed for this analysis were determined by a purposeful sample representing each of five certification models, with states randomly selected within each of the certification model categories. It is unknown whether a larger sample would have yielded similar or different results.

The content analysis employed the 2003 version of the NAEYC Standards as the analysis was conducted immediately prior to the final validation and publication of the 2010 NAEYC Standards that do not have to be used by states or IHEs until fall 2012. The standards utilized are similar to the current standards and are organized into the same categories with the exception that NAEYC separated one of its categories into two separate categories. Likewise, the 2003 version of the CEC/DEC ECSE Standards was employed in this analysis. The ECSE Standards validated and approved by CEC in 2007 did not have to be used by states or IHEs until 2010. Based on communication with

state Part B, section 619 staff and certification officers, it is evident that revision of state certification policies is a lengthy process and the timetable for revision of state standards does not coincide with professional association modification of standards.

Last, the data discussed previously should be viewed as exploratory. Additional research is needed to determine the extent to which individual knowledge and skill statements are included within state certification policies as national standards and state policies are revised. This line of research is both time and cost intensive, yet researchers are encouraged to conduct content analysis comparisons of national and state standards on an ongoing basis.

Implications for State Policy

As a follow-up to this study, a facilitated Think Tank was held with 15 individuals from 12 states meeting to discuss challenges and recommendations to ensure a well-qualified workforce based on the study's findings (Center to Inform Personnel Preparation Policy and Practice in Early Intervention and Preschool Education, 2008). Participants included the Part B, section 619 coordinators from each state. Three of the five challenges identified by those participants for insuring a well-qualified ECSE workforce as required by state certification are relevant to this discussion. The first challenge referred to the multiple models of personnel preparation (e.g., dual ECE and ECSE programs, dual ECSE and special education programs, K–12 special education only) and certification in ECSE. To address this challenge, participants recommended that (a) a process for aligning multiple models using "standardized" national standards be developed and (b) state crosswalks of standards be developed to promote reciprocity across states. The second challenge identified the need to involve key stakeholders with expertise in ECSE in the development and implementation of certification. The related recommendations were to (a) educate stakeholders about the certification process and their roles in the process and (b) involve ECE/ECSE experts, including state agency representatives, in defining certification standards. The third challenge specified a lack of data to facilitate systems change, with the recommendation that states develop evaluation systems based on national standards to evaluate the performance of personnel who provide ECSE services.

Implications for Professional Associations

For approximately two decades, professional associations have developed and disseminated national standards for the purpose of providing guidance for the development of states' certification policies. Associations have developed resources to assist states in integrating the standards into their certification policies (CEC, 2009; Hyson, 2003). For example, CEC established a task force to identify specific strategies to facilitate the dissemination and application of its CEC CC and specialization standards. Based on the results of this analysis, professional associations need to do more. Specific suggestions/implications for associations are as follows: (a) become familiar with state certification systems and political contexts (e.g., regulatory cycles, renewal cycles for certification, accreditation) to support states in the development of certification policies based on national standards; (b) provide resources, tool kits, and so on to assist state advocates in promoting change; (c) link states with resources that support their adoption of national standards; (d) develop a political action plan with strategies to facilitate adoption of national standards at the state level; (e) collaborate with states to embed standards in personnel performance evaluation systems; and (f) collaborate across associations to develop strategies to promote sustainability of standards and related policies.

Implications for Further Research

Minimal research has been conducted regarding the implementation of state ECSE certification requirements and integration of state and national standards into ECSE personnel preparation curricula. It is recommended that future research in this area investigate the following: (a) the barriers and facilitators for adoption of national standards by state certification agencies, including how proposed revisions to national standards are addressed; (b) the extent to which higher education curricula is based on national standards; (c) the perception of graduates of higher education programs as to the extent that their preparation was based on state and national standards; and (d) the effect that national personnel standards and state ECSE certification requirements has on improving child and family outcomes for those children and families who receive Part B, section 619 services from a certified ECSE teacher.

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