

# Teaching the Teachers of Our Youngest Children

The State of Early Childhood Higher  
Education in Tennessee

**Narrative Report**

Bethany Edwards, Abby Copeman Petig,  
Lea J.E. Austin, & Elena Montoya

2018

Center for the Study of Child Care Employment  
Institute for Research on Labor and Employment  
University of California, Berkeley



# Teaching the Teachers of Our Youngest Children

## The State of Early Childhood Higher Education in Tennessee

© 2018 Center for the Study of Child Care Employment. All rights reserved.

### Suggested Citation:

Edwards, B., Copeman Petig, A., Austin, L.J.E., & Montoya, E. (2018). *Teaching the Teachers of Our Youngest Children: The State of Early Childhood Higher Education in Tennessee*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley.

Center for the Study of Child Care Employment  
Institute for Research on Labor and Employment  
University of California, Berkeley  
2521 Channing Way #5555  
Berkeley, CA 94720  
(510) 643-8293  
<http://cscce.berkeley.edu/>

The Center for the Study of Child Care Employment (CSCCE) was founded in 1999 to focus on achieving comprehensive public investments that enable and reward the early childhood workforce to deliver high-quality care and education for all children. To achieve this goal, CSCCE conducts cutting-edge research and proposes policy solutions aimed at improving how our nation prepares, supports, and rewards the early care and education workforce to ensure young children's optimal development.

### Acknowledgements

*Teaching the Teachers of Our Youngest Children: The State of Early Childhood Higher Education in Tennessee* was funded by the Bill & Melinda Gates Foundation.

Special thanks to the program leads and faculty members who gave generously of their time to participate in the *Tennessee Early Childhood Higher Education Inventory*.

Additional thanks to the Tennessee Office of Early Learning, the Tennessee Commission on Children and Youth, the Tennessee Early Childhood Training Alliance, and staff at Middle Tennessee State University for providing expertise and sharing knowledge about Tennessee's early childhood system.

We are also grateful to Lisa Qing for her assistance in preparing this report.

The views presented in this report are those of the authors.

Editor: Deborah Meacham

# Table of Contents

<b>Introduction</b>	1
<b>The Early Childhood Higher Education Landscape in Tennessee</b>	4
<b>Findings</b>	7
Part 1. Early Childhood Higher Education, Mapping the Scene	7
Finding One: Program Offerings	8
Finding Two: Field-Based Learning Experiences	15
Finding Three: Portrait of Faculty	20
Finding Four: Faculty Perspectives and Expertise	26
Finding Five: Supporting Students	32
Finding Six: Program Challenges	35
Part 2. Early Childhood Higher Education, An Evolving Landscape	37
Finding Seven: Family Engagement	37
Finding Eight: Early Mathematics	42
Finding Nine: Dual Language Learners	46
<b>Discussion and Recommendations</b>	52
<b>Concluding Thoughts</b>	57
<b>References</b>	58

# List of Tables

- Table 1. Tennessee Minimum Education Requirements for Select Roles
- Table 2. List of Domains and Topics of Course Content Included in the Tennessee Inventory
- Table 3. Number and Mean Hours of Practica Required by Programs Participating in the Tennessee Inventory
- Table 4. List of Family Engagement Topics Included in the Tennessee Inventory
- Table 5. List of Early Mathematics Topics Included in the Tennessee Inventory
- Table 6. List of Early Mathematics Professional Development Topics Included in the Tennessee Inventory
- Table 7. List of Topics Related to Teaching Young Dual Language Learners (DLLs) Included in the Tennessee Inventory

# List of Figures

- Figure 1. Primary Goal of Tennessee Early Childhood Degree Programs, by Degree Level
- Figure 2. Required Coursework Related to Child Development and Learning, by Degree Level
- Figure 3. Child Development Theory and Its Relationship to Teaching: Required Age-Group Focus of Programs Participating in the Tennessee Inventory, by Degree Level
- Figure 4. Field Experiences Required in Tennessee Early Childhood Degree Programs, by Degree Level
- Figure 5. Required Age-Group Focus in Practicum Experiences
- Figure 6. Select Practices Required for Students in Their Practicum Experiences
- Figure 7. Race/Ethnicity of Faculty Members Participating in the Tennessee Inventory, by Degree Level
- Figure 8. Age of Faculty Members Participating in the Tennessee Inventory, by Degree Level
- Figure 9. Age-Group Focus of Select Job Roles in Past 10 Years
- Figure 10. Importance of Including “Understanding the Components and Sequence of Literacy Development” in Teacher Preparation Programs: Percentage of Faculty Members Reporting “Very Important,” by Age Group and Degree Level
- Figure 11. Recent Teaching Experience: Percentage of Faculty Members Reporting Having Taught Content Area in Past Two Years, by Degree Level
- Figure 12. Interest in Professional Development Related to Diverse Child Populations Reported by Faculty Members Participating in the Tennessee Inventory: Percentage Reporting “Very Interested,” by Degree Level
- Figure 13. Program-Related Challenges Reported by Faculty Members Participating in the Tennessee Inventory
- Figure 14. Working With Families to Enhance Children’s Learning at Home: Required Age-Group Focus of Programs Participating in the Tennessee Inventory, by Degree Level
- Figure 15. Interest in Professional Development Related to Family Engagement Reported by Faculty Members Participating in the Tennessee Inventory: Percentage Reporting “Very Interested,” by Degree Level
- Figure 16. Building on Children’s Natural Interest in Mathematics: Capacity to Prepare Teachers to Work With Children of Various Ages, as Reported by Faculty Members Participating in the Tennessee Inventory, by Degree Level

Figure 17. Strategies to Support the Literacy Development of Young Dual Language Learners: Required Age-Group Focus of Programs Participating in the Tennessee Inventory, by Degree Level

Figure 18. Capacity to Prepare Teachers to Support and Promote Children's Development, as Reported by Faculty Members Participating in the Tennessee Inventory, by Degree Level

Figure 19. Interest in Professional Development Related to Dual Language Learners (DLLs) Reported by Faculty Members Participating in the Tennessee Inventory: Percentage Reporting "Very Interested," by Degree Level

# Introduction

The importance of early care and education (ECE) to children’s lifelong learning and to our nation’s economic well-being is recognized up to the highest levels of government and in businesses, schools, and living rooms across the country. This understanding represents a dramatic shift from earlier decades and carries with it heightened expectations for what teachers of young children should know and be able to do (Whitebook, Phillips, & Howes, 2014), especially in light of mounting evidence about inadequate and unequal educational quality for many children, particularly those of color and those living in low-income families (Hernandez, 2011; Karoly, 2009; Yoshikawa et al., 2013).

As noted in the *Early Childhood Workforce Index* (Whitebook, McLean, & Austin, 2016), progress toward an equitable, efficient, and effective early childhood system requires advancing preparation, workplace supports, and compensation of the workforce simultaneously. Adequate preparation for teachers, workplace supports that allow for ongoing reflection and development, and appropriate compensation are all variables that are necessary to attract and retain a skilled workforce. Making progress in each of these three areas additionally requires building solid foundations for these policies by securing sufficient financial resources and collecting quality, comprehensive workforce data. Further sources of public funding are needed to stimulate the incubation and testing of sustainable policies to resolve compensation and other issues that have gone largely unaddressed. Data on the early childhood workforce, across all settings and ages of children, must be collected in order to test the effectiveness of policies for preparation, support, and reward. All five ingredients are essential — each one individually cannot advance effectively without the others — but quality data and sufficient resources are fundamental.

The *Early Childhood Higher Education Inventory II* (CSCCE, 2016) is an effort designed to collect baseline data and inform the workforce preparation aspect of quality early childhood education. The *Inventory* is a research tool used to describe the landscape of a state’s early childhood degree program offerings at the associate, bachelor’s, and graduate degree levels and to provide a portrait of early childhood higher education faculty members.<sup>1</sup> The *Inventory* describes early childhood degree programs offered in the state, focusing on variations in program content, age-group focus, student field-based learning, and faculty characteristics (see **Box 1** for a description of *Inventory* methodology).

Through research, observation, and experience, we know that early educators play a central and critical role in the development and learning of infants, toddlers, and preschool-age children. In 2015, the Institute of Medicine and the National Research Council of the National Academies of Sciences, Engineering, and Medicine asserted that teaching young children requires knowledge and skills just as complex as those required to teach older children and issued several recommendations to strengthen professional preparation standards for early childhood practitioners and the institutions responsible for their preparation and ongoing learning. *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation* (Institute of Medicine [IOM] & National Research Council [NRC], 2015) includes among its

---

<sup>1</sup> Tennessee is one of 13 states (along with Arkansas, California, Florida, Indiana, Mississippi, Nebraska, New Hampshire, New Jersey, New York, Oregon, Rhode Island, and Washington) in which the *Inventory* has been completed at the time of publication of this report.

recommendations: 1) the strengthening of competency-based qualifications for all early educators and transition to a minimum requirement of a bachelor's degree, with specialized knowledge and competencies, for all lead teachers working with children from birth to age eight; and 2) the development and enhancement of interdisciplinary higher education programs for ECE professionals, including practice-based and supervised learning opportunities.

In addition, the IOM/NRC report documented the need to strengthen early educator competencies along multiple dimensions, including mathematics, family engagement, and support for dual language learners (IOM & NRC, 2015). While the link between young children's math competency and later school success has been demonstrated in recent research, there is concern that institutions of higher education are not adequately preparing teachers of young children to assess or facilitate children's mathematical understanding and skills (Ryan, Whitebook, & Cassidy, 2014). Additionally, given research evidence that family involvement in children's learning at home and at school contributes to school success (Dearing & Tang, 2010; Reynolds & Shlafer, 2010), we were interested in learning the extent to which early childhood degree programs are addressing the topic of engaging with families to enhance children's learning. A series of questions developed for the *Inventory* focuses specifically on these issues, with particular attention to program content and faculty attitudes. Finally, while many teachers of young children are monolingual (speaking only English), census data indicate that nationally more than one-quarter of children under age six speak more than one language (Capps, Fix, Ost, Reardon-Anderson, & Passel, 2004). In light of this reality, the *Inventory* examines the capacity of early childhood degree programs to prepare their students to teach dual language learners.

Teacher preparation in the field of ECE has historically included a variety of higher education degree programs in various child-related disciplines, all of which have generally been considered equally acceptable. Too often, these highly diverse degree programs are assumed to produce equivalent results (Maxwell, Lim, & Early, 2006; Whitebook et al., 2012). In contrast, programs to prepare teachers and administrators to work with older children reflect far greater uniformity and stringency related to specific preparation standards and certification requirements. In recent years, however, rising expectations about the knowledge and skills that early childhood practitioners need to work effectively with young children before kindergarten, along with the introduction of new ECE programs and standards, have led many stakeholders to question whether the current array of early childhood-related degree programs can be assumed to produce equivalent results.

Tennessee is home to more than 463,000 children under the age of six. Sixty-three percent of these young children have all available parents in the workforce and, thus, potentially need child care (Annie E. Casey Foundation, 2016). Stakeholders and advocates in Tennessee remain committed to advancing strategies that improve ECE services, including workforce preparation and development in order to ensure that early educators have what they need to meet the complex needs of young children. Critical to these efforts is the establishment of a well-coordinated, comprehensive professional preparation and development system that can prepare and support an incoming generation of educators, while also strengthening the skills of the existing early education workforce. Institutions of higher education are crucial to meeting the evolving and increasing demands identified as improving developmental and learning outcomes for the state's young child population.

The *Inventory* was implemented in Tennessee during the 2017-2018 academic year. The totality of the data collected through the *Inventory* allows stakeholders to identify gaps and opportunities in the available offerings and to assess the capacity of the state's higher education system over time. This report

summarizes major findings collected through program and faculty modules of the *Inventory* (CSCCE, 2016) and provides recommendations for policy changes that could lead to more effective teacher practices to support children's learning. An accompanying technical report presents more detailed findings.

# The Early Childhood Higher Education Landscape in Tennessee

A network of 11 community colleges and 23 public and private universities offers an array of early childhood degree programs, serving prospective and current early childhood practitioners across the state.<sup>2</sup> This network of higher education institutions offers 26 associate degree programs, 41 bachelor's degree programs, 22 master's degree programs, and four doctoral degree programs. In the current study, two-thirds (67 percent) of both associate and bachelor's degree programs as well as a majority (60 percent) of graduate degree programs reported serving a mix of those already working in the ECE field and more traditional pre-service students.

The *Inventory* findings are presented in two sections. The first section, "Early Childhood Higher Education, Mapping the Scene," examines the extent to which Tennessee early childhood degree programs:

- Offer the knowledge, skills, and experiences associated with effective teaching practice and program leadership;
- Have a faculty workforce prepared to provide early childhood practitioners with the necessary knowledge and skills associated with effective teaching practice and program leadership; and
- Have the resources to support student and faculty success.

The second section of this report, "Early Childhood Higher Education, An Evolving Landscape," examines how these institutions of higher education are adapting to emerging knowledge about children's learning and development. Specifically, the report explores the extent to which Tennessee early childhood degree programs have incorporated recent findings related to the importance of:

- Promoting early mathematical understanding;
- Engaging families to support young children's optimal development, learning, and school success; and
- Teaching young dual language learners.

---

<sup>2</sup> The colleges and universities that participated in the *Inventory* estimated that during the 2015-2016 academic year, 1,066 students were registered in associate degree programs, 641 students were registered in bachelor's degree programs, and 102 students were registered in graduate degree programs. These same colleges and universities estimated that during this same time period, they conferred 78 associate degrees, 192 bachelor's degrees, and 20 graduate degrees.

## Box 1. Study Design

During the 2017-2018 academic year, researchers from CSCCE implemented the *Early Childhood Higher Education Inventory II*, which consists of three modules: a mapping of the population of higher education programs within a state; an online program survey completed by the degree program lead (e.g., dean, chair, or coordinator); and an online faculty survey completed by individual faculty members. The program findings reported here are drawn from a final sample of 15 associate and 15 bachelor's degree programs.<sup>3</sup>

The faculty findings are drawn from a final sample of 14 community college faculty members and 31 university faculty members.

See the Technical Report for a detailed description of the methods of this study, including the sampling frame and selection, field procedures, response rate, and survey questions, along with detailed findings from the *Inventory*.

---

<sup>3</sup> Data were also collected from nine master's degree programs and one doctoral degree program in Tennessee specifically identified as early childhood education. As data for these graduate programs cannot be de-identified, program data collected for these early childhood degree programs are not included in this report.

# Distribution of Tennessee Early Childhood Degree Programs



**Legend:**

- No Early Childhood Degree Program
- Associate
- Bachelor's
- Associate and Bachelor's
- Bachelor's and Graduate
- Associate, Bachelor's, and Graduate

# Part 1: Early Childhood Higher Education, Mapping the Scene

*This section of the report examines program offerings, faculty characteristics, student supports, and institutional challenges.*

## What we asked about program goals, course content, and age-group focus:

Program leads participating in the *Inventory* (e.g., deans, coordinators) were asked to indicate the primary goal of their degree program(s) from among five options:

1. To prepare students for teaching and/or administrative roles in early childhood education settings *only*;
2. To prepare students for teaching and/or administrative roles in early childhood *and* elementary education settings;
3. To prepare students for the role of early interventionist or early childhood special educator;
4. To prepare students for multiple roles involving young children, working in many types of settings; or
5. To prepare students for a career as a researcher or a college-level faculty member.

Program leads were also asked to identify course content topics for the degree related to:

1. Child development and learning;
2. Teaching, with three primary categories:
  - Teaching diverse child populations;
  - Teaching and curriculum; and
  - Teaching skills in early childhood settings; and
3. Administration and leadership.

For the child development and learning domain as well as the teaching domains, respondents were asked to indicate whether a series of specific topics were required and, if so, the specific age-group or grade-level focus of each topic. For the leadership and administration domain, respondents were asked to identify course content topics offered to students in the degree program (see **Table 2**).

Program leads were also asked what standards or competencies degree programs incorporated into their coursework.

**FINDING ONE: PROGRAM OFFERINGS**  
Goals, Course Content, and Age-Group Focus

*Most Tennessee early childhood degree programs identify their primary goal as teacher preparation across early childhood and elementary school settings. While these programs offer a range of topics related to child*

*development and approaches to teaching, the age-group focus varied, depending on degree level. Associate degree programs were equally likely to require a focus on all age groups, birth through elementary school, while bachelor's degree programs were more likely to focus on elementary school children. Availability of content related to administration and leadership is inconsistent across degree levels.*

Like most states across the country, education requirements in Tennessee for those administering or teaching in early care and education programs vary and depend more on the program's funding source than children's developmental needs (Whitebook et al., 2016). In Tennessee, there are different requirements for those teaching in group child care homes, family child care homes, child care centers, and state and federally sponsored preschools (see **Table 1**).<sup>4</sup> Such divergent qualifications disadvantage educators across Tennessee's ECE field as well as children who may have teachers with vastly different experience and qualifications, depending on the setting in which they receive care and education services.

**Table 1. Tennessee Minimum Education Requirements for Select Roles**

Type of Program	Role	Minimum Education Requirements
Family child care homes	Primary caregiver	No secondary or post-secondary educational requirements
Group child care homes	Primary caregiver	High school diploma or equivalent
Child care center	Caregiver	No secondary or post-secondary educational requirements*
Head Start	Lead teacher	Associate degree in child development or early childhood education
Public preschool	Lead teacher	Bachelor's degree from approved educator preparation program

\*One caregiver per group must have a high school diploma or equivalent.

Sources: Tennessee Department of Human Services. Child Care Laws, Rules, Guidelines & Policies (Public Chapter 1070). <https://www.tn.gov/humanservices/for-families/child-care-services/child-care-laws-rules-guidelines-policies-public-chapter-1070.html>; Tennessee Department of Education. Educator Licensure & Preparation. <https://www.tn.gov/education/licensing.html>; U.S. Department of Health & Human Services. Head Start Program Performance Standards. <https://eclkc.ohs.acf.hhs.gov/policy/showcase/staff-qualifications>.

It is likely, however, that many early childhood teaching staff in Tennessee mirror their counterparts nationally and possess higher levels of education and training than may be required (Whitebook et al., 2016). Additionally, state and local initiatives may encourage and support many professionals in the ECE workforce to pursue further college-level education. The Report Card and Rated Licensing System, Tennessee's statewide Quality Rating and Improvement System (QRIS), requires higher levels of staff education to achieve higher ratings.<sup>5</sup>

<sup>4</sup> Family child care homes are licensed to serve five to seven children, and group child care homes are licensed to serve eight to 12 children.

<sup>5</sup> QRIS standards are published by the Tennessee Department of Human Services. Find more information at <https://www.tn.gov/humanservices/for-families/child-care-services/child-care-report-card-star-quality-program.html>.

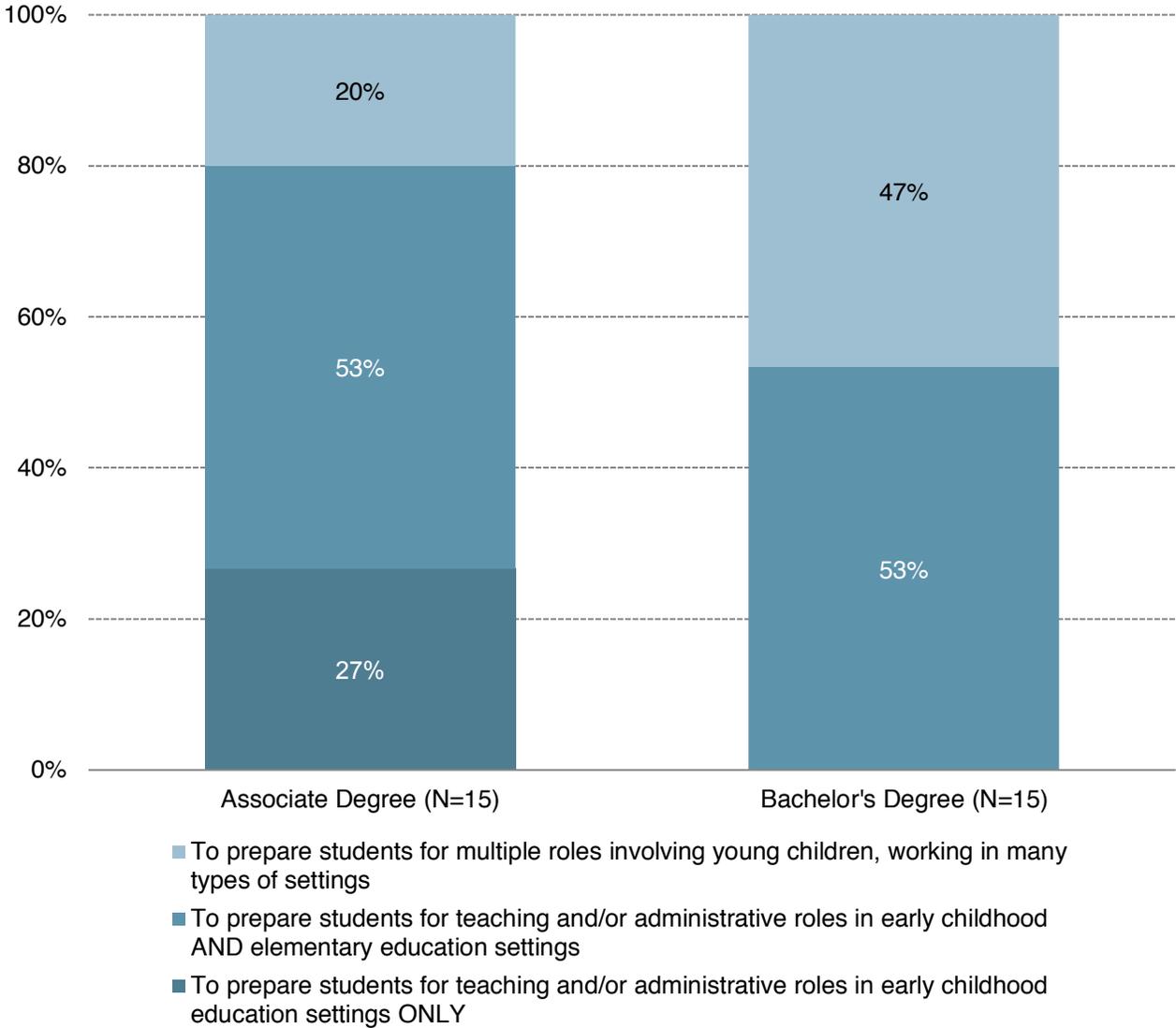
## Program Goals

Not all early childhood degree programs are alike, nor should they be. However, it is important to distinguish between programs that have an intent to prepare teachers and administrators and those that identify other goals related to early childhood. Reflecting the inconsistent qualifications required of early educators, across the country there has been a default acceptance of “early childhood-related” programs as acceptable for preparing early educators (Whitebook et al., 2012). This reality has resulted in wide variation in the goals and content of programs, though graduates of these different programs are often held to the same expectation of what they should know and be able to do upon degree completion (Whitebook & Ryan, 2011).

The primary focus of early childhood degree programs in Tennessee varies by degree level (see **Figure 1**). More than one-half of programs at each degree level reported that their primary goal was to prepare students for teaching and/or administrative roles in ECE and elementary settings; however, graduate degree programs were more likely to do so than associate and bachelor’s degree programs. Almost one-half (47 percent) of bachelor’s degree programs identified their primary goal as preparing students for multiple roles in many types of settings, while only one-fifth (20 percent) of associate degree programs did so. Additionally, associate degree programs were more likely to report preparing educators for roles solely in ECE settings than bachelor’s or graduate degree programs.

Although none of the associate or bachelor’s degree programs and few graduate degree programs participating in the *Inventory* listed their primary goal as preparing early interventionists or early special education teachers, these institutions may offer degrees and certificates in early intervention and early childhood special education.

**Figure 1. Primary Goal of Tennessee Early Childhood Degree Programs, by Degree Level**



# Course Content

There is broad consensus that early childhood education degree programs should include course content that encompasses theories of development and learning, subject matter content (e.g., literacy), and methods of teaching and pedagogy (IOM & NRC, 2015). In addition, leadership preparation, program administration and principles, and practices related to adult learning are considered key content for creating high-quality experiences for children (IOM & NRC, 2015; Whitebook et al., 2012; Whitebook & Ryan, 2011).

**Table 2. List of Domains and Topics of Course Content Included in the Tennessee Inventory**

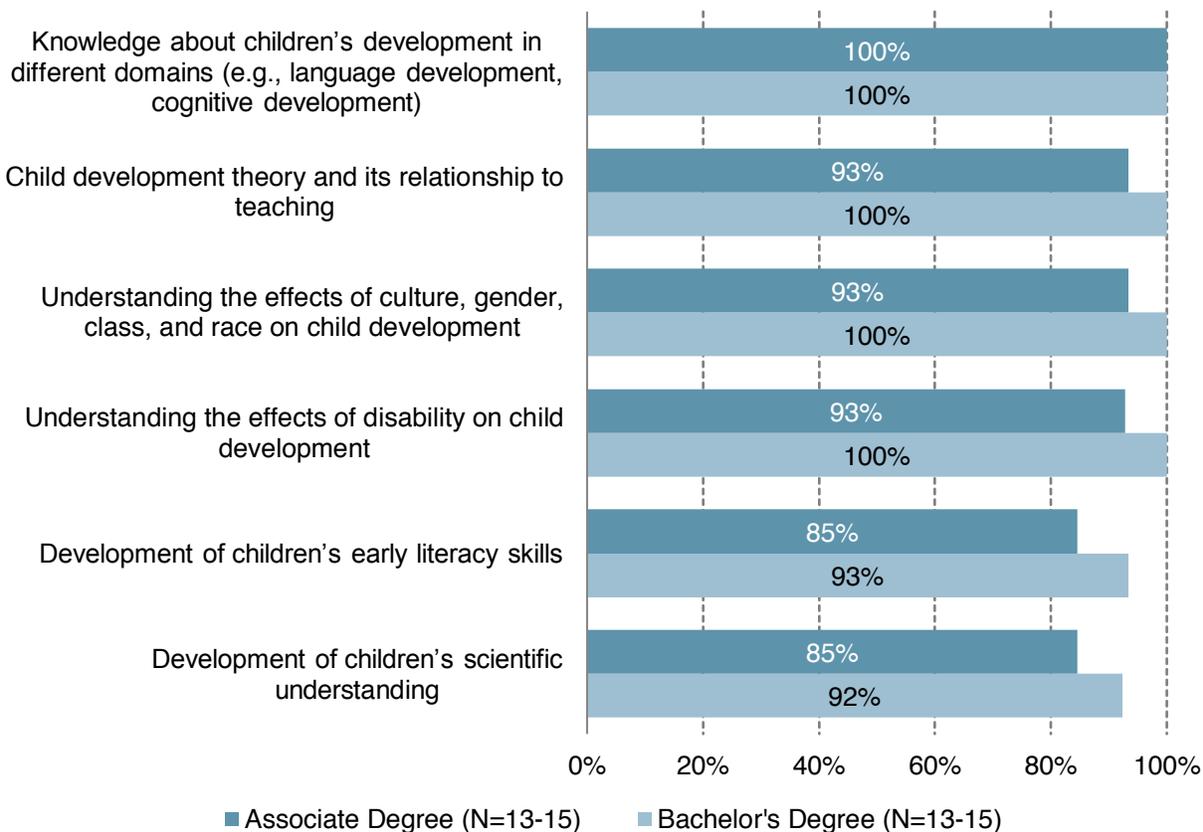
Domains	Topics
<b>Child Development and Learning</b>	Domains of development
	Effects of culture, gender, race, and class on development
	Effects of disability on development
	Development of children’s early literacy skills
	Child development theory and its relationship to teaching
	Development of children’s scientific understanding
<b>Teaching</b>	<i>Teaching Diverse Child Populations:</i> Teaching children who are experiencing poverty, who have special needs, who exhibit challenging behaviors, or who have experienced trauma
	<i>Teaching and Curriculum:</i> Implementing integrated curriculum and using play in teaching; implementing inclusion strategies; supporting social and physical development; and teaching art, literacy, science, and social studies
	<i>Teaching Skills in Early Childhood Settings:</i> Using observation, assessment, and documentation to inform teaching and learning; different teaching strategies; and classroom management
<b>Leadership and Administration</b>	<i>Supervision and Operations:</i> Building relationships with other teachers and/or early childhood professionals; guiding practitioners in implementing curriculum and appropriate teaching strategies; adult supervision; strategies to support adult learning; assessment and documentation to inform teaching and learning; assessment and documentation to inform program quality; program planning, development, and operations; and preparation to provide professional development services
	<i>Organization and Systems:</i> Human resources/personnel policies; fiscal procedures and management; grant management and proposal writing; organizational development and change; the early childhood system and public policy; effective advocacy, policy analysis, and development; and building community partnerships and developing familiarity with community resources for children and families

## Child Development and Learning: Content Knowledge and Teaching

The vast majority of associate and bachelor’s degree programs reported requiring all six of the course content topics related to the domain of child development and learning, with few exceptions (see **Figure 2**). However, while programs were likely to require content knowledge of child development and learning, they were more varied in course requirements for pedagogy related to these topics. For example, with

regard to the “teaching diverse child populations” topics, 75 percent of associate degree programs require students to take coursework on “teaching children who have experienced trauma.” Eighty-six percent of associate degree and 93 percent of bachelor’s degree programs require content addressing “children who are experiencing poverty.” On the topics related to teaching and curriculum, 60 percent of associate degree programs and 79 percent of bachelor’s degree programs required students to take coursework on “teaching children science skills.”

**Figure 2. Required Coursework Related to Child Development and Learning, by Degree Level**



### Administration and Leadership

Course content is not consistently offered to prepare practitioners for early childhood supervisory, administrative, or other leadership roles. Overall, a smaller percentage of degree programs reported offering coursework related to this domain than any other domain. In fact, almost one-half (47 percent) of bachelor’s programs reported that they did not offer any of the supervision and operations topics, and only slightly fewer (40 percent) did not offer any of the organization and systems topics listed in the *Inventory* (see **Table 2**). Associate degree programs were slightly more likely than bachelor’s degree programs to offer this coursework.

The topics most often offered in associate degree programs were “building relationships with other teachers and/or early childhood professionals” and “building community partnerships and developing familiarity with resources for children and families,” each of which was offered by 60 percent of associate degree programs. At the bachelor’s degree level, the most commonly offered topics were “guiding practitioners in implementing curriculum and appropriate teaching strategies” and “building community partnerships and developing familiarity with resources for children and families,” each of which was offered by at least 50 percent of programs.

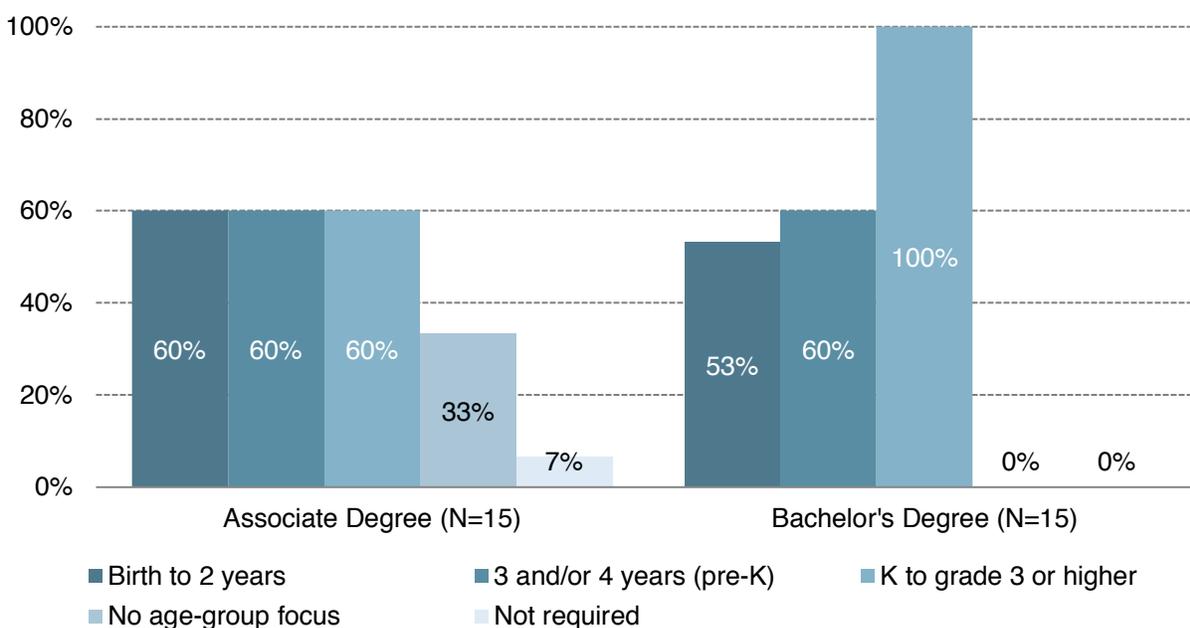
In addition, the *Inventory* asked if programs offered coursework designed to prepare students to provide professional development services (e.g., mentoring, coaching, or training other ECE professionals). This content was not offered in any of the associate degree programs and was only offered by 31 percent of the bachelor’s degree programs that participated in the *Inventory*.

## Age-Group Focus

Depending on the ages of the children they serve and the setting in which they work, teachers of young children are often perceived as requiring different levels of skill and knowledge and are expected to meet significantly more or less rigorous qualifications. These differing expectations contribute to long-standing variations in content and design among early childhood higher education programs (Whitebook et al., 2012; Whitebook & McLean, 2017). The Institute of Medicine and the National Research Council conclude that educators working with children at any age from birth to eight require equivalent levels of education and training, and this variability in preparation is both inconsistent with the science of early development and learning and unlikely to produce consistently effective preparation of teachers and administrators for early learning programs serving children in this age span (IOM & NRC, 2015).

Creating an integrated birth-to-age-eight early care and education system, inclusive of the institutions preparing the ECE workforce, has thus emerged as a major goal and as a metric by which to measure progress toward it. The *Inventory* intentionally sought to examine differences among programs in preparing students to work with children of different ages. For child development and learning and teaching topics, associate degree programs were equally as likely to require a focus on all age groups, birth through elementary school, while bachelor’s degree programs were more likely to focus on elementary school children (see **Figure 3** for an example).

**Figure 3. Child Development Theory and Its Relationship to Teaching: Required Age-Group Focus of Programs Participating in the Tennessee Inventory, by Degree Level**



## Integration of Standards and Competencies Into Coursework

In recent years, growing attention to the importance of early childhood development has led to the development of standards and core competencies outlining what early educators should know and be able to do to meet children’s developmental needs (Whitebook et al., 2016). However, despite increasing agreement on the value of these standards and competencies for ensuring professionalism of the ECE workforce, not all early childhood degree programs in Tennessee require coursework aligned with state or national standards.

While the four standards identified below were each integrated into the coursework of approximately 75 percent of programs, this finding nonetheless means that students in the other 25 percent of programs are not offered coursework explicitly aligned to these important standards.

- The Tennessee Early Learning Developmental Standards;
- NAEYC Professional Preparation Standards/CAEP: Standard 2;
- Building Family and Community Relationships; and
- The Tennessee Academic Standards for Math.

## FINDING TWO: FIELD-BASED LEARNING EXPERIENCES

### Requirements and Age-Group Focus

*Bachelor's degree programs are much more likely than associate degree programs to require students to participate in student teaching or practica. When field-based learning experiences are required, students across degree programs are much more likely to be required to participate in a practicum experience. However, there is little*

*consistency as to the duration, frequency, or age-group focus of these field-based experiences.*

## What we asked about field-based experiences:

Program leads were asked about two distinct types of field experiences: student teaching and practica. By student teaching, we mean full-time immersion in a classroom, with increasing responsibility for curriculum planning and teaching and supervision by a faculty member, *and/or* cooperating teacher, *and/or* mentor. By practicum, we mean an experience, associated with a course, which is short in duration, often focused on a particular skill or population, and includes supervision by a faculty member, *and/or* cooperating teacher, *and/or* mentor. For each, respondents were asked to indicate whether the field experience was required in order to attain the degree, and if so, they were asked a series of questions pertaining to the field experience, including timing, duration, and differences in field experience structures for pre-service and experienced teachers.

Program leads were also asked whether students in student teaching and practica were required to work with specific age groups of children, children with particular characteristics (e.g., children who are dual language learners, children with special needs), or families.

Finally, program leads were asked to identify practices that students were required to incorporate during student teaching and practica, including the following:

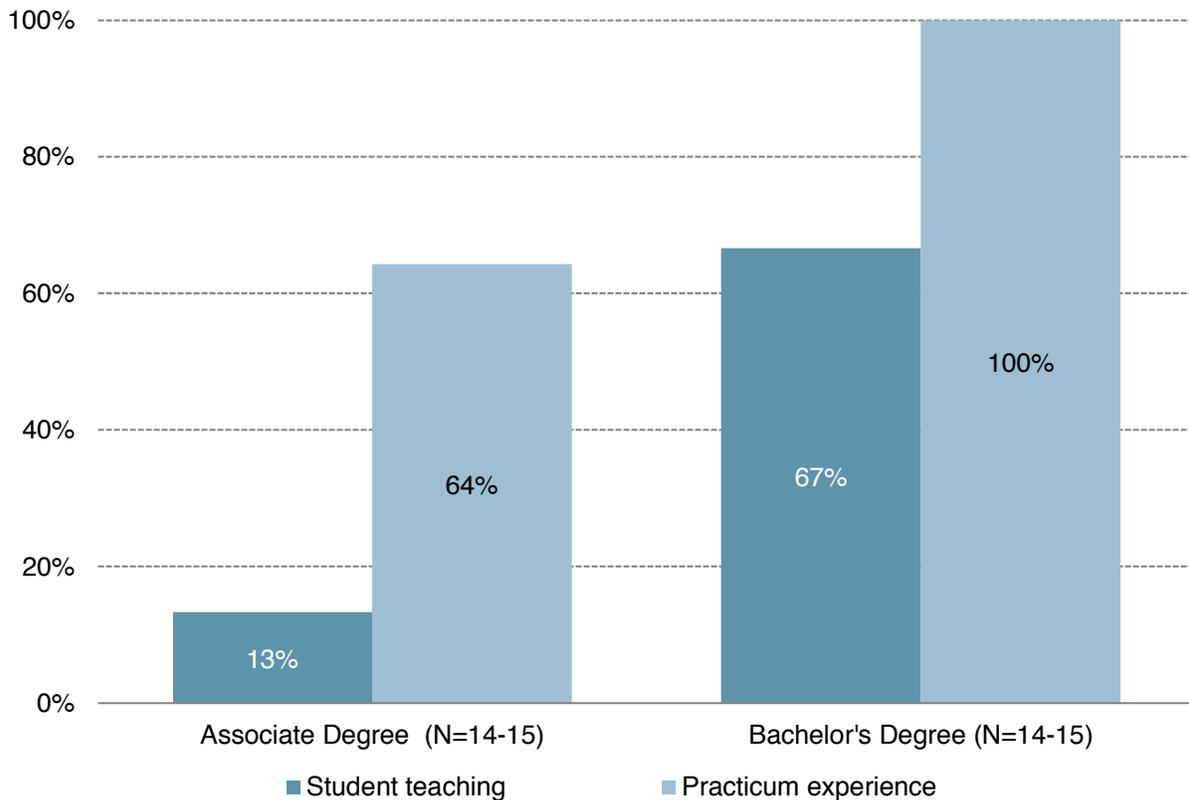
- Scaffolding children's mathematical development and promoting their ability to solve problems;
- Scaffolding children's literacy development and promoting their oral and written skills;
- Supporting children's socioemotional development and skills;
- Facilitating the developmental course of motor development in young children;
- Integrating families in partnerships to support children's learning;
- Utilizing assessment effectively to inform and individualize instruction; and
- Collaborating with community organizations to support children and families.

There is widespread agreement that field-based learning experiences for teachers working with children of all ages are critically important for developing new teaching skills or improving existing ones (IOM & NRC, 2015; NCATE, 2010b; Whitebook et al., 2012). In the K-12 community, this recognition has led to efforts to increase the length of student teaching, introduce it earlier into a program of study, and strengthen student supervision during field experiences (CSCCE, 2017; Whitebook et al., 2012). In early childhood, however, there is no widely implemented standard of field experience, such as student teaching (Whitebook, 2014; Whitebook & Ryan, 2011). This structural divide in educator preparation runs counter to the call by many ECE experts, policymakers, and other stakeholders for a more integrated birth-to-age-eight educational system (IOM & NRC, 2015).

## Required Field Experiences

Bachelor's degree programs are much more likely than associate degree programs to require students to participate in either student teaching or practica. All bachelor's degree programs that participated in the *Inventory* require their students to complete at least one practicum experience, while less than two-thirds (64 percent) of associate degree programs do so. Additionally, less than one-sixth (13 percent) of associate degree programs require student teaching, while approximately two-thirds (67 percent) of bachelor's degree programs require this experience (see **Figure 4**). In fact, more than one-third (36 percent) of associate degree programs do not require either type of field experience.

**Figure 4. Field Experiences Required in Tennessee Early Childhood Degree Programs, by Degree Level**



## Number, Duration, and Timing of Practica

Practica are the most common (and for many students, the only) type of field experience required across Tennessee early childhood degree programs.<sup>6</sup> The total number of practica and total hours that students were engaged in practica is difficult to assess; the number of experiences varied, as did the number of hours per practicum (see **Table 3**).

**Table 3. Number and Mean Hours of Practica Required by Programs Participating in the Tennessee Inventory**

Degree Level	One practicum required	Two practica required	Three practica required	Four or more practica required	Mean number of hours typically required to complete a practicum course
<b>All Degree Programs (N=20-27)</b>	15%	30%	22%	33%	81

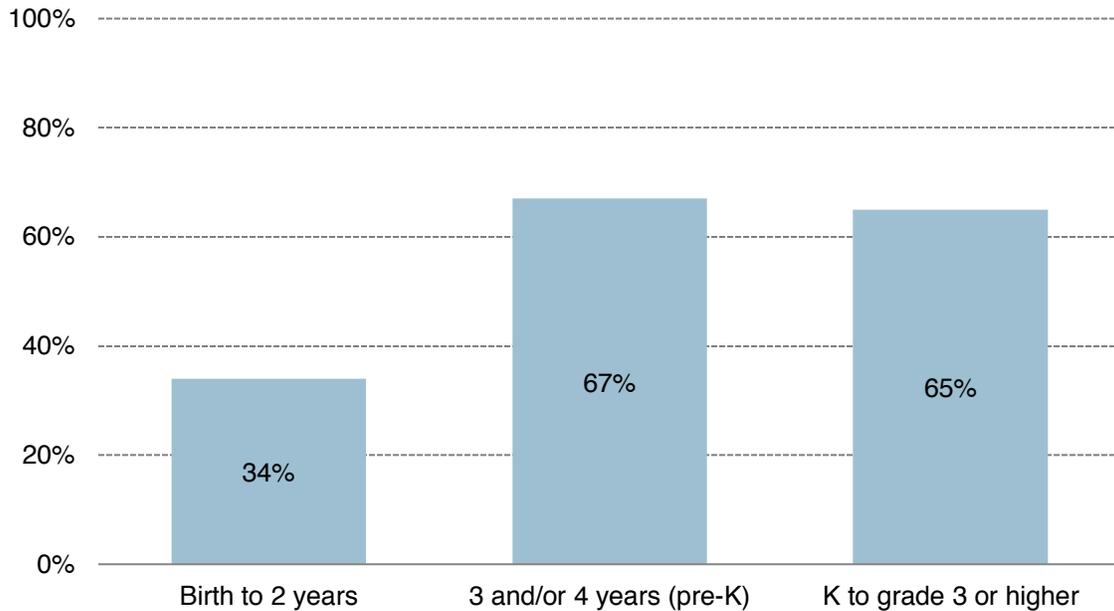
Perhaps reflecting the differences in the total number of practica required, the first practicum experience occurred at different times for students at different degree levels. Associate degree programs were significantly more likely than bachelor's degree programs to require that the first practicum occur at the beginning of the course of study (100 percent compared to 29 percent). While none of the associate degree programs participating in the *Inventory* structured practica differently for novice and experienced teachers, approximately one-half (43 percent) of bachelor's degree programs did so.

## Requirements of Practicum Experiences

Within the practicum experience, both associate and bachelor's degree programs were more likely to require an age-group focus on preschool-age children than infants and toddlers, although bachelor's degree programs are most likely to require a focus on school-age children. About three-fourths (78 percent) of associate degree programs and about two-thirds (69 percent) of bachelor's degree programs require a focus on preschool-age children. Less than half (44 percent) of associate degree programs require a focus on infants and toddlers, while one-third (33 percent) require students to work with children in elementary grades. The vast majority (86 percent) of bachelor's degree programs require a focus on children in early elementary grades, while only one-quarter (25 percent) require a focus on infants/toddlers (see **Figure 5**).

<sup>6</sup> Because practica were the primary strategy for field experiences required by degree programs and due to small sample sizes of programs requiring student teaching, practica are the focus of this section of the report.

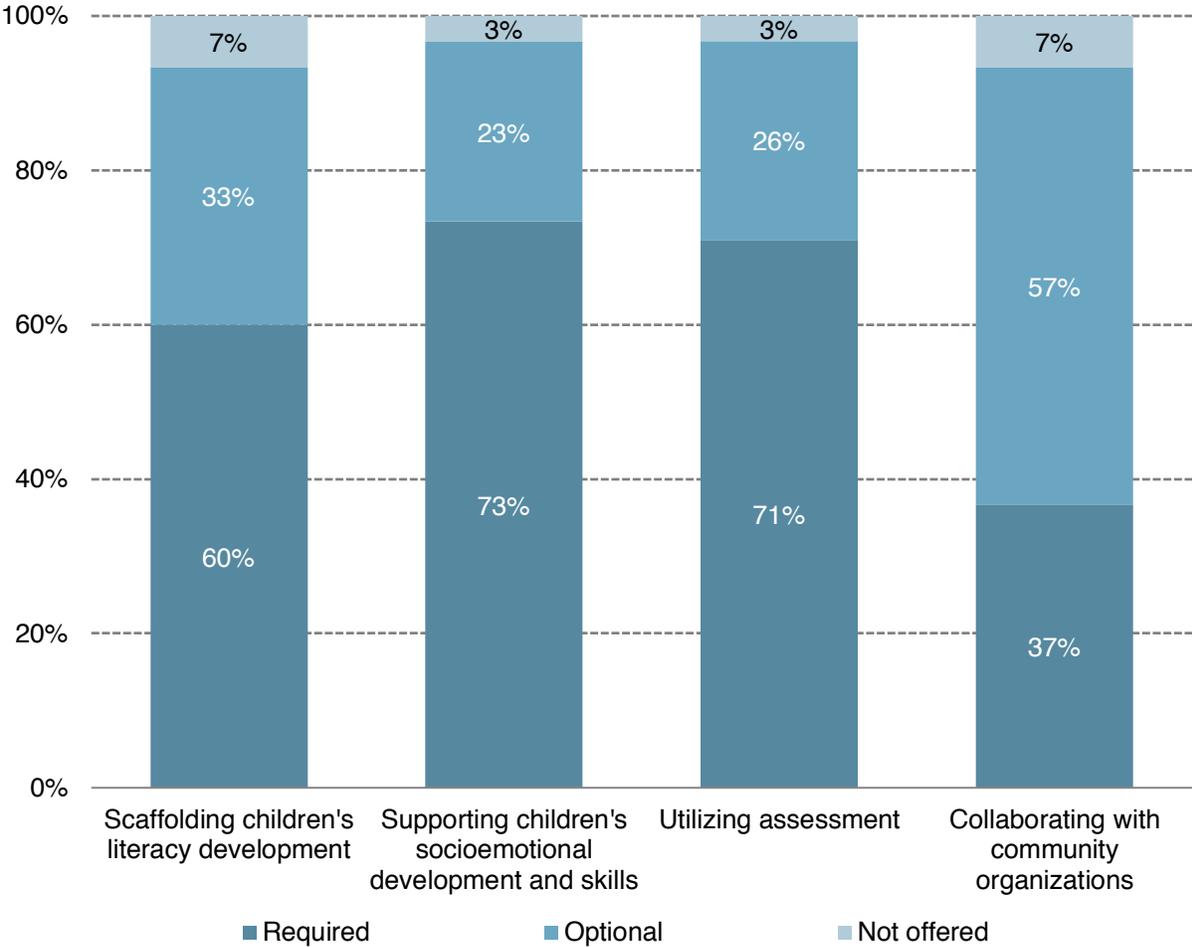
**Figure 5. Required Age Group Focus in Practicum Experiences**  
(N=29-31)



None of the associate degree programs and only 23 percent of bachelor's degree programs that participated in the *Inventory* require students to complete a practicum that involved working with children who are dual language learners. Furthermore, one-third (33 percent) of associate degree programs reported that they do not even offer practicum experiences that involve dual language learners. Approximately one-fifth (22 percent) of associate degree programs require students to complete a practicum that involves working with children with disabilities, as do less than one-half (46 percent) of bachelor's degree programs. More degree programs require students to complete a practicum that involves working with families (56 percent of associate degree programs and 62 percent of bachelor's degree programs).

The *Inventory* also asked about specific practices that students may be required to incorporate into their practica (see **Figure 6**). The practices most likely to be required by associate degree programs were supporting socioemotional development (88 percent) and utilizing assessment to inform and individualize instruction (67 percent). The practices most likely to be required for bachelor's degree programs were scaffolding children's literacy development (79 percent) and utilizing assessment to inform and individualize instruction (79 percent).

**Figure 6. Select Practices Required for Students in Their Practicum Experiences (N=30-31)**



### FINDING THREE: PORTRAIT OF FACULTY

Employment Status, Demographics, and Professional Background

*Tennessee early childhood degree programs are staffed with a mix of part- and full-time faculty. Faculty members are primarily women, white/Caucasian, monolingual (speaking only English), and are less diverse than Tennessee's child population. Most faculty members across*

*degree levels reported having had academic preparation specific to early childhood, and most associate degree faculty members reported having worked in a different ECE professional role in the past decade.*

## What we asked about and of faculty members:

Program leads were asked to provide information about the number of full- and part-time faculty members employed in their degree programs during the term in which the survey was administered.

Individual faculty members were asked to identify:

1. Their employment status;
2. Their demographic characteristics, including: a) age; b) race/ethnicity; and c) linguistic capacity;
3. Their academic background;
4. The primary focus of their teaching and expertise related to children across the birth-to-age-eight continuum; and
5. Their professional experiences, in addition to college-level teaching, over the previous 10 years.

The faculty findings discussed below are drawn from a final sample of 45 faculty members out of 98 faculty members who received the *Inventory*.<sup>7</sup> Sixteen of these faculty members teach in associate degree programs, 30 teach in bachelor's degree programs, and 15 teach in graduate programs.<sup>8,9</sup>

## Employment Status

Part-time faculty members constitute two-thirds or more of faculty in colleges and universities nationwide (Center for Community College Student Engagement [CCCSE], 2014; Curtis & Thornton, 2014), and this reality can pose multiple challenges for both faculty and students. Part-time faculty members are often not as integrated into the department in which they teach and not engaged in curriculum planning; furthermore, they are typically paid to teach particular courses and are not paid for additional responsibilities, such as student advising or program evaluation (CCCSE, 2014). This situation can lead to full-time faculty taking on a greater share of administrative, institutional, and student-advising responsibilities in addition to their

<sup>7</sup> The faculty members included in the *Inventory* represent only a portion of faculty currently teaching in early childhood degree programs in Tennessee. Nonetheless, these findings provide insight into the experiences and needs of the wider population of early childhood higher education faculty in the state.

<sup>8</sup> Faculty members who teach at multiple degree levels are counted in each degree level.

<sup>9</sup> We were able to include findings on faculty members who teach in graduate degree programs in the *Inventory*, even though we were not able to include graduate degree *program* level data for every topic due to small sample sizes.

teaching load (CCCSE, 2014; Curtis & Thornton, 2014; Early & Winton, 2001; Maxwell et al., 2006; Whitebook, Bellm, Lee, & Sakai, 2005).

Among those who participated in the *Inventory*, the findings were lower than the national average: 44 percent of faculty members teaching in associate degree programs and only 27 percent of faculty members teaching in bachelor's degree programs identified themselves as adjunct faculty or part-time lecturers. Nonetheless, challenges related to insufficient staffing were cited by program leads and faculty members alike, as discussed in more detail below.

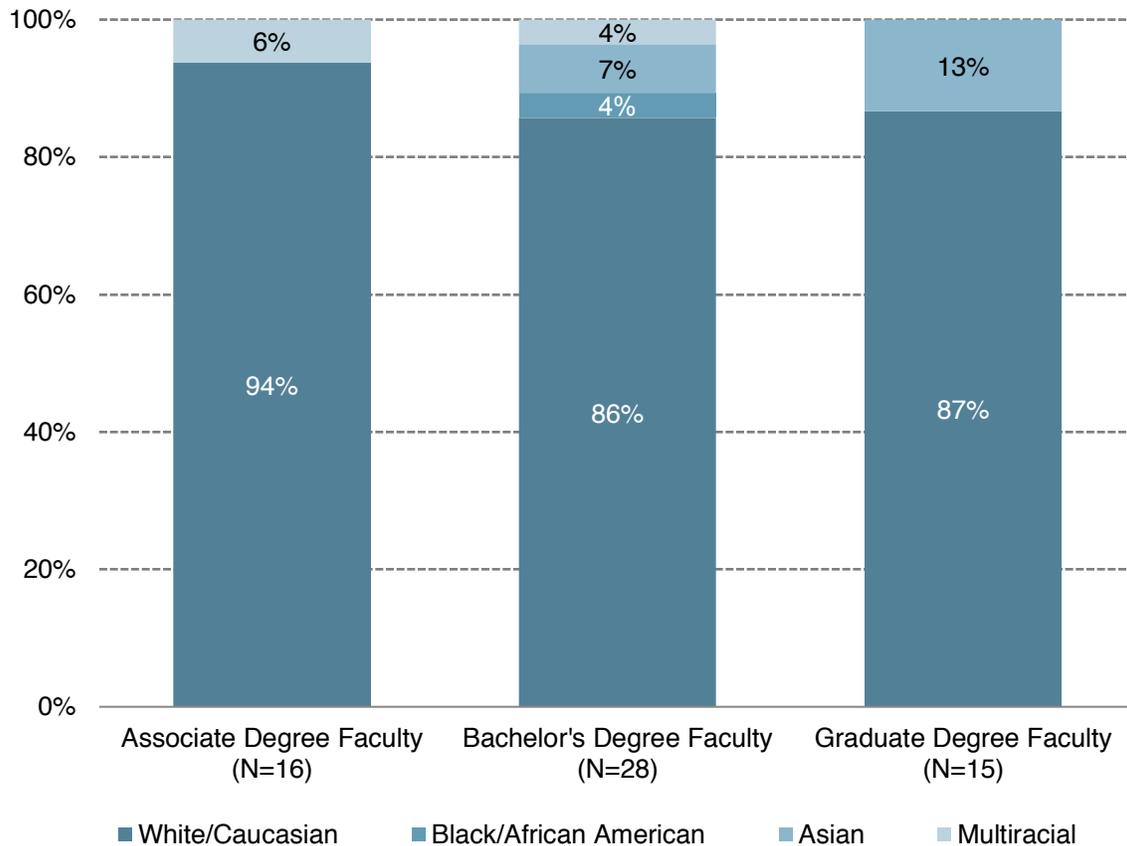
## Demographic Characteristics

The well-documented absence of racial and ethnic minorities among early childhood higher education faculty — in contrast to their students and the child populations that these ECE professionals will serve — has implications for the degree of focus on diversity in coursework and the availability of role models for students (Bornfreund, 2011; Early & Winton, 2001; Johnson, Fiene, McKinnon, & Bahu, 2010; Lim, Maxwell, Able-Boone, & Zimmer, 2009; Maxwell et al., 2006; Ray, Bowman, & Robbins, 2006; Whitebook et al., 2005). Evidence suggests that a racially and ethnically diverse faculty is more likely to recognize the need to respond to a diverse student body and child population and more likely to address issues of diversity in course curriculum (Lim et al., 2009).

### Racial, Ethnic, and Linguistic Diversity

Most faculty members participating in the *Inventory* identified as female, white/Caucasian (see **Figure 7**), and monolingual, speaking only English. In general, early childhood higher education faculty were less diverse than the overall population in the state. Census data point to an increasingly diverse population in the state, with the child population under the age of five being 64-percent white (non-Hispanic), 20-percent African American, 11-percent Hispanic or Latino, 4-percent multiracial, and 2-percent Asian (Annie E. Casey Foundation, 2016).

**Figure 7. Race/Ethnicity of Faculty Members Participating in the Tennessee Inventory, by Degree Level**



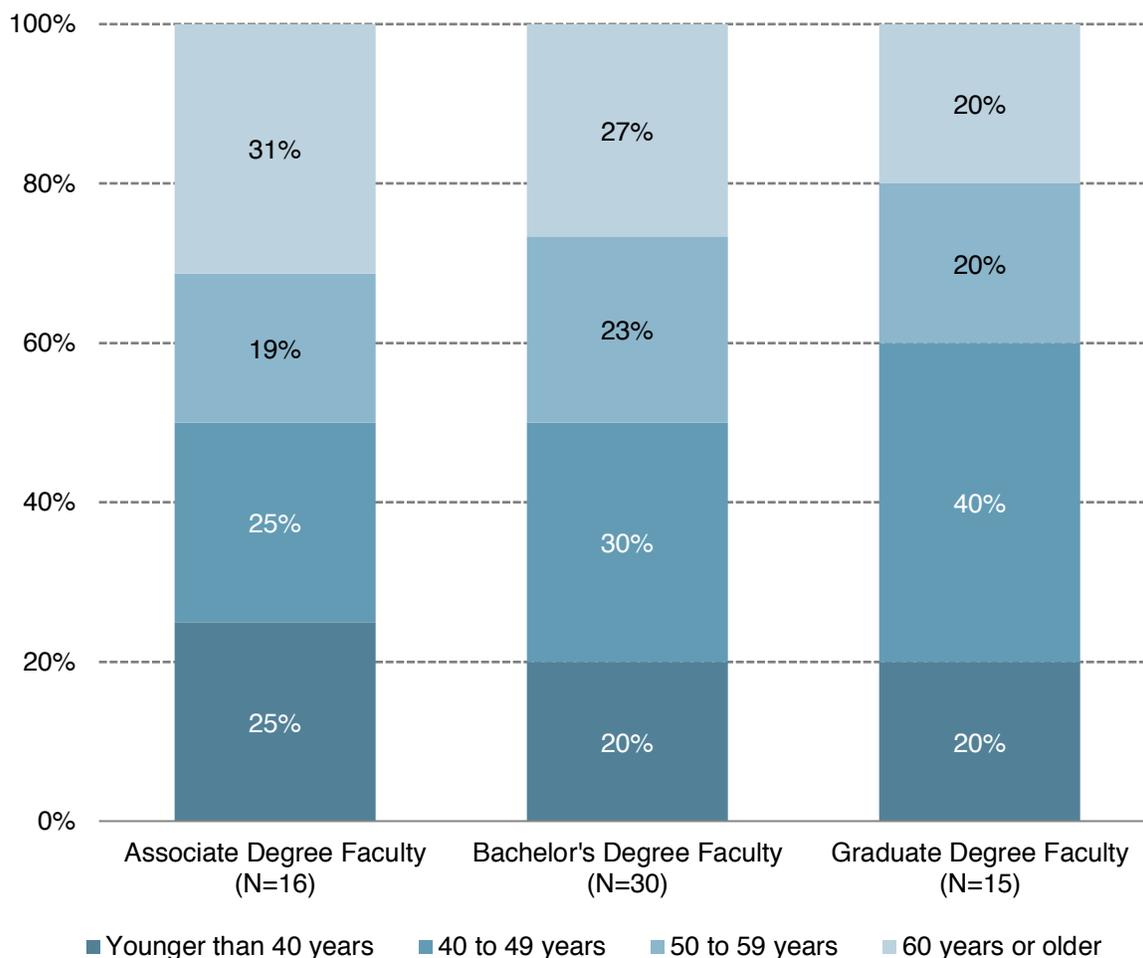
While all faculty members at all degree levels reported fluency in English, few reported fluency in another language. Only 11 percent of faculty members across all degree programs spoke a language other than English. However, more than one-half (55 percent) of faculty members across degree levels reported that it would be helpful to know another language in order to communicate better with their students. Overall, about 91 percent of faculty members who would like to know another language identified Spanish as a language of interest. Almost one-quarter (23 percent) of faculty members identified Arabic as a language they would like to know, with the highest interest (29 percent) at the bachelor's degree level. Of note, Tennessee's dual language learner child population has grown 93 percent since 2000, experiencing a growth rate nearly four times the national average (24 percent). Fourteen percent of children in Tennessee under the age of eight are dual language learners (Park, O'Toole, & Katsiaficas, 2017).

## Age

Faculty members teaching in graduate degree programs were, on average, slightly younger than their colleagues teaching in other programs. The average age of faculty members teaching in bachelor's degree programs was 50 years; for faculty members teaching in associate degree programs, it was 49 years; and for faculty members teaching in graduate degree programs, it was 44 years. Faculty members teaching in

associate degree programs were more likely to report being 60 years or older (thus, potentially close to retirement) than bachelor's and graduate degree program faculty members (see **Figure 8**).

**Figure 8. Age of Faculty Members Participating in the Tennessee Inventory, by Degree Level**



## Academic and Professional Background

Teachers of adults, like those who teach children, require appropriate preparation as well as ongoing opportunities to refine their knowledge and skills (Whitebook & Ryan, 2011). Based on a review of the extant research, the Institute of Medicine and National Research Council (2015) have called for early childhood higher education faculty to be versed in the foundational theories of development and learning, subject matter content, and methods of pedagogy that comprise the basic competencies expected of ECE practitioners working with young children. Additionally, teacher educators themselves are increasingly called upon to be effective practitioners, preferably having had classroom experience with children within the past decade (National Council for Accreditation of Teacher Education [NCATE], 2010a & 2010b).

## Academic Preparation and Teaching Focus Related to Early Childhood

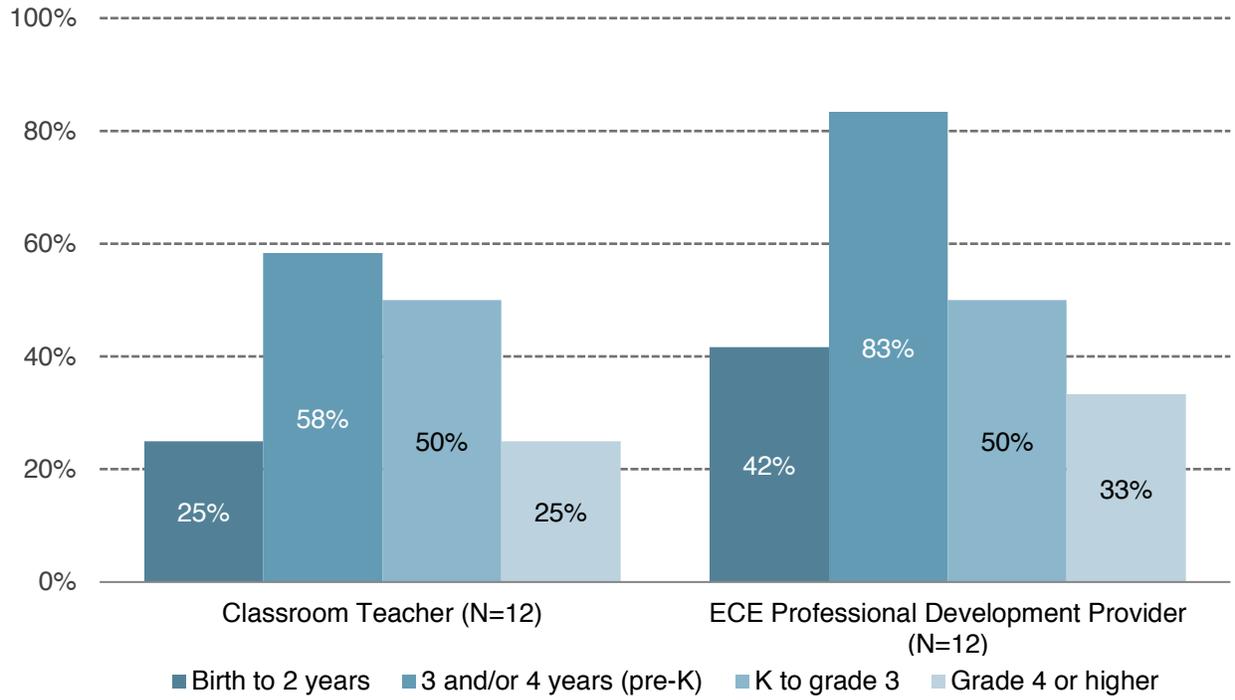
Nearly all faculty members teaching in associate degree programs (94 percent) and approximately three-fourths of faculty members teaching in bachelor's and graduate degree programs (75 percent and 79 percent, respectively) had earned at least a bachelor's degree in early childhood education or child development. While we did not ask about the primary focus of their own early childhood degrees, faculty members were asked to indicate whether the primary focus of their teaching in the degree program was "child development and learning," "curriculum and teaching methods," or "both equally." Faculty teaching in associate and bachelor's degree programs were most likely to focus on both "curriculum and teaching methods" and "child development and learning." Faculty members teaching in graduate degree programs were less likely to focus on child development and learning and more likely to report focusing on curriculum and teaching methods.

Faculty members were also asked about their expertise related to various age groups and age ranges of children. Faculty members teaching in associate degree programs were most likely to report expertise with children birth through before kindergarten (38 percent) and birth through third grade or higher (25 percent). In comparison, faculty members teaching in bachelor's and graduate degree programs were less likely to report expertise with children birth through before kindergarten (17 percent and 13 percent, respectively) or children birth through third grade or higher (20 percent and 7 percent, respectively). Faculty members teaching in bachelor's and graduate degree programs were most likely to report that their primary expertise was on children in kindergarten or older. Few faculty at any level considered infants and toddlers to be their primary area of expertise; fewer than 10 percent of faculty teaching in associate degree programs and no faculty members teaching in bachelor's or graduate degree programs identified this age group as their primary expertise.

## Professional Teaching and Administrative Experience

About one-half (51 percent) of faculty members across degree levels reported experience in other professional roles over the past 10 years. However, associate degree faculty were almost four times as likely as graduate degree faculty and 60 percent more likely than bachelor's degree faculty to have worked in other professional roles over the past 10 years. Of those faculty members who reported having worked in other roles, the majority (52 percent across degree levels) had worked as ECE professional development providers (e.g., coach, mentor, trainer, consultant). Additionally, 52 percent of faculty members across degree levels had worked as classroom teachers. Professional development provider experience and classroom teaching experience were most likely to have occurred with children of preschool age (see **Figure 9**).

**Figure 9. Age-Group Focus of Select Job Roles in Past 10 Years**



## FINDING FOUR: FACULTY PERSPECTIVES AND EXPERTISE

Faculty Perspectives on Course Content, Teaching Experience and Capacity, Professional Development Background, and Professional Development Interests

*Tennessee early childhood degree faculty were more likely to consider the inclusion of socioemotional development important, compared to other course content. In general, faculty members were more likely to report feeling that content areas were “very important” for teachers working with elementary-age children. Across content areas, faculty members*

*reported feeling least capable of preparing teachers to work with infants and toddlers, as compared to older children. Tennessee early childhood degree program faculty members reported particular interest in professional development related to working with children who have experienced trauma, children from diverse cultural backgrounds, and dual language learners, as well as teaching practitioners to use child assessment effectively.*

### What we asked faculty members:

Individual faculty members were asked to indicate:

- Their perspectives on including various domains of development and learning in teacher preparation programs (see **Box 3**);
- Their capacity to teach certain content;
- Recent teaching experiences; and
- Professional development in which they had participated and topics in which they are interested in gaining additional knowledge.

Faculty members’ perspectives on the importance of including particular domains of development and assessment of their own teaching capacity are likely to affect faculty intent to include specific content in coursework (Hyson, Horm, & Winton, 2012). Knowledge about faculty members’ capacity to teach certain content areas and their own learning needs can further help inform professional development opportunities for faculty members.

## Perspectives on Program Content

We asked faculty members their opinions about the importance of including particular domains of development and learning in early childhood degree programs for infants and toddlers, preschool-age children, and school-age children (see **Box 3** for a description of how we gathered this information). The domain of socioemotional development was rated as “very important” by the highest percentage of faculty members. The vast majority of faculty members (89 percent or more) rated this domain as “very important” for all three age groups.

In general, a higher percentage of faculty members rated the domains as “very important” as the age groups increased, leaving infants and toddlers as the age group viewed as least important (see **Figure 10** for an example). The only exceptions were the domains of “understanding typical and atypical motor development in young children and its relationship to learning and how to facilitate their motor skills,” in which faculty members’ attitudes were inversely correlated with child age, and the domain of “understanding and

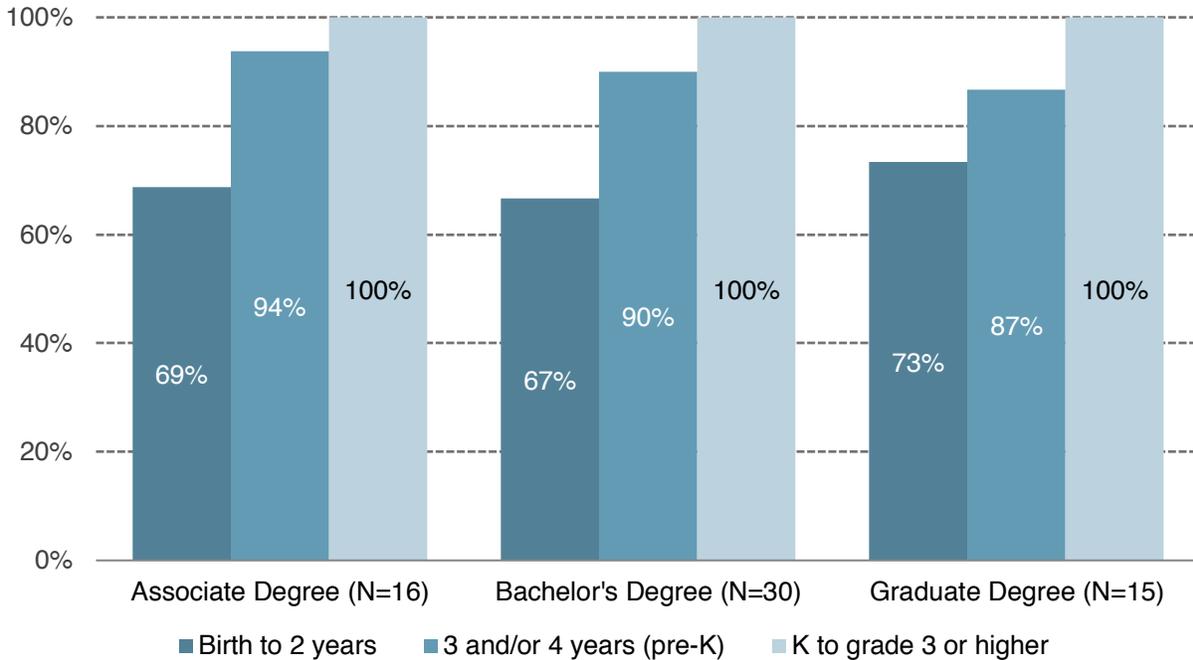
implementing an integrated strategy to engage families in ongoing and reciprocal partnerships and the relationship to outcomes for children,” in which faculty members’ attitudes regarding the interest of the topic remained consistent across age groups.

### **Box 3. Faculty Perspectives on Including Various Domains of Development and Learning in Early Childhood Degree Programs**

The *Inventory* assessed faculty members’ perspectives on the relative importance of various domains of development and learning in early childhood degree programs. Faculty members were asked to use a Likert scale of 1 to 4, with 1 meaning “not important” and 4 meaning “very important,” to indicate their views on including various domains for different age groups of children. The domains were:

<b>Literacy Development</b>	Understanding the components and sequence of literacy development in young children and how to promote children’s skills related to oral and written language
<b>Socioemotional Development</b>	Understanding socioemotional development, its relationship to learning, and how to support children’s socioemotional skills
<b>Motor Development</b>	Understanding typical and atypical motor development in young children, its relationship to learning, and how to support the development of children’s motor skills
<b>Assessment</b>	Utilizing assessment effectively to inform and individualize instruction
<b>Collaboration</b>	Collaborating with community organizations to support children and families
<b>Diverse Families</b>	Working with families of various ethnic, racial, and cultural backgrounds
<b>Family Engagement</b>	Understanding and implementing an integrated strategy to engage families in ongoing and reciprocal partnerships and the relationship of such partnerships to outcomes for children
<b>Early Mathematics</b>	Understanding the domains and sequence of mathematical knowledge in young children and how to promote children’s mathematical understanding and ability to solve problems
<b>Dual Language Learners</b>	Supporting the cognitive and social development of young dual language learners

**Figure 10. Importance of Including "Understanding the Components and Sequence of Literacy Development" in Teacher Preparation Programs: Percentage of Faculty Members Reporting "Very Important," by Age Group and Degree Level**



## Capacity to Teach Content

For each of the nine development and learning topics (see **Box 3**), faculty members were asked to identify whether they:

1. Had limited familiarity;
2. Were knowledgeable but not prepared to teach others; or
3. Were capable of preparing teachers to work with children in each of the following age groups:
  - Birth through two years;
  - Three and/or four years (pre-K); and
  - Kindergarten through grade 3 or higher.

For each topic, at least 70 percent of faculty members across degree levels reported feeling capable of teaching content to students.<sup>10</sup> In general, faculty members teaching in associate degree programs were most likely to feel capable of preparing teachers to work with preschool-age children, and those teaching

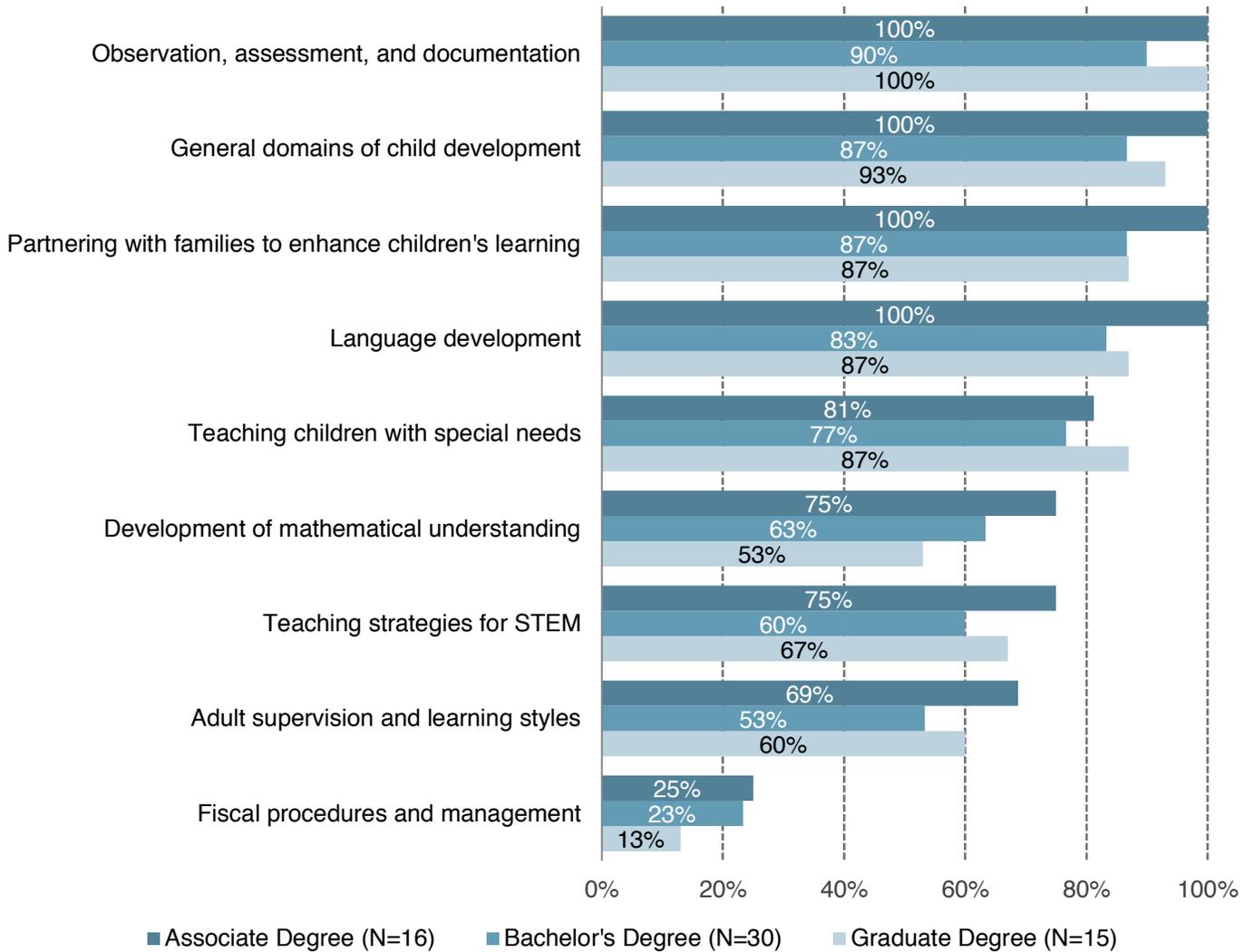
<sup>10</sup> Capacity to teach topics related to family engagement, early mathematical development, and working with dual language learners is described in detail in Part 2 of this report.

in bachelor's degree programs were most likely to feel capable of preparing teachers to work with school-age children. Across degree programs, faculty members reported feeling least capable of preparing teachers to work with infants and toddlers. The topics that faculty across degree levels felt the least capable of teaching were "supporting the cognitive and social development of young dual language learners," "facilitating the developmental course of motor development in young children," and "scaffolding children's mathematical development and promoting their ability to solve problems."

## Recent Teaching Experience

Faculty members were asked about their experience teaching a variety of topics during the past two academic years and whether they taught the following content areas either as a separate course, embedded within a broader course, or both. The vast majority of faculty members (87 percent or more) participating in the *Inventory* reported teaching content related to "general domains of child development," "partnering with families to enhance children's learning in school and at home," and "observation, assessment, and documentation to inform teaching and learning" (see Figure 11). Faculty members were least likely to report having taught courses related to "fiscal procedures and management" and "adult supervision and learning styles." Also of note, about three-fifths (38 percent) of faculty members participating in the *Inventory* had not taught content related to the development of mathematical understanding or teaching strategies for science, technology, engineering, and math (STEM) content. Faculty members reported that topics listed in the *Inventory* were most likely taught within a broader course, as opposed to as a separate course.

**Figure 11. Recent Teaching Experience: Percentage of Faculty Members Reporting Having Taught Content Area in Past Two Years, by Degree Level**



## Professional Development Participation and Interest

### Professional Development

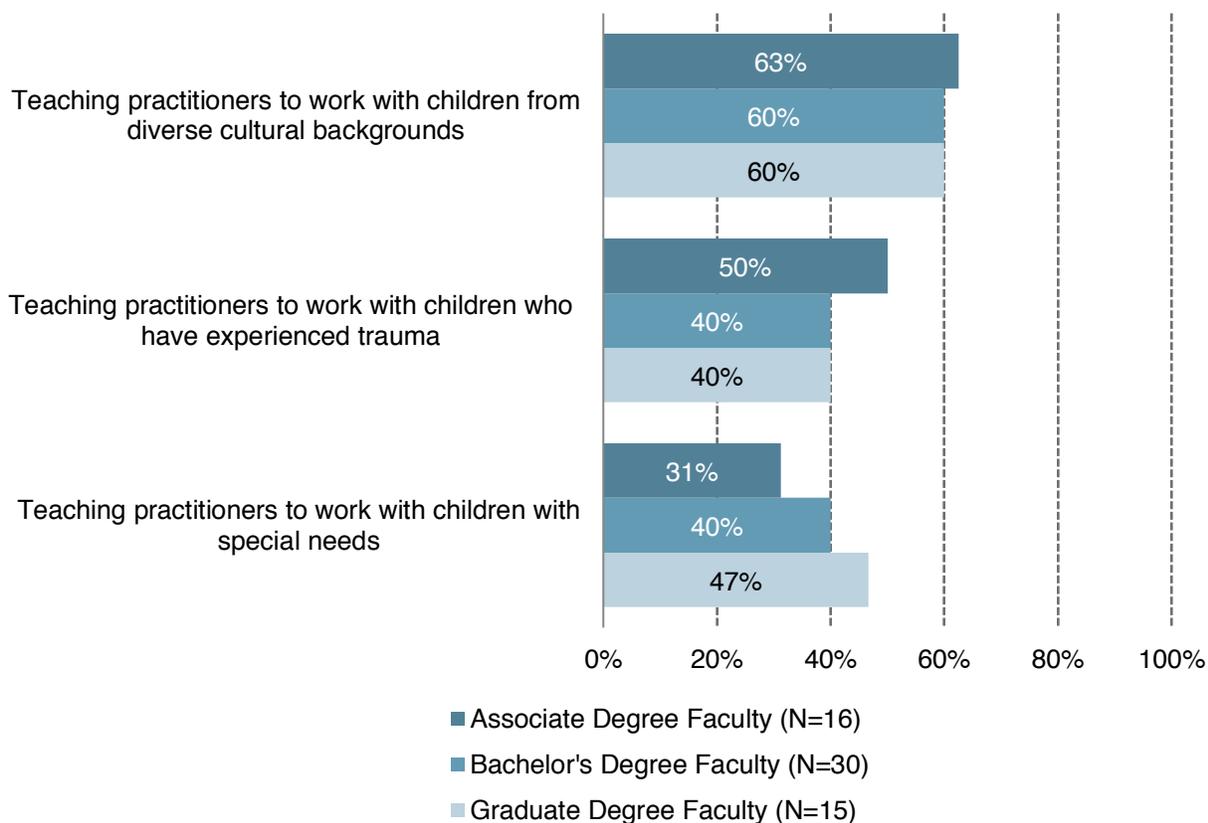
The vast majority of faculty members across degree levels reported participating in professional development during the past three years.<sup>11</sup> The most frequently reported professional development experiences, participated in by approximately 50 percent of faculty members at all degree levels, included

<sup>11</sup> Professional development focused on family engagement, early mathematical development, and working with dual language learners is described in detail in Part 2 of this report.

“teaching practitioners to work with children from diverse cultural backgrounds,” “strategies and techniques for mentoring/coaching of adult students,” and “using technology to promote adult learning.” Faculty members were least likely to have participated in professional development related to dual language learners; 59 percent of faculty members across degree levels had not participated in professional development on any of the topics related to dual language learners in the past three years. Similarly, 57 percent of faculty members across degree levels had not participated in professional development on any topic related to early mathematical development in the past three years.

Faculty members at all degree levels indicated a number of areas in which they were interested in gaining additional knowledge or training (see **Figure 12** for an example). The most commonly identified topics focused on teaching practitioners to work with particular groups of children (e.g., children from diverse backgrounds, children who have experienced trauma, and dual language learners), as well as teaching practitioners to use child assessment effectively. Across degree levels, interest in professional development topics related to teaching adult learners, family engagement, and administration and leadership was low.

**Figure 12. Interest in Professional Development Related to Diverse Child Populations Reported by Faculty Members Participating in the Tennessee Inventory: Percentage Reporting "Very Interested," by Degree Level**



## FINDING FIVE: SUPPORTING STUDENTS

### Services Offered and Program Articulation

*Tennessee early childhood degree programs offer multiple types of support services specifically tailored to help students access resources and strengthen their academic skills. Associate degree programs are more likely to offer blended programs (combining online and*

*in-person courses), but both associate and bachelor's degree programs offer few alternative class schedules or classes in community locations. Across degree levels, programs provide little academic support for students and even less specifically for adult English-language learners. Although most degree programs participating in the Inventory reported having an articulation agreement with at least one other college or university, inconsistent articulation was reported as a challenge by the majority of associate degree programs.*

Typically, higher education students who work in early childhood settings are classified as non-traditional students because, in addition to working full-time, they are frequently older than recent high school graduates, may be among the first in their families to attend college, often represent linguistic and/or ethnic minorities, and may also be parents of children who are school age or younger (Sakai, Kipnis, Whitebook, & Schaack, 2014). In addition, increasing numbers of students are entering the higher education system as community college students with the intent to transfer to four-year colleges or universities, making the issue of articulation between associate and bachelor's degree programs ever more important (T.E.A.C.H. Early Childhood National Center, 2015). As states and locales seek to align with *Transforming the Workforce* recommendations, it is critical to attend to student services and infrastructure (such as articulation) that support student success. Programs that offer support specifically designed for non-traditional early childhood students are associated with greater-than-average success in helping students achieve their educational goals in a timely fashion (e.g., transferring to a four-year institution or completing a degree) (Chu, Martinez-Griego, & Cronin, 2010; Kipnis, Whitebook, Almaraz, Sakai, & Austin, 2012; Sakai et al., 2014; Whitebook, Schaack, Kipnis, Austin, & Sakai, 2013).

## What we asked about services offered to students:

Program leads were asked about three general categories of services offered to students in their programs:

1. Skill support;
2. Counseling and cohort models; and
3. Access support.

## Services Offered

Program leads were asked whether a range of services were *specifically* tailored to early childhood education students in the degree program or department. For example, while colleges and universities typically offer academic counseling to all students, we were interested in learning whether early childhood education students had access to dedicated academic counseling to help them plan a course of study that met specific ECE certification/licensing requirements. The services offered by degree programs ranged by type of service and degree level.

### Skill Support

Across degree levels, approximately 43 percent of programs offered academic tutoring for early childhood education students in math, 46 percent of programs offered academic tutoring in reading and writing, and 33 percent of programs offered academic tutoring in other subject areas. Additionally, 24 percent provided academic assistance for students who are English-language learners, and 22 percent provided training in computers and technology. For each of these topics, the percent of programs that offered the service was fairly consistent across associate and bachelor's degree programs. Finally, contextualized math courses<sup>12</sup> were offered in 40 percent of associate degree programs and 36 percent of bachelor's degree programs.

### Counseling and Cohort Models

Less than one-half (46 percent or less) of programs at each degree level reported offering cohort models tailored to students in the degree program, although bachelor's degree programs were more likely to do so than associate degree programs. Slightly more than one-half (57 percent) of programs across degree levels reported offering tailored academic counseling, with associate and bachelor's degree programs being equally likely to do so. Fewer programs offered financial aid counseling: approximately one-third (32 percent) of programs across degree levels offered this service specifically dedicated to their early childhood education students.

### Access Support

Associate degree programs were more likely to offer formats other than (or in addition to) traditional/on-campus programs. More than three-quarters (80 percent) of associate degree programs offered a "blended" program (combining online and in-person courses), compared to about one-quarter (27 percent) of bachelor's degree programs. Very few programs (8 percent) across degree levels offered the degree as an "online/distance learning" program.

Less than one-half (43 percent) of programs across degree levels offered financial assistance other than federal financial aid to early childhood education students, with associate degree programs slightly more likely to do so than bachelor's degree programs. Approximately one-half (53 percent) of associate degree programs and fewer than one out of six of bachelor's degree programs (15 percent) offered alternative class schedules for working adults. Degree programs were also not likely to offer classes off campus in community-based settings: 14 percent of programs across degree levels reported doing so, with associate

---

<sup>12</sup> A contextualized math course is a course that focuses on the mathematics required for early childhood educators or administrators, for example, calculating child enrollment and ratios or developing a classroom budget.

degree programs being more likely to offer classes off campus in community-based settings than bachelor's degree programs.

## Articulation

### What we asked about articulation:

The *Inventory* asked program leads whether their degree programs had formal articulation agreements with other degree programs.

Respondents were then asked what challenges students face in transferring their associate degree credits into bachelor's degree programs.

Eighty-five percent of Tennessee bachelor's degree programs reported having articulation agreements with associate degree programs, and approximately three-fourths (73 percent) of bachelor's degree programs reported that most of their incoming students entered as transfer students or that they have an even mix of freshman and transfer students. More than three-quarters (82 percent) of associate degree programs participating in the *Inventory* reported articulation agreements with early childhood bachelor's degree programs, but more than one-half (58 percent) of associate degree programs reported that inconsistent articulation was a program challenge.

The *Inventory* asked program leads what challenges students faced in transferring their associate degree credits into bachelor's degree programs. Bachelor's degree programs most often reported that upper-division early childhood course content did not transfer into their college.

To support matriculation and student success, some states and institutions across the country are employing the strategy of "stackable credentials." Stackable credentials are a sequence of ascending credentials that can be earned over time, allowing students to move along a career pathway and progress to higher education degrees. If they are portable, these credentials are also verified and can be transferred from one institution to another (Austin, Mellow, Rosin, & Seltzer, 2012).

In Tennessee, early childhood associate degree programs are more likely than bachelor's degree programs to offer and accept these stackable credentials/certificates, allowing students to move into and through the community college system. However, almost one-half (42 percent) of programs across degree levels do not offer or accept these credentials and have no plans to offer them in the future. Another one-third of program leads were unsure whether or not their program currently offers or accepts stackable credentials.

## FINDING SIX: PROGRAM CHALLENGES

### Faculty and Program Needs

*Tennessee early childhood degree programs experience challenges related to time and resources required to fulfill faculty responsibilities, as well as the need for faculty members with specific expertise, such as teaching dual language learners. The majority of*

*program leads, especially those teaching at the associate degree level, indicated that the low pay of the ECE field has led to challenges in recruiting and retaining students.*

## What we asked about faculty- and program-related challenges:

Faculty members were asked to identify any resources needed in order to improve the early childhood degree program. Program leads were asked to identify any challenges facing their degree programs.

## Faculty-Related Challenges

Three major faculty-related challenges were identified: lack of support for faculty; a shortage of faculty members with specific expertise; and the need for increased diversity among faculty members.

### Support for Faculty

Approximately one-half (46 percent) of degree program leads indicated that “faculty administrative responsibilities interfere with student time,” though associate degree programs were significantly more likely to report this interference as a challenge than bachelor’s degree programs. Slightly more than one-quarter (27 percent) of all program leads who participated in the *Inventory* noted an insufficient number of full-time faculty as a challenge.

Among faculty members, the most commonly identified challenges were the need for resources for faculty professional development, the need for more full-time faculty, and the need for resources for program planning and improvement. One faculty member wrote, “[Early childhood faculty members] have sizeable course loads with the addition of a lot of program coordinator or advising/program duties... With the additional expectations of the suitable but extensive program evaluations we have to complete, as well as other expectations that continually surface, in addition to trying to implement research, it is very difficult to manage all these roles.” The faculty member continued, “I would like to see lower course loads from the get go... and that would mean hiring of more full-time faculty in order to do this.”

### Faculty Expertise

The highest percentage of bachelor’s (57 percent) and graduate (40 percent) degree program leads identified the “need for additional faculty expertise in teaching young children who are dual language learners” out of all 12 faculty expertise areas. Almost one-half (45 percent) of associate degree program leads also identified this need, but a higher percentage (64 percent) of associate degree program leads reported the “need for additional faculty expertise in working with college students who are English-

language learners.” In contrast, only 7 percent of bachelor’s degree program leads and 30 percent of graduate degree program leads identified this issue.

### Faculty Diversity

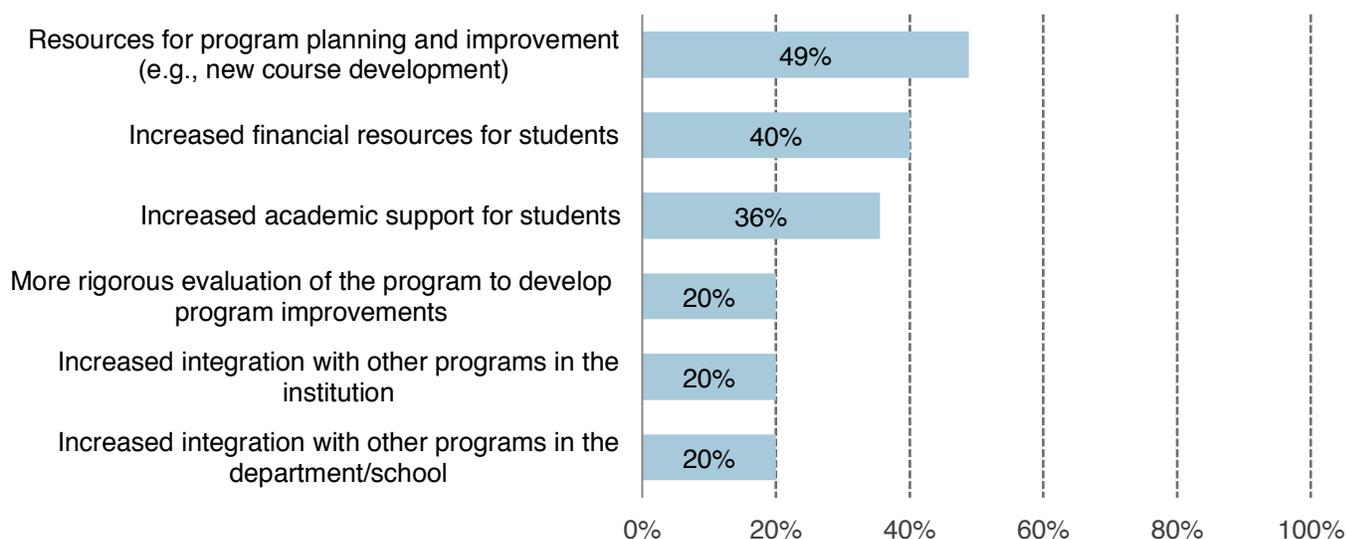
A greater percentage of bachelor’s degree faculty members identified the need for increased racial/ethnic diversity among faculty, while a greater percentage of associate degree faculty members identified the need for increased linguistic diversity among faculty. As a whole, across programs, a greater percentage of faculty members reported the need for increased racial/ethnicity among faculty (40 percent) than the need for increased linguistic diversity among faculty (24 percent).

## Program-Related Challenges

The most frequently reported challenge across degree programs was “difficulty recruiting and retaining students related to the low pay of the ECE field,” identified by more than one-half (59 percent) of programs. One associate degree program lead commented that there is “little to no pay increase when a student completes the [early childhood] degree.” Unsurprisingly, this respondent concluded, “students do not see the advantages to getting a degree when there is no financial advantage.” Additionally, more than one-third (38 percent) of total program leads reported a “lack of opportunities for non-traditional/working students to complete clinical experiences.”

About one-half (49 percent) of faculty members across degree program levels identified “resources for program planning and improvement” as a need, although associate degree faculty members were almost twice as likely to do so as bachelor’s degree and graduate degree faculty members. Other frequently reported issues among faculty members were “increased financial resources for students” (40 percent) and “increased academic support for students” (36 percent) (see **Figure 13**).

**Figure 13. Program-Related Challenges Reported by Faculty Members Participating in the Tennessee Inventory (N=45)**



# Part 2: Early Childhood Higher Education, An Evolving Landscape

*This section of the report examines how institutions of higher education are adapting to emerging research related to three key domains: family engagement, early mathematics, and dual language learners.*

## **FINDING SEVEN: FAMILY ENGAGEMENT**

Required Offerings, Faculty Attitudes, Teaching Experience, and Professional Development Interests

*Faculty members consider the inclusion of family engagement to be important in the preparation of early childhood teachers. Multiple topics related to family engagement are embedded in all levels of degree programs, with a higher focus on school-age children, as compared to*

*infants/toddlers and preschoolers. Faculty members reported feeling most capable of teaching topics related to family engagement at the elementary-school level. Faculty members expressed varied levels of interest in professional development in this topic area.*

### **What we asked about family engagement:**

Program leads were asked to identify family engagement-related course content topics that were required for the degree.

We asked faculty members about:

1. Attitudes/beliefs about the importance of including family engagement;
2. Capacity to teach students about specific family engagement topics;
3. Experience with teaching specific family engagement content in the past two years; and
4. Participation and interest in professional development focused on topics related to family engagement.

The family engagement learning domain focuses on the environment of young children's relationships and the knowledge and skills that early childhood educators need in order to help families support children's development and learning. Over the past two decades, mounting evidence has demonstrated how family involvement in children's learning at home and school contributes to school success (Dearing & Tang, 2010; Reynolds & Shlafer, 2010). As a consequence, the importance of including family engagement in teacher preparation has gained traction, particularly in light of research suggesting that teacher education programs currently focus limited attention on building student competence in this area (Epstein, Sanders, & Clark, 1999; Nathan & Radcliffe, 1994; Shartrand, Weiss, Kreider, & Lopez, 1997).

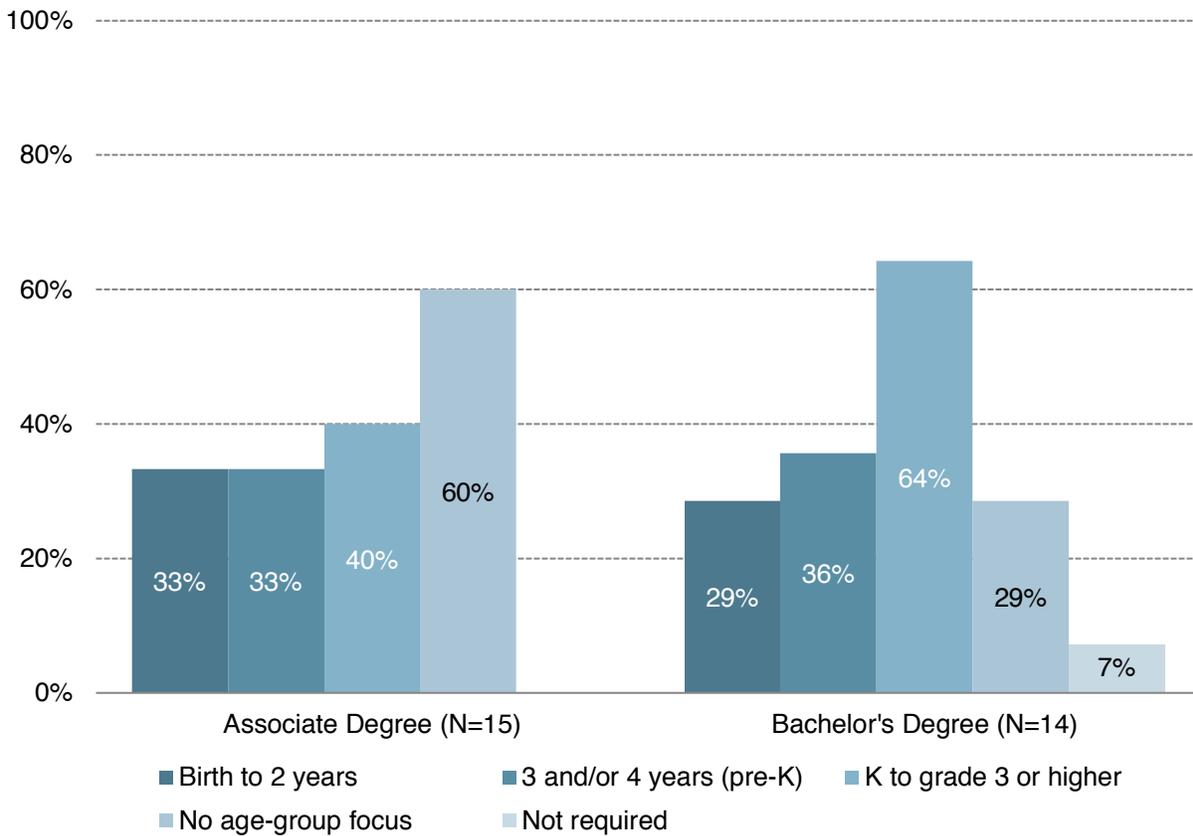
# Required Family Engagement Topics in Degree Programs

Program leads were asked about required course content and age-group focus related to eight topics of family engagement (see **Table 4** for the list of topics). Across the eight topics, at least 90 percent of both associate and bachelor’s degree programs reported requiring the topic, with one exception: “working with families of children exposed to trauma” was required by just 69 percent of associate degree programs and 77 percent of bachelor’s degree programs. Across almost all topics, both associate and bachelor’s degree programs were most likely to require the topic for school-age children, as opposed to infants and toddlers or preschool-age children (see **Figure 14** for an example).

**Table 4. List of Family Engagement Topics Included in the Tennessee Inventory**

Topic
Evidence-based research on the importance and value of building respectful and trusting relationships with families
Considering family structure when working with children and families
Working with families of children with special needs
Working with families exposed to trauma
Working with families to help them enhance their children’s learning at home
Techniques for engaging families in classroom, program, and/or school activities
Strategies to effectively communicate with families
Techniques for gathering and using knowledge about children’s families in curriculum planning

**Figure 14. Working With Families to Enhance Children's Learning at Home: Required Age-Group Focus of Programs Participating in the Tennessee Inventory, by Degree Level**



## Faculty Attitudes About the Importance of Family Engagement in Degree Programs

The importance of understanding and implementing integrated strategies to engage families to support children's development and learning was considered "very important" across age groups by 75 percent or more of faculty members teaching in associate degree programs, by 83 percent or more of faculty members teaching in bachelor's degree programs, and by 93 percent or more of faculty members teaching in graduate degree programs (see **Box 3** for how this assessment was conducted). Faculty members rated the inclusion of family engagement content in higher education programs about on par with supporting dual language learners. Additionally, faculty members were more likely to rate the inclusion of family engagement content as "very important," compared to content for early mathematics, with the exception of preparing teachers working with children in kindergarten through grade 3 or higher.

## Teaching Capacity and Experience Teaching Coursework on Family Engagement

In addition to noting the importance of family engagement, most faculty members across degree levels reported feeling capable of teaching content related to engaging with families. Faculty members in both associate and bachelor's degree programs reported feeling most capable of preparing teachers working with school-age children to “integrate families in partnerships to support children’s learning,” less capable of preparing teachers working with preschool-age children, and least capable of preparing teachers working with infants and toddlers.

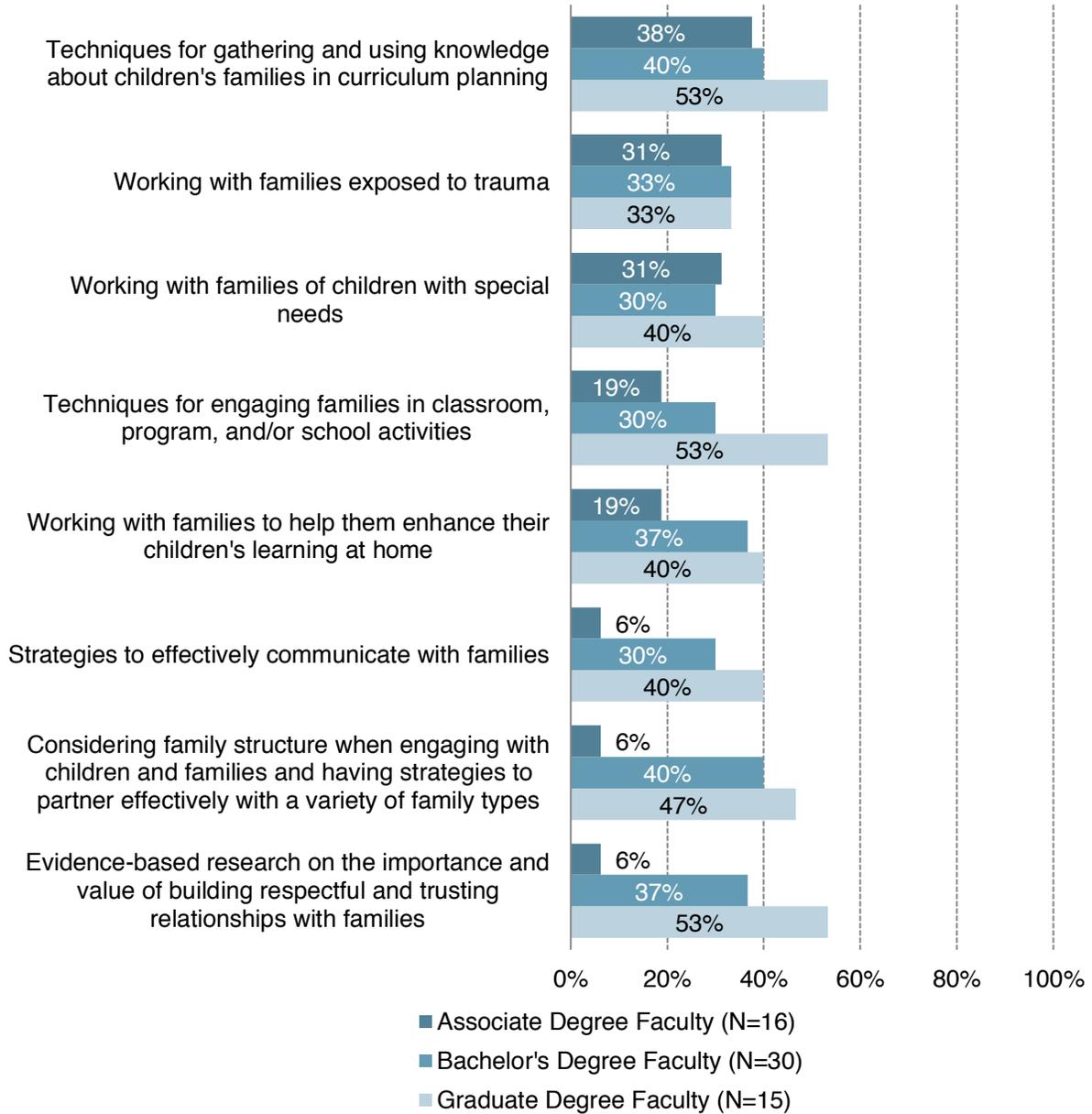
When asked about their current and recent experience teaching courses related to family engagement, nearly all faculty members across degree levels (85 percent or more) reported that they had taught coursework related to “partnering with families to enhance children’s learning in school and at home” during the past two years. Most often, faculty reported teaching this content embedded within a broader course, rather than as a separate course.

## Faculty Participation and Interest in Professional Development on Family Engagement

Between 60 and 70 percent of faculty members at each degree level reported having participated in professional development related to family engagement in the past two years. The topics most commonly covered by associate degree faculty were “working with families exposed to trauma” and “working with families to help them enhance their children’s learning at home.” The topics most commonly covered by bachelor’s degree faculty were “working with families to help them enhance their children’s learning at home” and “strategies to effectively communicate with families.”

Using a Likert scale of 1 to 5, with 1 being “not at all interested” and 5 being “very interested,” faculty members were asked to rate their interest levels in eight topics related to family engagement. Interest varied for all topics across all degree levels, with faculty members most interested in “techniques for gathering and using knowledge about children’s families in curriculum planning” (see **Figure 15**).

**Figure 15. Interest in Professional Development Related to Family Engagement Reported by Faculty Members Participating in the Tennessee Inventory: Percentage Reporting "Very Interested," by Degree Level**



## FINDING EIGHT: EARLY MATHEMATICS

Required Offerings, Faculty Attitudes, Teaching Experience, and Professional Development Interests

*Across degree levels, programs were unlikely to offer mathematics content, especially as it relates to infants and toddlers. Faculty members were likely to rate the inclusion of early mathematics as “very important” for preschool- and school-age children, but not for infants and toddlers. More than one-half of faculty members*

*across degree levels reported that they had not participated in math-related professional development in the past two years.*

### What we asked about early mathematics:

Program leads were asked to identify early math-related course content topics that were required for the degree.

We asked faculty members about:

1. Attitudes/beliefs about the importance of including early mathematics;
2. Capacity to teach students about specific math-related topics;
3. Experience with teaching specific early math course content in the past two years; and
4. Participation and interest in professional development focused on topics related to early mathematics.

The early mathematics domain addresses key areas of children’s cognitive development and important foundational knowledge and intellectual skills associated with school success. The link between school success and math competency in young children has been documented in recent research, yet there is concern that teachers of our youngest children are not adequately prepared by institutions of higher education to assess or facilitate children’s mathematical understanding and skills (Ryan et al., 2014).

## Required Early Mathematics Topics in Degree Programs

Program leads were asked about required course content and age-group focus related to 11 topics of early mathematics (see **Table 5**). For each of the 11 topics, approximately one-third of associate degree programs do not require early childhood education students to engage with the content. This percentage decreases slightly for bachelor’s degree programs; for each of the 11 topics, approximately 20 percent of bachelor’s degree programs do not require the content for degree completion.

All 11 early math topics were required by three-quarters or more of bachelor’s degree programs. In contrast, only one early math topic was required by three-quarters or more of associate degree programs. When an age-group focus was required, bachelor’s degree programs were most likely to require a focus on school-age children, while associate degree programs had an equal focus on preschool- and school-age children.

Both degree levels were least likely to focus on infants and toddlers; fewer than one-third of associate and bachelor’s degree programs required an age-group focus on infants and toddlers for any of the early mathematics topics.

**Table 5. List of Early Mathematics Topics Included in the Tennessee Inventory**

Topic
Teaching children number sense
Teaching children operations and algebraic thinking
Teaching children measurement skills
Teaching children geometry skills
Teaching children mathematical reasoning/practices
Building on children’s natural interest and using everyday activities as natural vehicles for developing children’s mathematical knowledge
Encouraging children’s inquiry and exploration to foster problem solving and mathematical reasoning
Introducing explicit mathematical concepts through planned experiences
Creating a mathematically rich environment
Developing children’s mathematical vocabulary
Assessing children’s mathematical development to inform and individualize instruction

## Faculty Attitudes About the Importance of Early Mathematics in Degree Programs

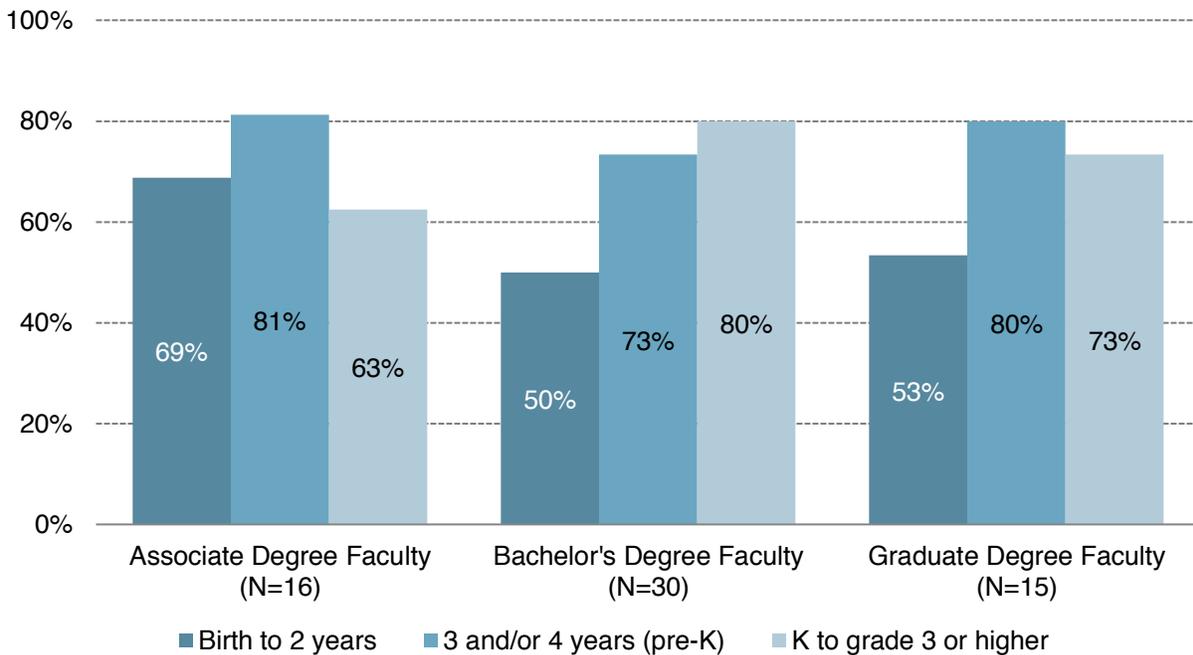
Faculty members at all degree levels were less likely to consider it “very important” to include the early mathematics domain than other domains in teacher preparation programs for practitioners working with infants and toddlers. Only about one-quarter of faculty members teaching in associate degree and graduate degree programs (25 percent and 27 percent, respectively) and less than one-fifth (17 percent) of faculty members teaching in bachelor’s degree programs considered it “very important” to include the mathematics domain in teacher preparation programs for teachers of infants and toddlers. In contrast, 85 percent or more of faculty members across degree levels considered it “very important” to include socioemotional development and family engagement for teachers working with children under age three.

Faculty members at all degree levels were more likely to consider it “very important” to include the early mathematics domain for practitioners working with older children. At least two-thirds of faculty members across degree levels considered the inclusion of early math “very important” for those teaching preschool-age children. Notably, 100 percent of faculty members across degree levels considered the inclusion of early math “very important” for those teaching school-age children.

# Teaching Capacity and Experience Teaching Coursework on Early Mathematics Topics

In addition to the broad question regarding capability of preparing teachers to scaffold children’s mathematical development, the *Inventory* also asked more specific questions related to faculty members’ capacity to teach early math-related content. On average, across the 11 specific math topics (see **Table 5**), faculty members in associate and graduate degree programs felt most capable of preparing teachers to work with preschool-age children, and faculty members in bachelor’s degree programs felt most capable of preparing teachers to work with school-age children. Fewer faculty members across degree programs reported being capable of teaching the topics to practitioners working with infants and toddlers (see **Figure 16** for an example).

**Figure 16. Building on Children's Natural Interest in Mathematics: Capacity to Prepare Teachers to Work With Children of Various Ages, as Reported by Faculty Members Participating in the Tennessee Inventory, by Degree Level**



Faculty members were asked whether they had taught “development of mathematical understanding” in the past two years and, if so, whether it was taught as a separate course or embedded within a broader course. Seventy-five percent of faculty members in associate degree programs, 63 percent of faculty members in bachelor’s degree programs, and 53 percent of faculty members in graduate degree programs reported teaching “development of mathematical understanding” in the past two years. Mathematical understanding was more likely to be taught within a broader course than as a separate course.

# Faculty Participation and Interest in Professional Development on Early Mathematics

Faculty members were asked if they had participated in professional development opportunities focused on early math development in the past three years (see **Table 6**). Although nearly all faculty members across degree levels reported participating in some type of professional development, more than one-half (57 percent) of faculty members participating in the *Inventory* had not participated in professional development related to any of the early mathematics topics listed. The topic in which faculty members were most likely to have participated was “teaching practitioners to implement instructional strategies that support mathematical understanding in children ages three and four,” which was reported by approximately one-quarter (27 percent) of faculty members across degree levels.

Using a Likert scale of 1 to 5, with 1 being “not at all interested” and 5 being “very interested,” faculty members were asked to rate their interest levels in five topics related to early mathematics. The topic in which the highest percentage of faculty members (40 percent) reported being “very interested” was “strategies to help practitioners who struggle with mathematics build confidence in their ability to facilitate children’s mathematical understanding and skill.” Across all topics, faculty members teaching in associate degree programs were more likely to report being “very interested” in math topics than faculty members teaching in bachelor’s or graduate degree programs.

**Table 6. List of Early Mathematics Professional Development Topics Included in the Tennessee Inventory**

Topic
Teaching practitioners to implement instructional strategies that support mathematical understanding in children from birth through age 2
Teaching practitioners to implement instructional strategies that support mathematical understanding in children ages 3 and 4
Teaching practitioners to implement instructional strategies that support mathematical understanding in children in kindergarten through grade 3 and higher
Teaching practitioners how to effectively use assessment to inform and individualize their mathematical instruction
Strategies to help practitioners who struggle with mathematics build confidence in their ability to facilitate children’s mathematical understanding and skill

## FINDING NINE: DUAL LANGUAGE LEARNERS

Required Offerings, Faculty Attitudes, Teaching Experience, and Professional Development Interests

*Although faculty members consider the inclusion of teaching young dual language learners (DLLs) to be important in the preparation of teachers, they reported feeling least prepared to teach this topic, compared to all other topics asked about in the Inventory. While multiple topics focused on dual language learners are*

*embedded in required course content in bachelor's degree programs, associate degree programs were less likely to offer content related to DLLs. Across degree levels, programs were most likely to offer content in this area as it pertains to teaching school-age children rather than infants/toddlers and preschoolers. Faculty members were unlikely to have participated in professional development about DLLs, and interest in ongoing dual language learner-related professional development varied by degree level and topic area.*

### What we asked about dual language learners:

Program leads were asked to identify course content topics related to teaching dual language learners and diverse families<sup>13</sup> that were required for the degree.

We asked faculty members about:

1. Attitudes/beliefs about the importance of including support for the cognitive and social development of young dual language learners and working with families of various ethnic, racial, and cultural backgrounds;
2. Capacity to teach students about specific topics related to dual language learners and diverse families; and
3. Participation and interest in professional development focused on topics related to dual language learners.

The dual language learning domain focuses on the knowledge and skills early educators need in order to support the development of young dual language learners,<sup>14</sup> a rapidly growing population in the United States. Most early educators will work with young DLLs at some point during their careers and need to understand effective teaching practices that support English language acquisition and the development of children's home language (National Academies of Sciences, Engineering, and Medicine [NASEM], 2017). Despite the crucial role of early educators for this population and the growing recognition of the benefits of bilingualism, there is concern that many early educators are not adequately prepared to support DLLs' development and learning critical to later success in school. The rapidly growing DLL student population in Tennessee provides an even more urgent need to examine the content and experiences that early educators receive to prepare them to work with this population.

<sup>13</sup> The topics included in the *Inventory* were adapted from recommended teacher competencies developed by experts in the field of dual language learning in early childhood education (Espinosa & Calderon, 2015; Lopez, Zepeda, & Medina, 2012).

<sup>14</sup> Dual language learners are children who are learning two (or more) languages simultaneously: their home language(s) and English.

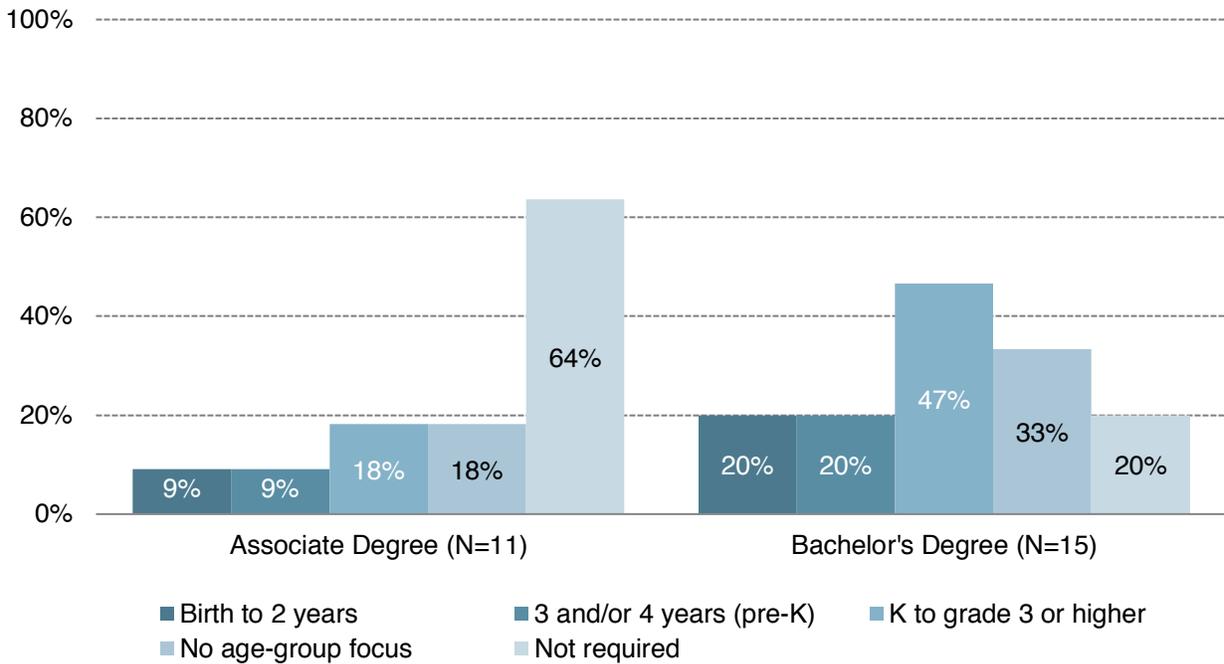
# Required Dual Language Learner Topics in Degree Programs

Program leads were asked about required course content and age-group focus related to 10 topics related to dual language learners (see **Table 7** for a list of topics). All 10 DLL topics were required by 70 percent or more of bachelor’s degree programs. In contrast, only three DLL topics were required by 70 percent or more of associate degree programs. The *Inventory* also asked whether content related to dual language learners was required for specific age groups. For both associate and bachelor’s degree programs, by far the most commonly reported age-group focus was elementary-school children. Associate degree programs were particularly unlikely to require these topics for infants and toddlers (see **Figure 17** for an example).

**Table 7. List of Topics Related to Teaching Young Dual Language Learners (DLLs) Included in the Tennessee Inventory**

Topic
Importance and benefits of bilingualism for young children’s development
Role of home-language development in helping young children learn English
Strategies to support the cognitive development of young DLLs
Strategies to support the language development of young DLLs
Strategies to support the literacy development of young DLLs
Strategies to support the development of mathematical knowledge and understanding of young DLLs
Strategies to support the socioemotional development of young DLLs
How to use appropriate teaching strategies for young DLLs within various classroom language models
How to use observation, assessment, and documentation to inform strategies for teaching young DLLs
Strategies for engaging families from linguistically diverse backgrounds

**Figure 17. Strategies to Support the Literacy Development of Young Dual Language Learners: Required Age-Group Focus of Programs Participating in the Tennessee Inventory, by Degree Level**



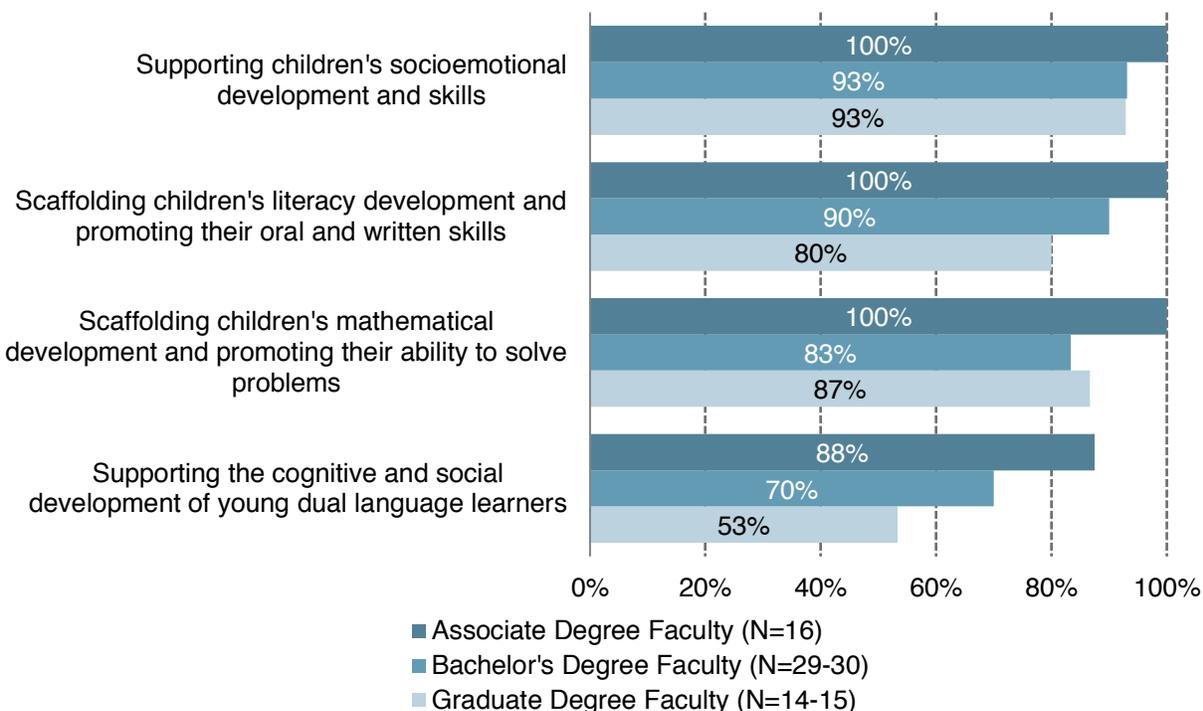
## Faculty Attitudes About the Importance of Teaching Young Dual Language Learners in Degree Programs

The importance of understanding and implementing strategies to support dual language learners was considered “very important” by 80 percent or more of faculty members across degree program levels (see **Box 3** in previous section for how this assessment was conducted). However, faculty members were less likely to consider it as important as the domain of socioemotional development. Faculty members teaching in associate degree programs overwhelmingly find the inclusion of teaching dual language learners “very important” for those teaching all ages of children. Faculty members teaching in bachelor’s and graduate degree programs were more likely to consider it “very important” for those teaching older children.

## Teaching Capacity Related to Dual Language Learning

While the vast majority of faculty members across degree levels noted the importance of supporting dual language learners, faculty members feel the least prepared to teach this topic, compared to all the other topics asked about in the *Inventory* (see **Figure 18**). The vast majority (88 percent) of faculty members teaching in associate degree programs and about two-thirds (70 percent) of faculty members teaching in bachelor’s degree programs noted that they felt capable of preparing teachers to “support the cognitive and social development of young dual language learners.”

**Figure 18. Capacity to Prepare Teachers to Support and Promote Children's Development, as Reported by Faculty Members Participating in the Tennessee Inventory, by Degree Level**

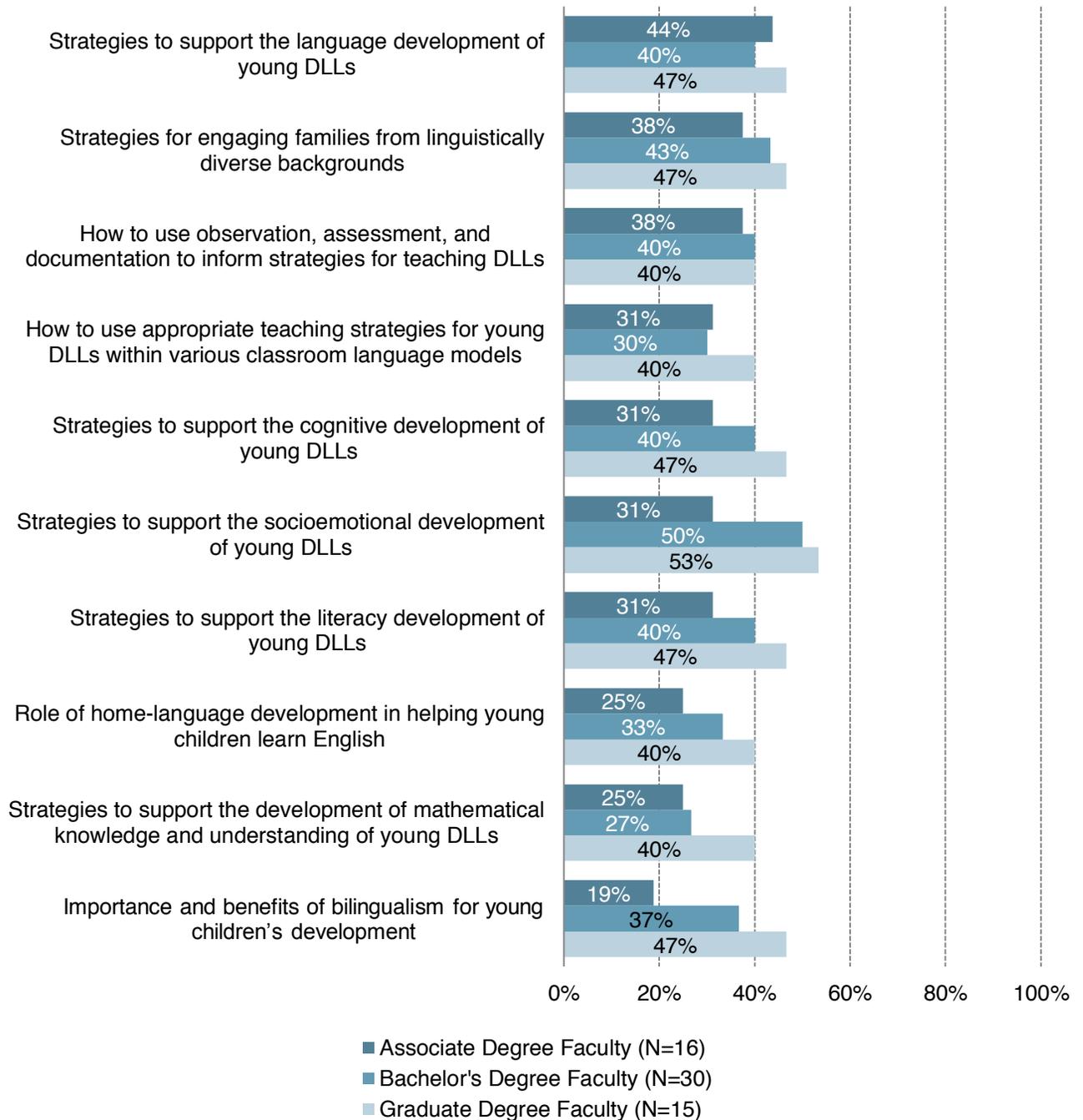


## Faculty Participation and Interest in Professional Development Related to Dual Language Learners and Diverse Families

Faculty members were asked if they had participated in professional development opportunities focused on 10 topics related to teaching dual language learners and diverse families in the past three years. Participation rates across degree levels were low, but varied by degree level and topic. Faculty members teaching in bachelor's degree programs were the least likely to have participated in professional development on this topic; just 37 percent of faculty members teaching in bachelor's degree programs reported participating in any of the DLL topics asked about in the *Inventory*. The DLL professional development topic in which faculty members teaching in associate degree programs were most likely to have participated was the "role of home-language development in helping young children learn English" (47 percent). Faculty members teaching in bachelor's and graduate degree programs were most likely to have participated in professional development regarding "how to use observation, assessment, and documentation to inform strategies for teaching DLLs" (30 and 33 percent, respectively). Three-fifths (59 percent) of all faculty members participating in the study had not participated in professional development related to any of the DLL topics listed in the *Inventory*.

Using a Likert scale of 1 to 5, with 1 being “not at all interested” and 5 being “very interested,” faculty members were asked to rate their interest levels in 10 topics related to teaching dual language learners and diverse families. Faculty interest varied by topics across all degree levels, but overall, interest was somewhat higher among faculty members teaching in graduate degree programs than among faculty members teaching in bachelor’s and associate degree programs. On average, slightly more than one-third of faculty members in all degree program levels identified being “very interested” in professional development topics related to teaching dual language learners (see **Figure 19**).

**Figure 19. Interest in Professional Development Related to Dual Language Learners (DLLs) Reported by Faculty Members Participating in the Tennessee Inventory: Percentage Reporting "Very Interested," by Degree Level**



# Discussion and Recommendations

In this final section, we outline an approach to strengthening early childhood workforce development in Tennessee, with an emphasis on higher education. We identify seven discrete elements that together constitute a strategy for aligning the current system with efforts to build and retain a skilled and stable workforce. The success of this approach requires ensuring that its various components be implemented in unison, calling for a research agenda to measure progress and challenges over time, and learning more about the depth of instruction delivered in higher education programs. Efforts should be coordinated among key stakeholders in Tennessee (including the Tennessee Office of Early Learning, the Tennessee Commission on Children and Youth, and the Tennessee Early Childhood Training Alliance) and are predicated on identifying new resources from state, federal, and philanthropic sources.

We call upon policymakers, philanthropists, higher education faculty and administrators, advocates, teachers, and other stakeholders across the state to advance the following approach.

## 1. Invest resources in early childhood higher education degree programs and increase access and supports for students

Strengthening early childhood teacher preparation in Tennessee will require an increased investment of resources into Tennessee's system of early childhood degree programs. To increase equity and access to higher education opportunities for a diverse current and incoming workforce, many of whom are non-traditional students, and to ensure that students can successfully attain college education, it is also critical to provide student services and infrastructure that are known to support student success. We recommend:

- Investing more resources for early childhood degree programs across the state, including funding for program planning and improvement and expanding access to students in areas of the state that have limited access to brick-and-mortar colleges (see map on page 6); and
- Implementing or expanding resources and supports that promote student success in attaining their degrees, including:
  - Blended and non-traditional formats for degree programs;
  - Alternative class schedules and locations;
  - Targeted academic advising and tutoring;
  - Cohort models;
  - Academic skill support in reading, writing, mathematics, and computer/technological skills; and
  - Financial resources for students and financial aid counseling.

## 2. Unify expectations and pathways for early childhood workforce preparation

Findings from *Inventory* studies conducted in other states suggest that when states intentionally redesign their certification system for early childhood educators, higher education systems adjust by making changes in required course content, age-group focus, and field-based practice, as appropriate. In Tennessee, standards that apply to early childhood teachers and administrators in private settings across the state vary according to program type and, in general, are minimal, while more rigorous certification standards and higher education degree requirements apply to early childhood teachers working in public preschool and

elementary school settings. Thus, institutions of higher education in Tennessee offer programs that vary widely in course content and field experiences required for student learning.

In Tennessee, as is true throughout the nation, uneven qualifications across the early childhood system are out of step with what we know today about early learning and development (Whitebook et al., 2016). In the absence of consistent statewide certification standards that apply to early childhood teachers and administrators in all types of ECE programs, working with all age groups of children, Tennessee institutions of higher education have largely placed an emphasis on preschool- and school-age children, which affects limited segments of the workforce. However, with appropriate resources and supports, programs responsible for preparing early educators have the opportunity to ensure that practitioners across settings have the foundational knowledge and skills necessary to support young children's development across the birth-through-age-eight spectrum.

Clarity among degree programs as to their purpose and a revision of Tennessee's current system for certifying teachers, administrators, and other practitioners is required in the effort to erase the divisions in professional expectations and preparation across and within age groups on the birth-to-age-eight continuum in line with the Institute of Medicine and National Research Council recommendations and to clarify the purpose of early childhood higher education programs (IOM & NRC, 2015). To initiate this process, we recommend:

- Building on the professional development steps outlined in the existing Tennessee Star-Quality Child Care Program to establish a more uniform system for certifying teachers and administrators throughout the state that reflects foundational knowledge for early educators across age groups and auspices aligned with the Tennessee Early Learning Developmental Standards;
- Aligning early education degree program course requirements with state standards and competencies, such as the Tennessee Early Learning Developmental Standards; and
- Providing clear roadmaps to identify whether the course of study in a particular degree program is intended to prepare practitioners for the demands of teaching young children and/or for leading ECE programs or whether the course of study is designed for other purposes.

### **3. Strengthen program content and equity across the age span**

Many ECE stakeholders emphasize the importance of relying on research findings to guide ECE policy and practice, yet our findings suggest uneven application of such evidence across multiple domains of early learning and development for children from infancy through the early elementary grades. Infants and toddlers were most likely to be disadvantaged, with fewer Tennessee early childhood degree programs requiring the inclusion of the youngest children in the course content and field-based experiences, compared to preschool- and school-age children. Additionally, the growing diversity of Tennessee's child population suggests a need to prepare teachers to work with a broad range of children, particularly those who are learning more than one language, and to ensure that all content is culturally and linguistically responsive to the children and families being served in early care and education programs.

To strengthen required content and align it with child development and teacher preparation research and to equalize required content for all children across the birth-to-age-eight continuum, we recommend that resources be provided to develop and support participation in faculty professional development to enable

faculty members across degree programs and institutions to collaborate with other experts to develop and enhance program content standards related to:

- **Child Development and Pedagogy**, preparing teachers to work with children of different ages, including:
  - Infant development and learning across multiple domains; and
  - Methods of teaching and pedagogy for children of different ages;
- **Early Mathematics**, addressing:
  - Children’s mathematical understanding from infancy through early elementary grades; and
  - Developmentally appropriate pedagogy for early mathematics instruction across the birth-to-age-eight age span;
- **Dual Language Learners**, emphasizing:
  - Recognition of the value and importance of supporting children’s home-language development as they also learn English, with an emphasis on very young children;
  - Strategies for using observation and assessment in teaching young dual language learners and strategies to support the mathematical, literacy, language, cognitive, and socioemotional development of young dual language learners; and
  - An understanding of the strengths and needs of adults from diverse linguistic, racial/ethnic, and cultural backgrounds to support their entry and retention in the ECE field; and
- **Trauma**, preparing practitioners to work with children and families who have experienced trauma.

#### **4. Strengthen the application of field-based learning experiences**

Among the early childhood higher education degree programs in Tennessee that require students to participate in a practicum course, there is great variation in the characteristics of those field-based learning experiences. In addition, access to longer and more in-depth student teaching experiences is limited, particularly for students in associate degree programs. With limited opportunities to work with infants and toddlers, families, dual language learners, or children with disabilities during their practicum experiences, graduates from Tennessee degree programs have highly disparate field-based learning experiences. Furthermore, not all associate degree programs require their students to participate in field-based learning experiences of any kind.

To strengthen the development and application of field-based learning experiences, we recommend:

- Providing resources and support to faculty members across degree programs and institutions to develop degree program standards for the timing, frequency, and duration of field-based experiences, with opportunities focused on children from infancy through preschool;
- Developing differentiated field experiences for pre- and in-service students (for pre-service students, extend more opportunities for in-depth student teaching experiences, and for in-service students, explore and implement models that accommodate those already working in classrooms, while also providing quality experiences);
- Implementing additional opportunities for student teaching experiences, in which students are engaged in classrooms for a longer period of time and are given increasing responsibility related to curriculum development, instruction, and assessment; and

- Providing field-based learning opportunities for students to engage with:
  - Infants and toddlers;
  - Children with special needs;
  - Children who are dual language learners;
  - Families; and
  - Community organizations that support children and families.

## 5. Improve and expand articulation agreements across institutions

In Tennessee and across the country, increasing numbers of students are entering the higher education system as community college students with the intent to transfer to a bachelor's degree program at a college or university. With a large percentage of degree programs participating in articulation agreements, Tennessee has a good framework for supporting students in extending their education. However, there are inconsistencies in the practice and perception of articulation agreements between community colleges and universities. We recommend:

- Increasing the number of articulation agreements between institutions that grant associate and bachelor's degrees;
- Providing dedicated personnel at community colleges for student advising to ensure that students have adequate information and guidance for seamless transfer between institutions;
- Ensuring that articulation agreements are comprehensive and that coursework is aligned across institutions so that students may realize the maximum benefits of the agreements; and
- Expanding the availability of and access to portable and stackable certificates that articulate and lead to degree completion across higher education systems.

## 6. Build a leadership pipeline reflective of the diversity of the state's practitioner and child populations

In Tennessee, K-12 principals are required to hold a bachelor's degree, complete an approved instructional leadership preparation program, and have three years of education experience.<sup>15</sup> In contrast, child care center directors in private settings may have various combinations of education and experience.<sup>16</sup> In light of these inconsistent and nominal expectations for ECE leadership positions, it is not surprising that across degree levels, program course content is not routinely offered to prepare practitioners for early childhood supervisory, administrative, or other leadership roles.

To create a clearer leadership pipeline and ensure that leaders have comparable skills across age groups and settings, we recommend:

- Identifying the appropriate course of study and degree level (associate, bachelor's, graduate) for each leadership role based on the specific skills and knowledge outlined in the Tennessee Early Learning Development Standards;

---

<sup>15</sup> Principal requirements were retrieved from the Tennessee Department of Education. Find more information at <https://www.tn.gov/education/licensing/educator-licensure/new-to-education.html>.

<sup>16</sup> Director requirements were retrieved from the Tennessee Department of Human Services Child Care Laws, Rules, Guidelines & Policies (Public Chapter 1070). Find more information at <https://www.tn.gov/humanservices/for-families/child-care-services/child-care-laws-rules-guidelines-policies-public-chapter-1070.html>.

- Ensuring training and ongoing professional opportunities for faculty members teaching coursework on supervision, administration, and leadership development in undergraduate and graduate degree programs;
- Identifying options to create leadership pathways and/or programs; and
- Ensuring an adequate number of degree programs at both the undergraduate and graduate level that offer the appropriate course content.

In addition to gaps in course content related to leadership development, the demographics of the faculty members participating in the *Inventory* indicate an aging faculty workforce (particularly in associate degree programs) that is primarily white/Caucasian and English-speaking. Although Tennessee’s dual language learner child population has grown at a rate nearly four times the national average since 2000, only 11 percent of early childhood degree faculty members speak a language other than English (Park et al., 2017). To increase the diversity of the early childhood higher education faculty, we recommend:

- Investigating and developing strategies used in other professions (e.g., health, education, social welfare) to create faculty development programs — such as a fellowship or grant — intended to increase ethnic and linguistic diversity among faculty, particularly in key leadership positions.

## 7. Increase faculty supports

Early childhood degree programs report being under-resourced and requiring additional support to allow faculty members to engage individually with students, support student success, and engage in program planning and improvement. Faculty members in Tennessee also identify the need for greater opportunities to engage in their own professional growth in response to new developments in the field and the changing characteristics of the populations they serve.

To facilitate improvements in program offerings and to support faculty members to engage in their own professional development, we recommend:

- Establishing an ongoing fund with well-articulated expectations for faculty members’ professional development honoraria and program improvement grants; and
- Ensuring adequate resources, including funding, staffing, and dedicated time for program planning and improvement, as well as effective faculty mentoring.

# Concluding Thoughts

The call for an integrated system of early learning for all young children rests upon an understanding of the critical importance of early childhood, beginning at birth and extending through the first years of elementary school. But the early childhood service system and infrastructure in the United States — of which higher education is a cornerstone — is poorly integrated, ascribing differing expectations for teacher preparation across the birth-to-age-eight continuum, and severely under-resourced, assigning different resources to teachers across settings with virtually all members of the workforce being poorly compensated. An early care and education system that is fully prepared to support the well-being of young children *and* the adults who educate them calls for innovative solutions and coordinated efforts on multiple fronts.

This report provides a portrait of Tennessee’s early childhood higher education landscape amid efforts to invest in, strengthen, and coordinate early childhood workforce development efforts. A strong preparation system for Tennessee’s early childhood teachers and administrators is central to these efforts aimed at ensuring that all young children in Tennessee have access to high-quality early learning experiences.

Institutions of higher education can play a lead role in elevating the preparation of a high-quality workforce by aligning curriculum and field-based experiences with the standards and competencies developed by early care and education experts and by supporting students in the pursuit and attainment of higher education degrees. However, while it is crucial that early educators receive the education and training they need, the preparation of the ECE workforce must go hand in hand with comprehensive reforms to the system, such as supportive work environments, financial investment to enable increased compensation and parity across age groups and settings, and financial resources to support the implementation of heightened expectations and standards. System-wide improvement requires a continued discourse among multiple stakeholders on how our nation prepares, supports, and rewards the ECE workforce. Without these larger systemic changes, we will continue to disadvantage early educators and the children and families they serve.

# References

- Annie. E. Casey Foundation. (2016). *Child Population by Race and Age Group – 2016*. Kids Count Data Center. Retrieved from <http://datacenter.kidscount.org/>.
- Austin, J.T., Mellow, G.O., Rosin, M., & Seltzer, M. (2012). *Portable, Stackable Credentials: A New Education Model for Industry-Specific Career Pathways*. McGraw-Hill Research Foundation.
- Bornfreund, L.A. (2011). *Getting in Sync: Revamping Licensing and Preparation for Teachers in Pre-K, Kindergarten, and the Early Grades*. Washington, DC: New America. Retrieved from <https://www.newamerica.org/education-policy/policy-papers/getting-in-sync/>.
- Capps, R., Fix, M.E., Ost, J., Reardon-Anderson, J., & Passel, J.S. (2004). *The Health and Well-Being of Young Children of Immigrants*. Washington, DC: The Urban Institute. Retrieved from [http://www.urban.org/research/publication/health-and-well-being-young-children-immigrants/view/full\\_report](http://www.urban.org/research/publication/health-and-well-being-young-children-immigrants/view/full_report).
- Center for Community College Student Engagement (CCCSE). (2014). *Contingent Commitments: Bringing Part-time Faculty Into Focus (A Special Report from the Center for Community College Student Engagement)*. Austin, TX: The University of Texas at Austin, Program in Higher Education Leadership. Retrieved from [http://www.ccsse.org/docs/PTF\\_Special\\_Report.pdf](http://www.ccsse.org/docs/PTF_Special_Report.pdf).
- Center for the Study of Child Care Employment (CSCCE). (2016). *Early Childhood Higher Education Inventory II*. Berkeley, CA: Author.
- Center for the Study of Child Care Employment (CSCCE). (2017). *Comparison of Personnel Systems for K-12 and Early Childhood Teachers: Qualifications and Compensation*. Berkeley, CA: Author. Retrieved from <http://cscce.berkeley.edu/files/2017/Comparison-of-Personnel-Systems-K12-and-Early-Childhood-Teachers.pdf>.
- Chu, M., Martinez-Griego, B., & Cronin, S. (2010). A Head Start/college partnership: Using a culturally and linguistically responsive approach to help working teachers earn degrees. *Young Children* 65(4), 24-29.
- Curtis, J.W., & Thornton, S. (2014). *Losing Focus: The Annual Report on the Economic Status of the Profession, 2013-14*. Washington, DC: American Association of University Professors. Retrieved from <https://www.aaup.org/reports-publications/2013-14salarysurvey>.
- Dearing, E., & Tang, S. (2010). The home learning environment and achievement during childhood. In S.L. Christenson & A.L. Reschly (Eds.), *Handbook of School-Family Partnerships* (pp. 131-157). New York, NY: Routledge.
- Early, D., & Winton, P. (2001). Preparing the workforce: Early childhood teacher preparation at 2- and 4-year institutes of higher education. *Early Childhood Research Quarterly* 16, 285-306.

- Epstein, J.L., Sanders, M.G., & Clark, L.A. (1999). *Preparing Educators for School-Family-Community Partnerships: Results of a National Survey of Colleges and Universities*. Baltimore, MD: Center on School, Family, and Community Partnerships, John Hopkins University. Retrieved from <http://www.csos.jhu.edu/crespar/techreports/report34.pdf>.
- Espinosa, L.M., & Calderon, M. (2015). *State Early Learning and Development Standards/Guidelines, Policies & Related Practices*. Boston, MA: Build Initiative. Retrieved from <http://buildinitiative.org/Portals/0/Uploads/Documents/BuildDLLReport2015.pdf>.
- Hernandez, D.J. (2011). *Double Jeopardy: How Third-Grade Reading Skills and Poverty Influence High School Graduation*. Albany, NY: Annie E. Casey Foundation. Retrieved from <https://www.fcd-us.org/double-jeopardy-how-third-grade-reading-skills-and-poverty-influence-high-school-graduation/>.
- Hyson, M., Horm, D.M., & Winton, P.J. (2012). Higher education for early childhood educators and outcomes for young children: Pathways toward greater effectiveness. In R. Pianta (Ed.), *Handbook of Early Childhood Education* (pp. 553-583). New York, NY: The Guilford Press.
- Institute of Medicine (IOM) & National Research Council (NRC). (2015). *Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation*. Washington, DC: The National Academies Press. Retrieved from doi:<https://doi.org/10.17226/19401>.
- Johnson, J.E., Fiene, R., McKinnon, K., & Bahu, S. (2010). *Policy Brief: Pennsylvania State University Study of Early Childhood Teacher Education*. University Park, PA: Pennsylvania State University.
- Karoly, L.A. (2009). *Preschool Adequacy and Efficiency in California: Issues, Policy Options, and Recommendations*. Santa Monica, CA: RAND Corporation. Retrieved from [https://www.rand.org/content/dam/rand/pubs/monographs/2009/RAND\\_MG889.pdf](https://www.rand.org/content/dam/rand/pubs/monographs/2009/RAND_MG889.pdf).
- Kipnis, F., Whitebook, M., Almaraz, M., Sakai, L., & Austin, L.J.E. (2012). *Learning Together: A Study of Six B.A. Completion Cohort Programs in Early Care and Education. Year 4*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley.
- Lim, C., Maxwell, K.L., Able-Boone, H., & Zimmer, C.R. (2009). Cultural and linguistic diversity in early childhood teacher preparation: The impact of contextual characteristics on coursework and practica. *Early Childhood Research Quarterly* 24(1), 64-76.
- Lopez, A., Zepeda, M., & Medina, O. (2012). *Dual Language Learner Teacher Competencies (DLLTC) Report*. Los Angeles, CA: Alliance for a Better Community. Retrieved from <http://publications.unidosus.org/handle/123456789/1127>.
- Maxwell, K.L., Lim, C-I., & Early, D.M. (2006). *Early Childhood Teacher Preparation Programs in the United States: National Report*. Chapel Hill, NC: The University of North Carolina, FPG Child Development Institute.

- Nathan, J., & Radcliffe, B. (1994). *It's Apparent: We Can and Should Have More Parent/Educator Partnerships*. Minneapolis, MN: University of Minnesota, Humphrey Institute of Public Affairs, Center for School Change. Retrieved from <http://centerforschoolchange.org/wp-content/uploads/2012/07/Its-Apparent-We-Can-and-Should-Have-More-Parent-Educator-Partnerships.pdf>.
- National Academies of Sciences, Engineering, and Medicine (NASEM). (2017). *Promoting the Educational Success of Children and Youth Learning English: Promising Futures*. Washington, DC: The National Academies Press.
- National Council for Accreditation of Teacher Education (NCATE). (2010a). *The Road Less Traveled: How the Developmental Sciences Can Prepare Educators to Improve Student Achievement: Policy Recommendations*. Washington, DC: Author.
- National Council for Accreditation of Teacher Education (NCATE). (2010b). *Transforming Teacher Education Through Clinical Practice: A National Strategy to Prepare Effective Teachers*. Washington, DC: Author.
- Park, M., O'Toole, A., & Katsiaficas, C. (2017). *Dual Language Learners: A Demographic and Policy Profile for Tennessee*. Washington, DC: Migration Policy Institute.
- Ray, A., Bowman, B., & Robbins, J. (2006). *Preparing Early Childhood Teachers to Successfully Educate All Children: The Contribution of Four-Year Undergraduate Teacher Preparation Programs*. New York, NY: Foundation for Child Development & Chicago, IL: Erikson Institute.
- Reynolds, A.J., & Shlafer, R.J. (2010). Parent involvement in early education. In S.L. Christenson & A.L. Reschly (Eds.), *Handbook of School-Family Partnerships* (pp. 131-157). New York, NY: Routledge.
- Ryan, S., Whitebook, M., & Cassidy, D. (2014). *Strengthening the Math-Related Teaching Practices of the Early Care and Education Workforce: Insights from Experts*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from <http://cscce.berkeley.edu/files/2014/Math-Expert-Paper-Report.pdf>.
- Sakai, L., Kipnis, F., Whitebook M., & Schaack, D. (2014). Yes they can: Supporting bachelor degree attainment for early childhood practitioners. *Early Childhood Research and Practice* 16(1-2).
- Shartrand, A.M., Weiss, H.B., Kreider, H.M., & Lopez, M.E. (1997). *New Skills for New Schools: Preparing Teachers in Family Involvement*. Cambridge, MA: Harvard Family Research Project. Retrieved from <http://www.hfrp.org/publications-resources/browse-our-publications/new-skills-for-new-schools-preparing-teachers-in-family-involvement/>.
- T.E.A.C.H. Early Childhood National Center. (2015). *Early Childhood Articulation Project Compendium*. Retrieved from <http://teachecnationalcenter.org/wp-content/uploads/2015/10/Articulation-Compendium-Update-10-20-15.pdf>.

- Whitebook, M. (2014). *Building a Skilled Teacher Workforce: Shared and Divergent Challenges in Early Care and Education and in Grades K-12*. Seattle, WA: The Bill and Melinda Gates Foundation.
- Whitebook, M., Austin, L.J.E., Ryan, S., Kipnis, F., Almaraz, M., & Sakai, L. (2012). *By Default or by Design? Variations in Higher Education Programs for Early Care and Teachers and Their Implications for Research Methodology, Policy, and Practice*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from [http://cscce.berkeley.edu/files/2012/ByDefaultOrByDesign\\_FullReport\\_2012.pdf](http://cscce.berkeley.edu/files/2012/ByDefaultOrByDesign_FullReport_2012.pdf).
- Whitebook, M., Bellm, D., Lee, Y., & Sakai, L. (2005). *Time to Revamp and Expand: Early Childhood Teacher Preparation Programs in California's Institutions of Higher Education*. Berkeley, CA: Center for the Study of Child Care Employment.
- Whitebook, M., & McLean, C. (2017). *Educator Expectations, Qualifications, and Earnings: Shared Challenges and Divergent Systems in ECE and K-12*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from <http://cscce.berkeley.edu/files/2017/Educator-Expectations-Qualifications-and-Earnings.pdf>.
- Whitebook, M., McLean, C., & Austin, L.J.E. (2016). *Early Childhood Workforce Index-2016*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley.
- Whitebook, M., Phillips, D., & Howes, C. (2014). *Worthy Work, STILL Unlivable Wages: The Early Childhood Workforce 25 Years after the National Child Care Staffing Study*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from <http://cscce.berkeley.edu/files/2014/ReportFINAL.pdf>.
- Whitebook, M., & Ryan, S. (2011). *Degrees in Context: Asking the Right Questions About Preparing Skilled and Effective Teachers of Young Children*. New Brunswick, NJ: National Institute for Early Education Research & Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley. Retrieved from [http://cscce.berkeley.edu/files/2011/DegreesinContext\\_2011.pdf](http://cscce.berkeley.edu/files/2011/DegreesinContext_2011.pdf).
- Whitebook, M., Schaak, D., Kipnis F., Austin, L., & Sakai L. (2013). *From Aspiration to Attainment: Practices That Support Educational Success, Los Angeles Universal Preschool's Child Development Workforce Initiative*. Berkeley, CA: Center for the Study of Child Care Employment, University of California, Berkeley.
- Yoshikawa, H., Weiland, C., Brooks-Gunn, J., Burchinal, M.R., Espinosa, L.M., Gormley, W.T., Ludwig, J., Magnuson, K.A., Phillips, D., & Zaslow, M.J. (2013). *Investing in Our Future: The Evidence Base on Preschool Education*. Washington, DC: Society for Research in Child Development & New York, NY: Foundation for Child Development.