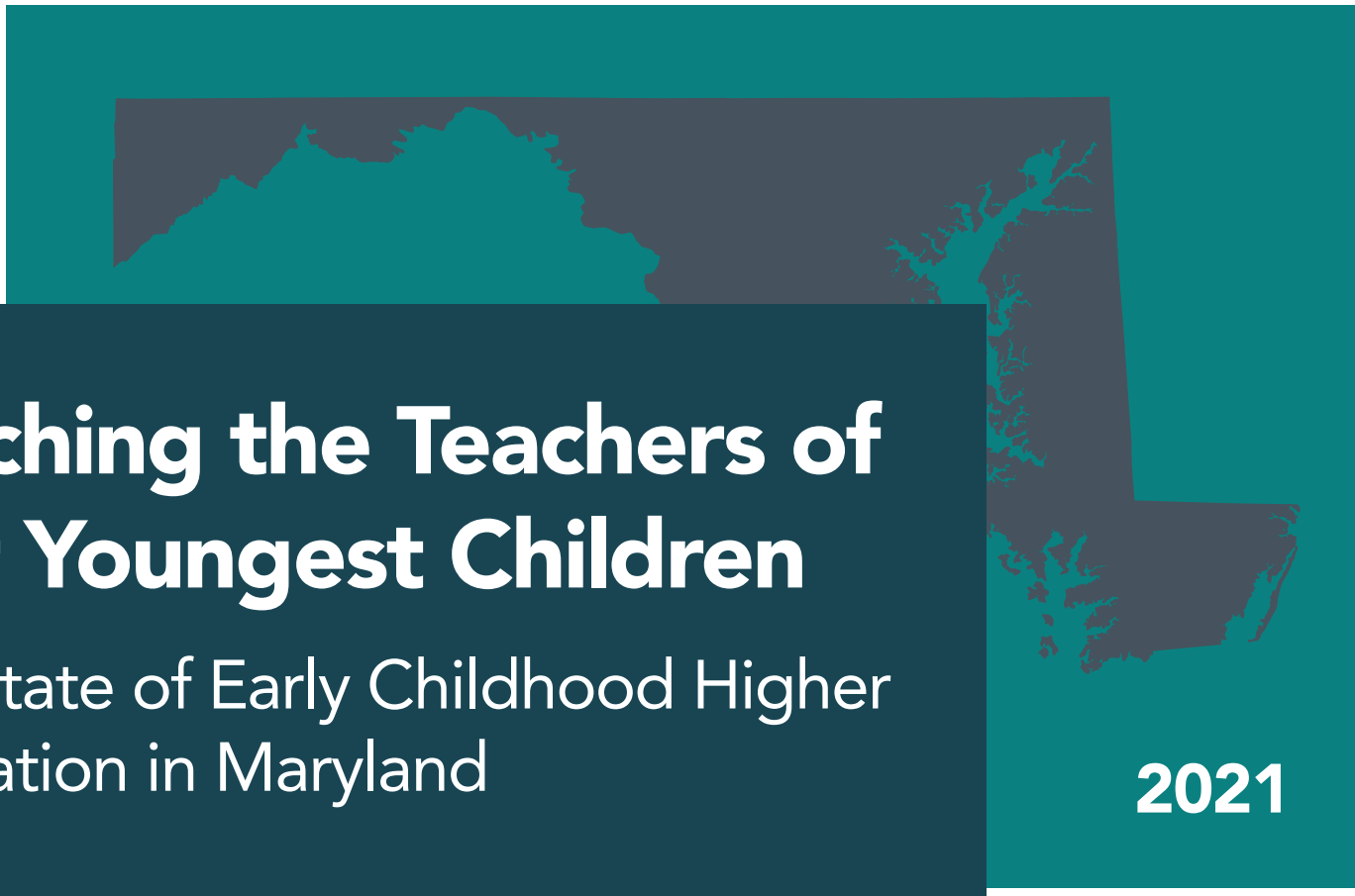

Teaching the Teachers of Our Youngest Children

The State of Early Childhood Higher Education in Maryland

2021

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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.

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

Editor: Deborah Meacham

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Introduction

Through research and practice, the early care and education (ECE) field has demonstrated 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 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.

Despite these acknowledgements, there has not been significant movement to advance state policies to align minimum education requirements with the recommendations set forth by the IOM and NRC nor has there been widespread progress in higher education systems within states to ensure the availability and accessibility of high-quality interdisciplinary degree programs tasked with preparing early educators. 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 — many of which share the title of "early childhood education" — are assumed to produce equivalent results (Maxwell, Lim, & Early, 2006; Whitebook, Austin, Ryan, Kipnis, Almaraz, & Sakai, 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.

Maryland is home to more than 430,000 children under the age of six; 73 percent of these young children have all available parents in the labor force and thus potentially need child care (Annie E. Casey Foundation, 2019a). Stakeholders and advocates in Maryland are 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.

As noted in the *Early Childhood Workforce Index* (Whitebook, McLean, Austin, & Edwards, 2018), progress toward an equitable, efficient, and effective early childhood system requires advancing preparation, workplace supports, and compensation for 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.

The *Early Childhood Higher Education Inventory II* (Center for the Study of Child Care Employment [CSCCE], 2016) is a tool 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.[1] 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** on page 4 for a description of *Inventory* methodology). The 2015 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). To address these areas of emphasis from the report, the *Inventory* was revised in 2016 to include three expanded series of questions focused on supporting early math development, engagement with families, and working with dual language learners.

The *Inventory* was implemented in Maryland during the fall of 2019. 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 narrative 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 COVID-19 pandemic that emerged in the United States in the early months of 2020 has highlighted the essential, invaluable nature of ECE services and the educators who provide them, while underscoring the crisis that exists within the system of early care and education in this country. As stakeholders, including various levels of government, work to reform a broken and fragmented ECE system, significant attention must be paid to the issue of educator preparation. Meaningful reform of the ECE system begins with appropriate qualifications for educators, coupled with access to and supports for the education and training of the existing and future

[1] Maryland is one of 14 states (along with Arkansas, California, Florida, Indiana, Mississippi, Nebraska, New Hampshire, New Jersey, New York, Oregon, Rhode Island, Tennessee, and Washington) in which the *Inventory* has been completed at the time of publication of this report.

workforce. As the fields of higher education and early childhood education look to recover from the devastating impacts of COVID-19, it will be crucial to focus attention on what educators need to know, learn, and be able to do in order to best promote children's development and learning as both fields embrace this unique opportunity to reimagine and restructure how to deliver effective early educator preparation and quality ECE services for children and families.

The Early Childhood Higher Education Landscape in Maryland

A network of 16 community colleges and 13 public and private universities provides an array of early childhood degree programs. This network of higher education institutions offers 32 associate degree programs, 15 bachelor's degree programs, eight master's degree programs, and one doctoral degree program. In the current study, the vast majority of associate degree programs reported serving a mix of those already working in the early childhood field as well as more traditional pre-service students, while nearly two-thirds of bachelor's degree programs reported serving primarily 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 Maryland 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 Maryland 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.

Box 1. Study Design

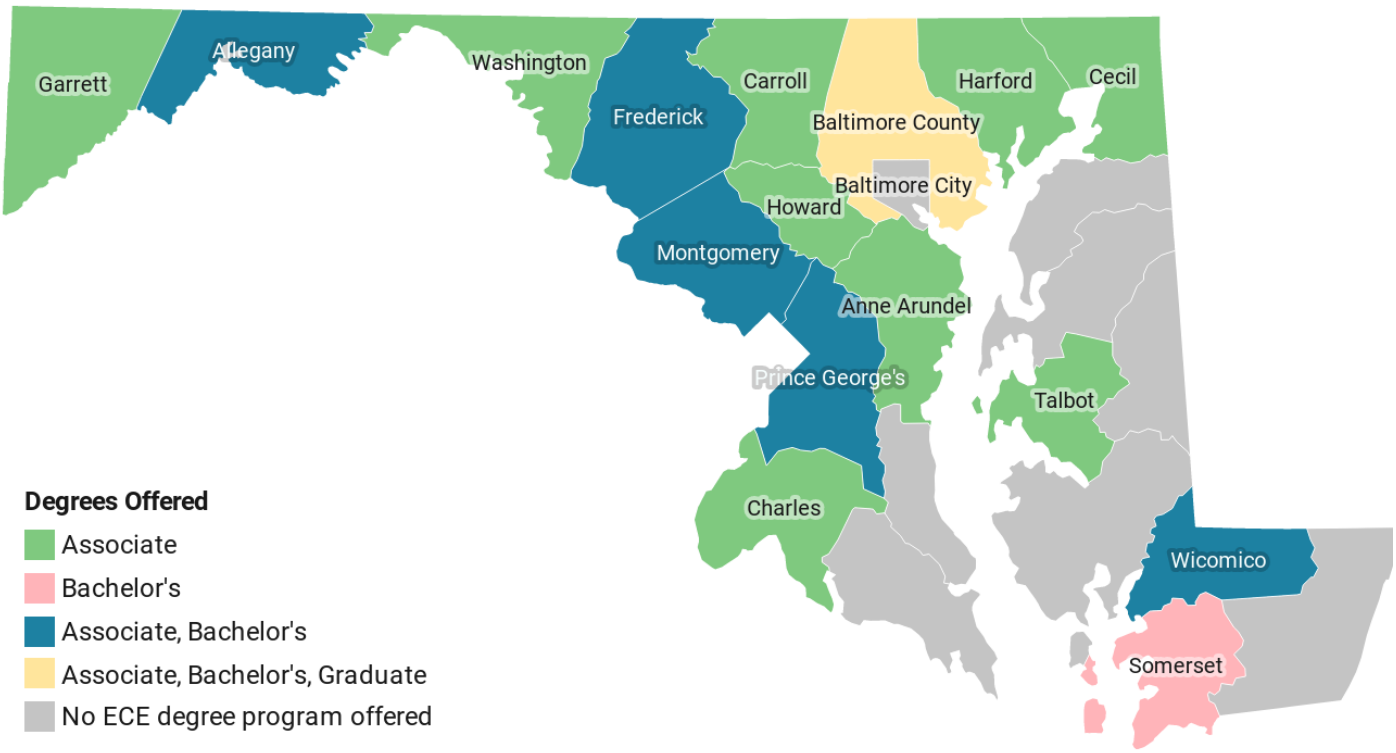
During the 2019-2020 academic year, researchers from CSCCE implemented the *Early Childhood Higher Education Inventory II*, which consists of three modules: a mapping of the population of higher education programs within a state; an online program survey completed by the degree program lead (e.g., dean, chair, coordinator); and an online faculty survey completed by individual faculty members. The program findings reported here are drawn from a final sample of 20 associate and nine bachelor's degree programs.[2]

The faculty findings are drawn from a final sample of 30 community college faculty members and 25 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*.

[2] Data also were collected from two master's degree programs in Maryland specifically identified as early childhood education. As they cannot be de-identified, the data collected for these master's degree programs are not included in this report.

Distribution of Maryland Early Childhood Degree Programs, by County



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** on page 10).

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

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

Most Maryland early childhood degree programs identified their primary goal as teacher preparation across early childhood and elementary school settings or as preparation for multiple roles in many types of 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 more likely to require a focus on children birth through pre-K, while bachelor's degree programs were more likely to focus on children in pre-K and elementary school. Availability of content related to administration and leadership is inconsistent across both degree levels.

Like most states across the country, education requirements in Maryland 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., 2018). In Maryland, there are different requirements for those teaching in family child care homes, child care centers, and publicly funded preschool programs (see **Table 1**).[3] Such divergent qualifications disadvantage educators across Maryland's ECE field due to disparities in compensation based on funding stream or structure and the children themselves, who may have teachers with vastly different experience and qualifications depending on the setting in which they receive care and education services.

Table 1. Maryland Minimum Education Requirements for Select Roles

Type of Program	Role	Minimum Education Requirements
Family Child Care Homes	Primary Provider	No secondary or post-secondary educational requirements
Child Care Center	Teacher	High school diploma or equivalent
Nursery School	Teacher	Bachelor's degree or 120 credit hours
Public Preschool	Teacher	Bachelor's degree with early childhood specialization

It is likely, however, that many early childhood educators in Maryland mirror their counterparts nationally and possess higher levels of education and training than may be required (Whitebook et al., 2018), given a variety of state and local initiatives over the years to encourage participation in college-level education. Maryland EXCELS, the statewide quality rating and improvement system (QRIS), requires higher levels of staff education to achieve higher ratings. In addition, providers participating in the Maryland Child Care Credential Program (MCCCP) receive financial bonuses after reaching certain levels of education and training in the career ladder program (Maryland State Department of Education Office of Child Care Credentialing Branch, 2015).

[3] Staff requirements were retrieved from the Maryland State Department of Education Division of Early Childhood website and were confirmed by the Maryland Office of Child Care Licensing Branch.

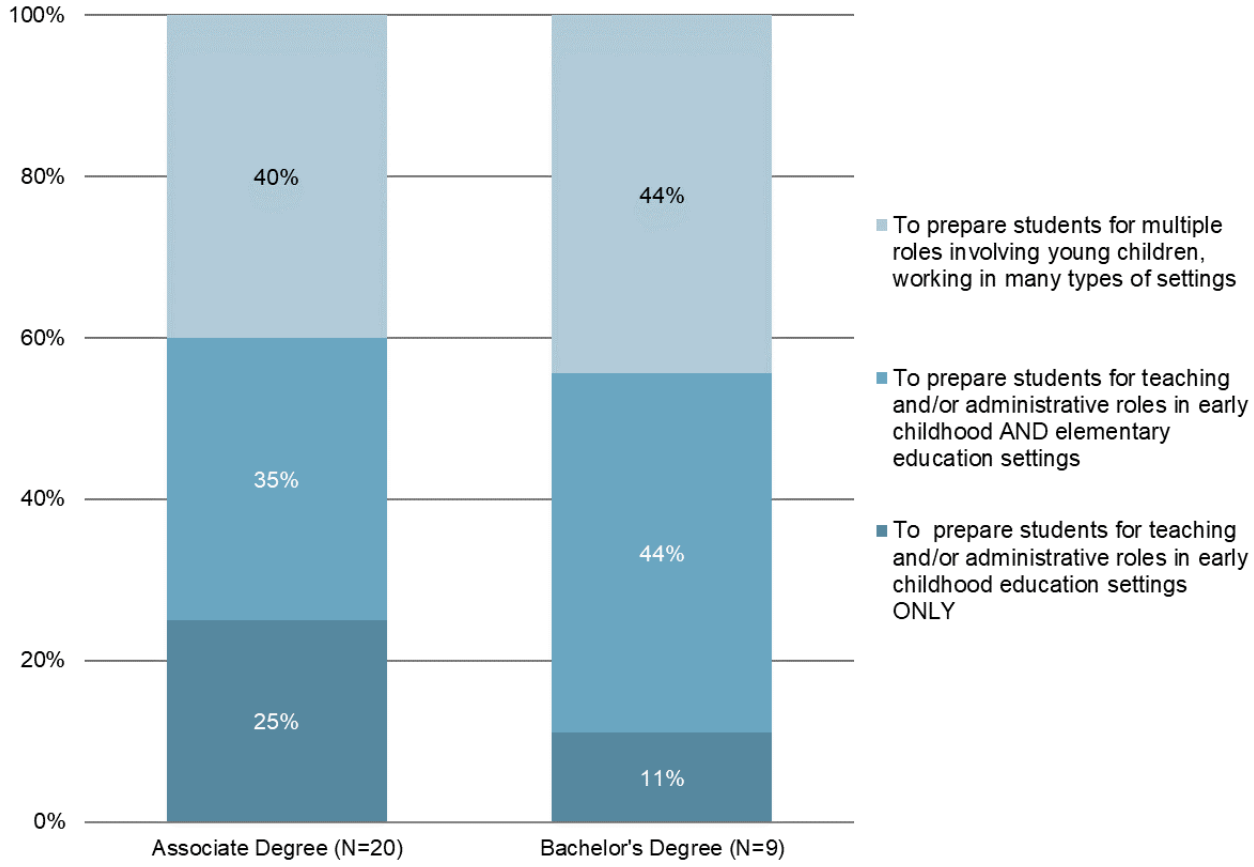
Program Goals

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" degree 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 often are held to the same expectation of what they should know and be able to do upon degree completion (Whitebook & Ryan, 2011).

While the majority of degree programs in our sample reported that their primary goal was to prepare students for teaching and administrative roles, about 40 percent were not primarily focused on teacher/administrative preparation (see **Figure 1**). Among those reporting a focus on teacher and/or administrator preparation, associate degree programs were more likely to focus solely on ECE settings, while bachelor's degree programs were more likely to report their goal included ECE and early elementary settings.

Although none of the associate or bachelor's 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/or certificates in early intervention and/or early childhood special education.

Figure 1. Primary Goal of Maryland Early Childhood Higher Education 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).

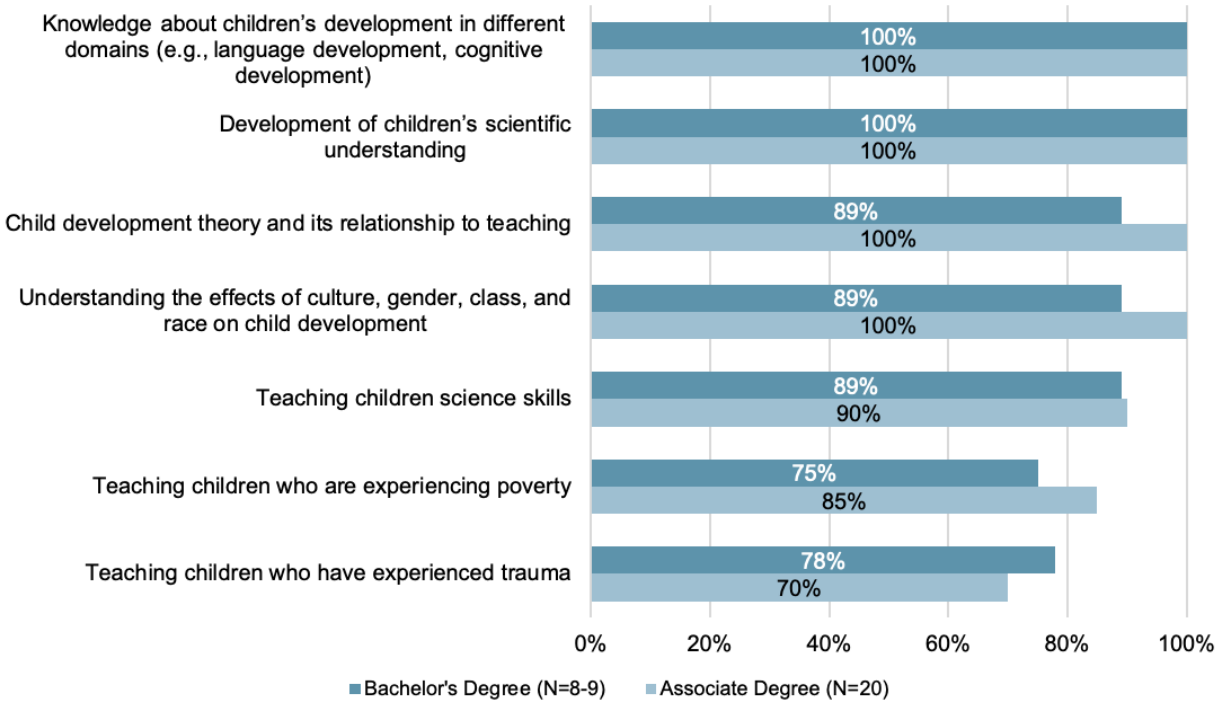
Table 2. List of Domains and Topics of Course Content Included in the Maryland Inventory

Domains	Topics
Child Development and Learning	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
Teaching	*Teaching Diverse Child Populations*: • Teaching children who are experiencing poverty • Teaching children who have special needs • Teaching children who exhibit challenging behaviors • Teaching children who have experienced trauma
	Teaching and Curriculum: • Implementing integrated curriculum and play in teaching • Implementing inclusion strategies • Supporting social and physical development • Teaching art, literacy, science, and social studies
	Teaching Skills in Early Childhood Settings: • Using observation, assessment, and documentation to inform teaching and learning • Different teaching techniques • Classroom management
Leadership and Administration	*Supervision and Operations*: • 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 • Preparation to provide professional development services
	Organization and Systems: • 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 • 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, in the "teaching diverse child populations" domain, only 72 percent of programs across both degree levels require students to take coursework on "teaching children who have experienced trauma," and 82 percent of programs require students to take coursework on "children who are experiencing poverty." In the domain of teaching and curriculum, 90 percent of programs across both degree levels require students to take coursework on "teaching children science skills."

Figure 2. Required Coursework in Maryland Early Childhood Degree Programs, 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, this domain was among the domains offered by the fewest number of programs that participated in the *Inventory*. In fact, almost one-third (31 percent) of programs across both degree levels reported that they did not offer any of the Organization and Systems topics, and a similar percentage (28 percent) of programs did not offer

any of the Supervision and Operations topics (see **Table 2** on page 10). Associate degree programs were more likely than bachelor's degree programs to offer this coursework.

The topics most often offered in associate degree programs were "building community partnerships and developing familiarity with resources for children and families," "building relationships with other teachers and/or early childhood professionals," and "the early childhood system and public policy," each of which was offered by at least 70 percent of associate degree programs. At the bachelor's degree level, the most commonly offered topics were "assessment and documentation to inform teaching and learning," "building relationships with other teachers and/or early childhood professionals," and "guiding practitioners in implementing curriculum and appropriate teaching strategies," each of which was offered by at least 50 percent of programs.

Some institutions of higher education offer non-credit-bearing courses within the departments offering early childhood degrees. Only a small fraction (11 percent) of associate degree programs responding to the Inventory *noted offering these types of courses in their department. Due to the small sample size, we are unable to include data about these non-credit-bearing courses in this report.*

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 offered by 57 percent of bachelor's degree programs and 39 percent of associate degree programs that participated in the *Inventory*.

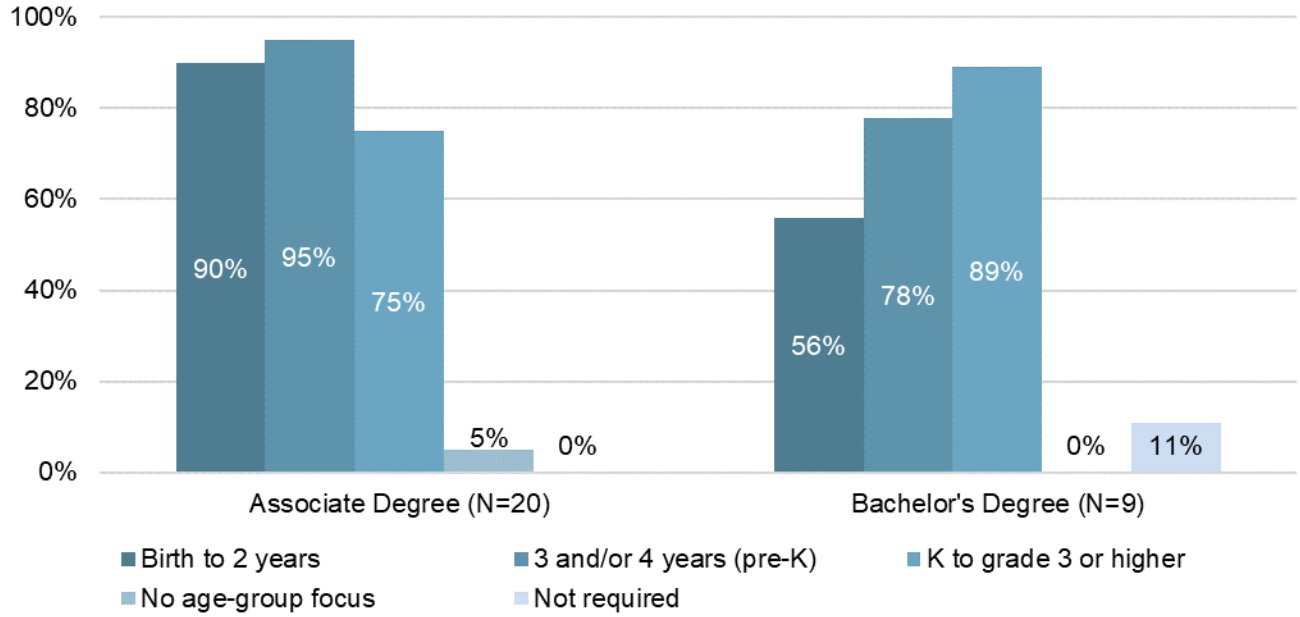
Age-Group Focus

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 that is 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. Degree programs in Maryland consistently place a strong focus on preparing educators to work with preschool-age children. Among associate degree programs, there is similar emphasis on topics related to infants and toddlers, while bachelor's degree programs typically cover topics related to children in

elementary school at even higher rates than topics related to preschool-age children (see **Figure 3** for an example and the **Technical Report** for data on all topics).

Figure 3. Development of Children's Early Literacy Skills: Required Age-Group Focus of Programs Participating in the Maryland Inventory, by Degree Level



Integration of Standards and Competencies Into Coursework

In recent years, growing attention placed on 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 (IOM & NRC, 2015; Whitebook et al., 2018). However, despite increasing agreement on the value of these standards and competencies for delineating effective teaching practices, not all early childhood degree students in Maryland are exposed to coursework aligned with state or national standards.

While the three standards identified below were integrated into the coursework of at least 70 percent of programs, this finding nonetheless means that students in the other 30 percent of programs are not offered coursework explicitly aligned to these important standards:

- Maryland College and Career-Ready Standards;
- NAEYC Professional Preparation Standards/CAEP: Standard 2 Building Family and Community Relationships; and
- NAEYC Teacher Standards.

FINDING TWO: FIELD-BASED LEARNING EXPERIENCES
Requirements and Age-Group Focus

Bachelor's degree programs are more likely than associate degree programs to require students to participate in student teaching or practica. When such field-based learning experiences are required, students across degree programs are more likely to be required to participate in a practicum experience. However, there is little consistency as to the duration, frequency, and age-group focus of these field experiences.

What we asked about field-based learning 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:

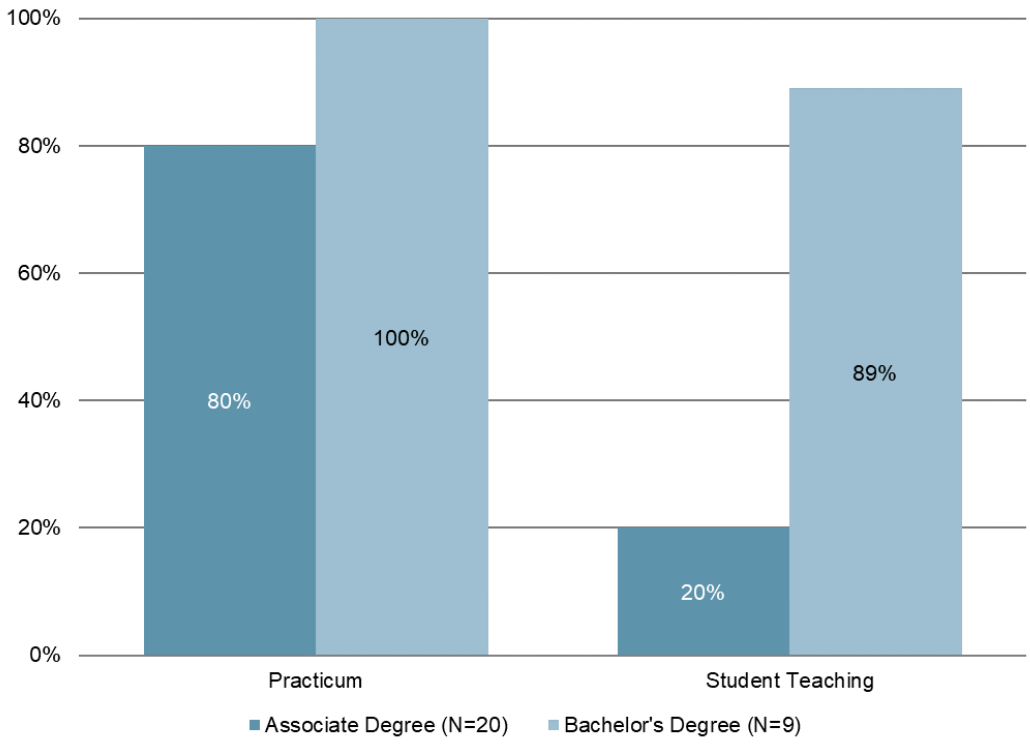
- Scaffolding children's mathematical development and promoting their ability to solve problems;
- Scaffolding children's literacy development and promoting their oral and written skills;
- Supporting children's socioemotional development and skills;
- Facilitating the developmental course of motor development 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; National Council for Accreditation of Teacher Education [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 from 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 both student teaching and practica. All bachelor's degree programs that participated in the *Inventory* require their students to complete at least one practicum experience, and almost all (90 percent) require a student teaching experience. Among associate degree programs, most programs (80 percent) require at least one practicum experience, but only 20 percent require a student teaching experience (see **Figure 4**).

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



Number, Duration, and Timing of Practica

Practica are the most common type of field experience required across Maryland early childhood degree programs.[4] 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 Maryland Inventory

	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
All Degree Programs (N=24)	42%	21%	21%	17%	79

Across both degree levels, programs were more likely (52 percent) to offer practica at the end of the course of study. A slightly smaller percentage of programs (44 percent) required that the first practicum occur at the beginning of the course of study. The majority of programs (72 percent) reported that they do not structure practica differently for novice and experienced teachers.

Required Elements of Practicum Experiences

Few degree programs required students to engage in field experiences that focus on populations they are likely to encounter in their work as teachers:

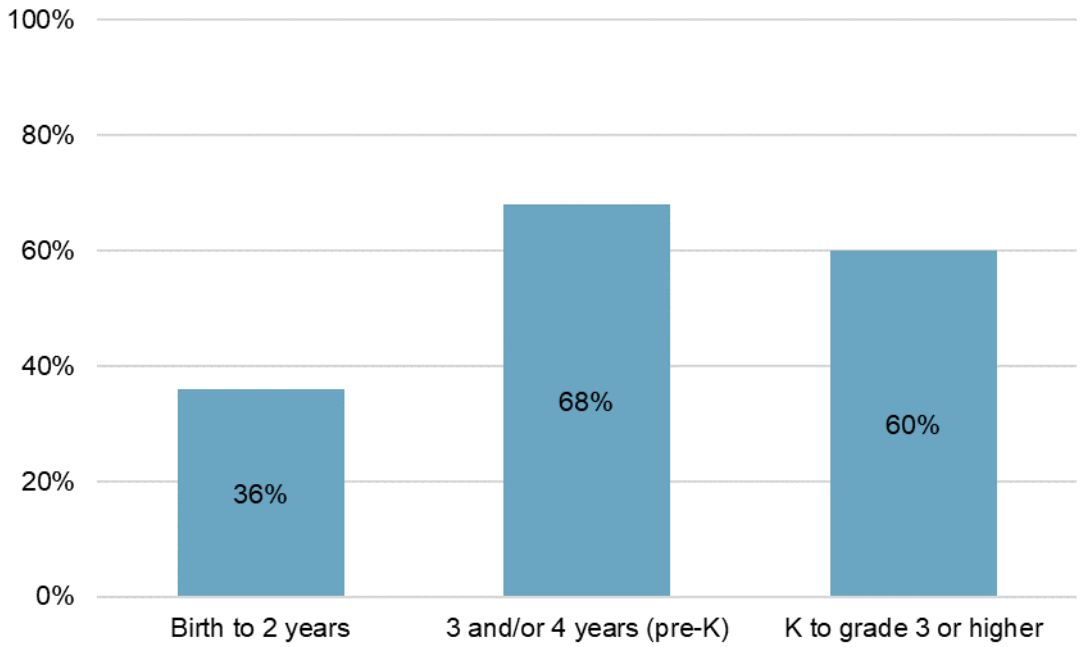
- Infants and toddlers;
- Children who are dual language learners;
- Children with special needs; and
- Families.

Whereas approximately two-thirds of programs required a focus on preschool- and school-age children (68 percent and 60 percent, respectively) in their practicum experiences, less than 40 percent required students to participate in a practicum working directly with infants and/or toddlers (see **Figure 5**). Only one-fifth (20 percent) of programs that participated in the *Inventory* required students to complete a practicum that involved working with children who are dual language learners, although bachelor's degree programs were more likely to do so than associate degree programs (38 percent and 13 percent, respectively). Furthermore, one-fifth (20 percent) of programs reported that they do not even offer practicum experiences that involve dual language

[4] Because practica were the primary strategy for field experiences required by degree programs and due to small sample sizes of associate degree programs requiring student teaching, practica are the focus of this section of the report.

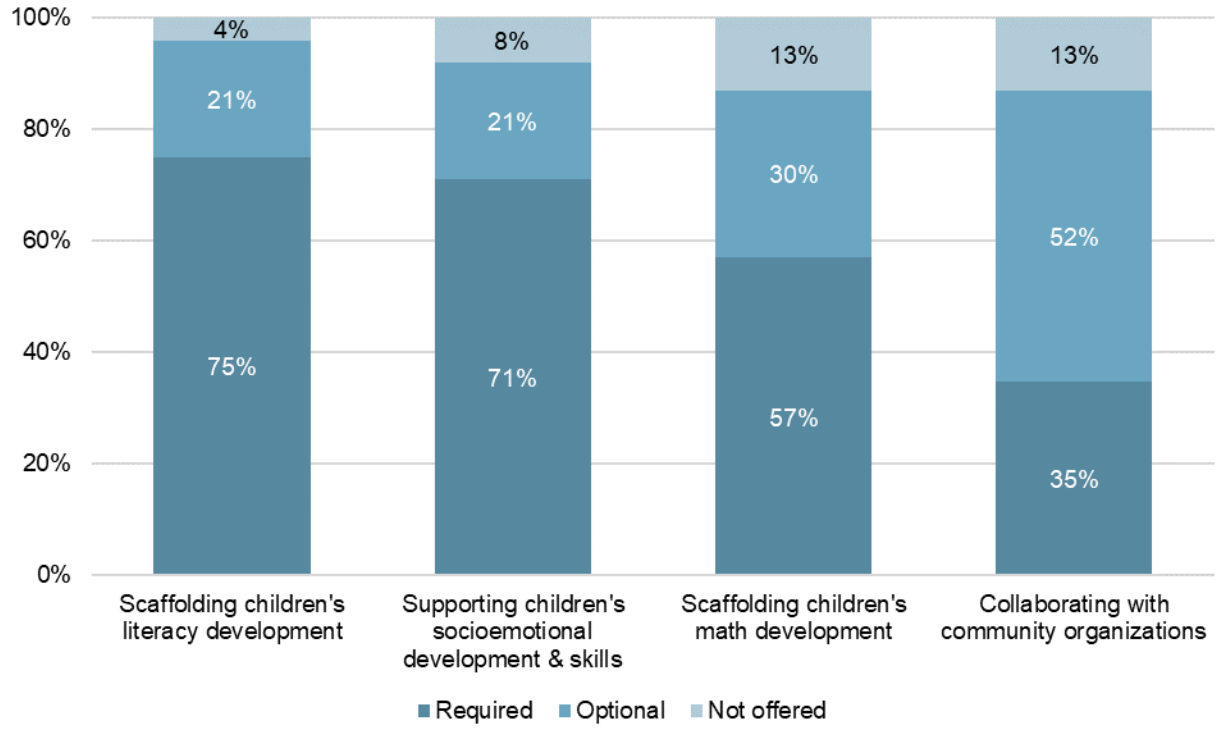
learners. Less than one-half (40 percent) of programs required students to complete a practicum that involves working with children with disabilities. Additionally, only one-third (32 percent) of programs require students to complete a practicum that involves working with families, and one-fifth (20 percent) of programs do not offer such practicum experiences for students.

Figure 5. Required Age-Group Focus in Practicum Experiences (N=25)



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 were "scaffolding children's literacy development" (75 percent), "supporting children's socioemotional development and skills" (71 percent), and "utilizing assessment to inform and individualize instruction" (65 percent).

Figure 6. Select Practices Required for Students in Their Practicum Experiences (N=23-24)



FINDING THREE: PORTRAIT OF FACULTY
Employment Status, Demographics, and Professional Background

Maryland early childhood degree programs are staffed with a mix of part- and full-time faculty. Faculty members are primarily White women who are monolingual (speaking only English) and therefore less diverse than Maryland's child population. Most faculty members across both degree levels reported having had academic preparation specific to early childhood, and most associate degree faculty members also reported having worked in an 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 55 faculty members out of 108 faculty members who received the *Inventory*.[5] Thirty of these faculty members teach in associate degree programs, and 25 teach in bachelor's degree programs.

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

[5] The faculty members included in the *Inventory* represent a portion of faculty currently teaching in early childhood degree programs in Maryland. Nonetheless, these findings can provide insight into the experiences and needs of the wider population of early childhood faculty in the state.

and are not paid for additional responsibilities, such as student advising or program evaluation (CCCSE, 2014). This situation can lead to full-time faculty members taking on a greater share of administrative, institutional, and student-advising responsibilities in addition to their teaching load (CCCSE, 2014; Curtis & Thornton, 2014; Early & Winton, 2001; Maxwell, Lim, & Early, 2006; Whitebook, Bellm, Lee, & Sakai, 2005).

Among those who participated in the *Inventory*, a smaller proportion of faculty members were in adjunct roles: 50 percent of faculty members teaching in associate degree programs and only 28 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

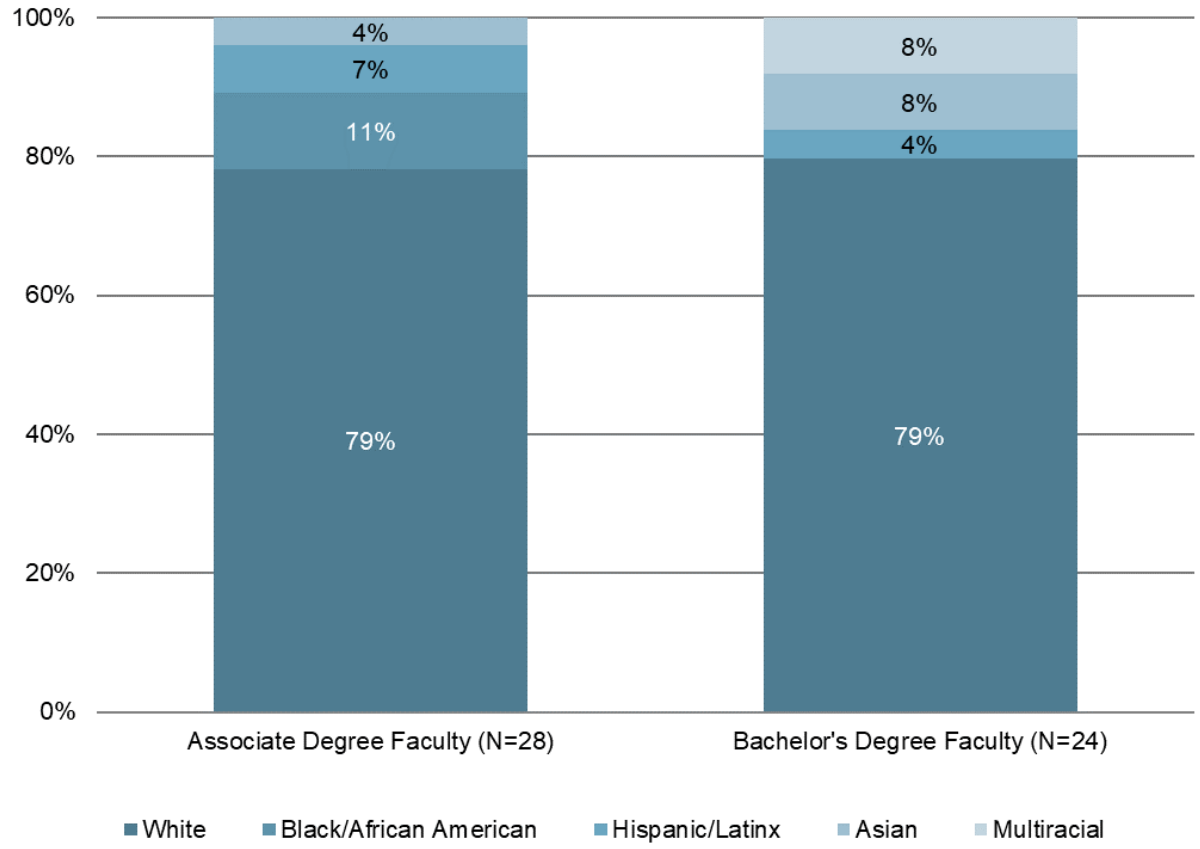
The well-documented lack of racial and ethnic diversity among early childhood higher education faculty — in contrast to their students and the child populations that these ECE professionals will serve — has implications for the degree of focus on diversity in coursework and the availability of role models 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[6]

Most faculty members participating in the *Inventory* identified as female, White (see **Figure 7**), and monolingual, speaking only English. In general, early childhood higher education faculty were less diverse than the overall population in Maryland. Census data point to an increasingly diverse population in the state, with the child population under the age of five being 40-percent White (non-Hispanic/Latinx), 30-percent Black/African American, 18-percent Hispanic or Latinx, 6-percent Asian, and 5-percent multiracial (Annie E. Casey Foundation, 2019b). Additionally, 28 percent of children under the age of six speak a language other than (or in addition to) English at home, with Spanish being the predominant language (12 percent). The ECE workforce is generally representative of the young child population in the state, with one-half of educators identifying as White, 30 percent identifying as Black, 15 percent as Hispanic/Latinx, and 5 percent as Asian (Migration Policy Institute, 2015).

[6] While other terms describing race and ethnicity may have been used in the HEI questionnaire, CSCCE is committed to eliminating oppressive language and using bias-free terms. In this report, all terms used to describe race are capitalized, and gender neutral terms are used when appropriate.

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

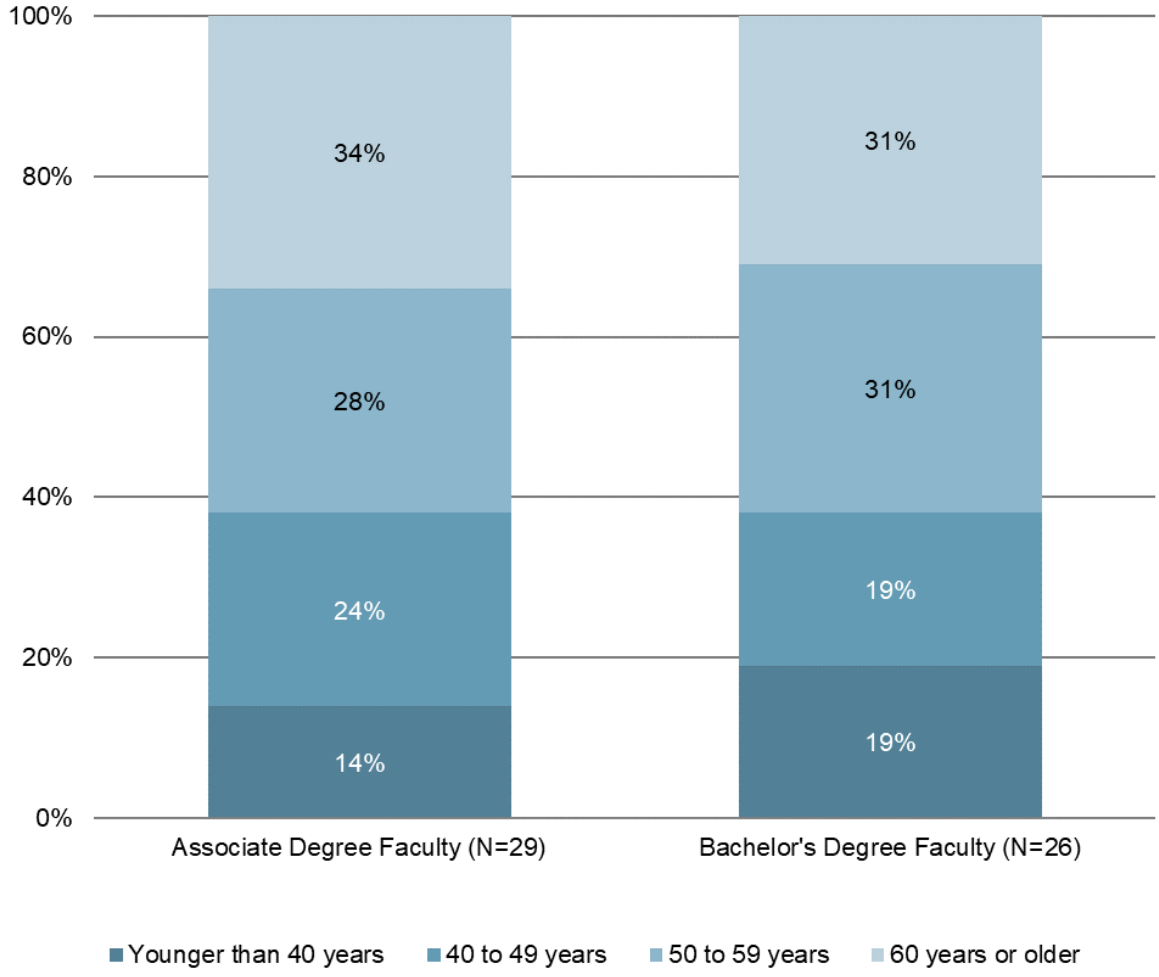


While all faculty members at all degree levels reported fluency in English, few reported fluency in another language. Only 25 percent of faculty across both degree levels spoke a language other than English. However, nearly one-half (48 percent) of faculty members across both degree levels reported that it would be helpful to know another language, primarily Spanish, in order to communicate better with their students. Overall, about 85 percent of faculty members who would like to know another language identified Spanish as a language of interest. Additionally, 15 percent of faculty members identified Arabic as a language they would like to know.

Age

The average age of faculty members teaching in both associate degree programs and bachelor's degree programs was 53 years. Faculty teaching in associate degree programs were slightly more likely to report being 60 years or older (thus, potentially closer to retirement) than bachelor's degree program faculty members (see **Figure 8**).

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



Academic and Professional Background

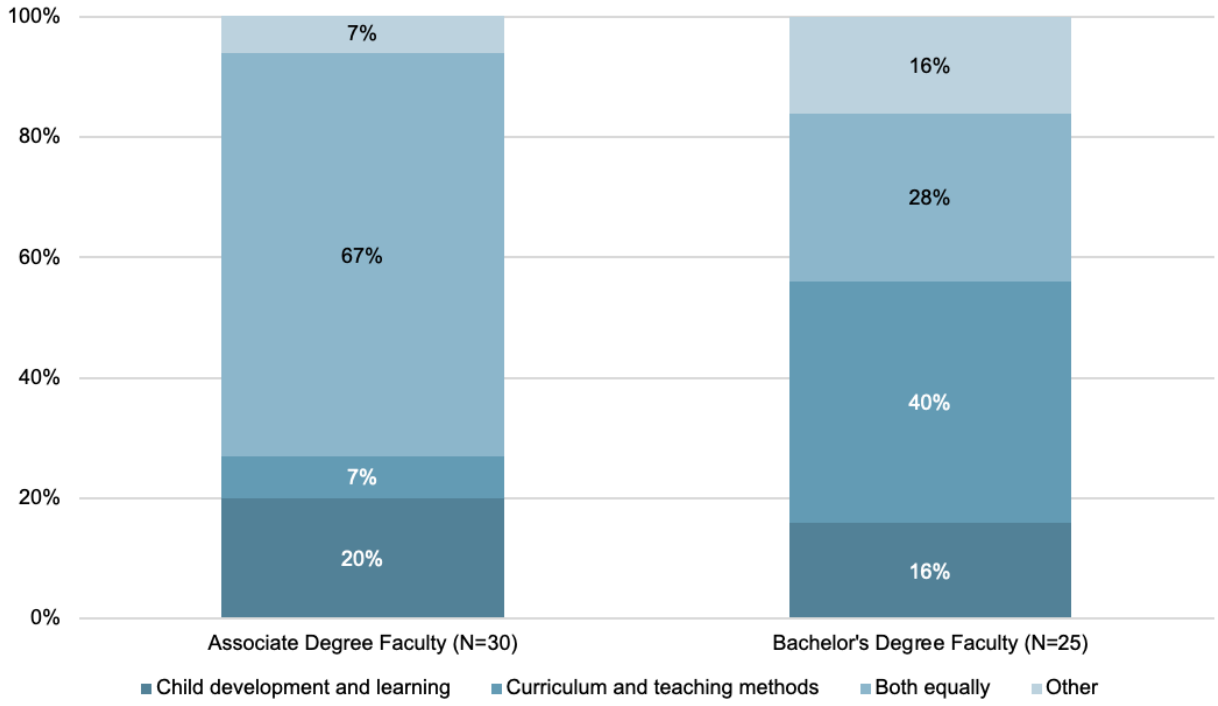
Teachers of adults, like those who teach children, require appropriate preparation as well as ongoing opportunities to refine their knowledge and skills (Whitebook & Ryan, 2011). Based on a review of the extant research, the Institute of Medicine and National Research Council (2015) have called for early 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 increasingly are called upon to be effective practitioners, preferably having had classroom experience with children within the past decade (NCATE, 2010a & 2010b).

Academic Preparation and Teaching Focus Related to Early Childhood

Nearly all (93 percent) of faculty members teaching in associate degree programs and the vast majority (82 percent) of faculty members teaching in bachelor's degree programs 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." They were also asked about their expertise related to various age groups of children.

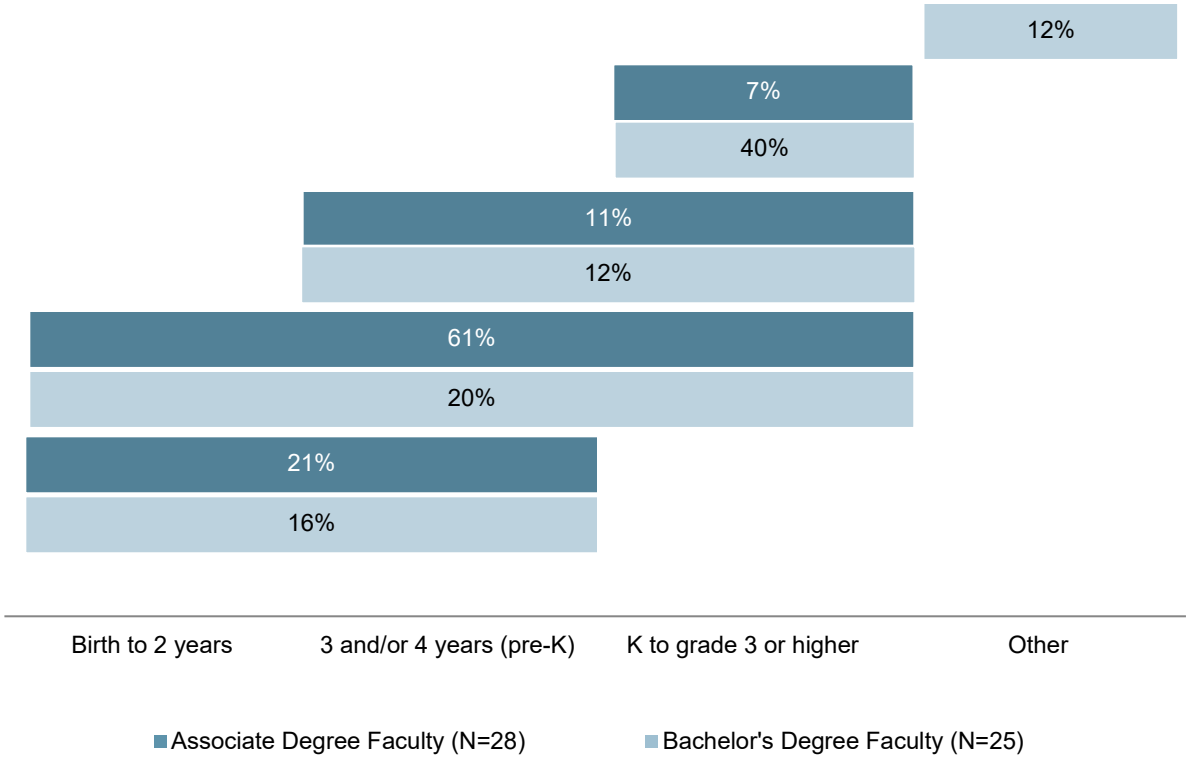
Faculty members teaching in bachelor's degree programs were most likely to focus on "curriculum and teaching methods," while faculty members teaching in associate degree programs were most likely to focus equally on "curriculum and teaching methods" and "child development and learning" (see **Figure 9**).

Figure 9. Primary Focus of Teaching, by Degree Level



Faculty members teaching in associate degree programs were most likely to report that their primary expertise was on children birth through third grade or higher, while faculty members teaching in bachelor's degree programs were most likely to report expertise on children beginning in kindergarten. Only 36 percent of bachelor's degree faculty noted expertise in working with infants and toddlers (see **Figure 10**).

Figure 10. Primary Age-Group Expertise of Faculty Members Participating in the Maryland Inventory, by Degree Level



Professional Teaching and Administrative Experience

About one-half (53 percent) of faculty members across both degree levels reported experience in other professional roles over the past 10 years, with associate degree faculty members more likely than bachelor's degree faculty to have held additional roles. Of those faculty members who reported having worked in other roles, approximately two-thirds (69 percent across both degree levels) had worked as ECE professional development providers (e.g., coach, mentor, trainer, consultant). Additionally, 54 percent of faculty members across both degree levels had worked as classroom teachers. Associate degree faculty members were twice as likely as bachelor's degree faculty members (41 percent and 18 percent, respectively) to have worked as an early childhood program director over the past 10 years.

Overall, professional development provider experience and classroom teaching experience were most likely to have occurred with children of preschool age. Bachelor's degree faculty were more likely than associate degree faculty to have in these roles with children in kindergarten through third grade.

FINDING FOUR: FACULTY PERSPECTIVES AND EXPERTISE

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

Maryland 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 school-age children. Across content areas, faculty members reported feeling least capable of preparing teachers to work with infants/toddlers, as compared to older children. Maryland early childhood degree program faculty reported particular interest in professional development related to working with children from diverse cultural backgrounds and children with special needs, as well as techniques for engaging families.

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 were 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 members' intent to include specific content in coursework (Hyson, Horm, & Winton, 2012). Knowledge about faculty members' capacity to teach certain content areas and their own ongoing 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 (see **Figure 11**). 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,

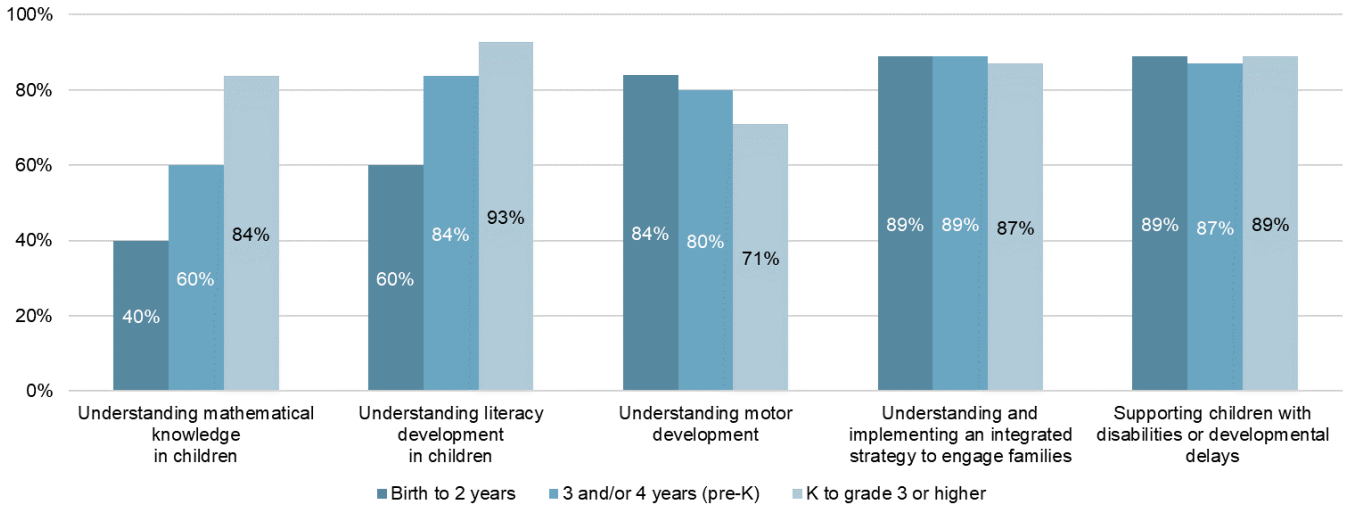
and the domains of "understanding and implementing an integrated strategy to engage families in ongoing and reciprocal partnerships and its relationship to outcomes for children" and "supporting the cognitive and social development of children with disabilities or developmental delays," in which faculty members' attitudes regarding the interest of the topic remained constant across age groups.

Box 3. Faculty Perspectives on Including Various Domains of Development and Learning in Teacher Preparation 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:

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

Figure 11. Importance of Including Select Topics in Teacher Preparation Programs: Percentage of Faculty Reporting "Very Important," by Age Group



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 to two years;
    - Three to four years (pre-K); and
    - Kindergarten to third grade or higher.

For each topic, at least 65 percent of faculty members across both degree levels reported feeling capable of teaching content to students in at least one age group.[7] In general, faculty members teaching in both associate and 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 both degree levels felt the least capable of teaching were "supporting the cognitive and social development of young dual language learners," "supporting children's STEM (science, technology, engineering, and math)

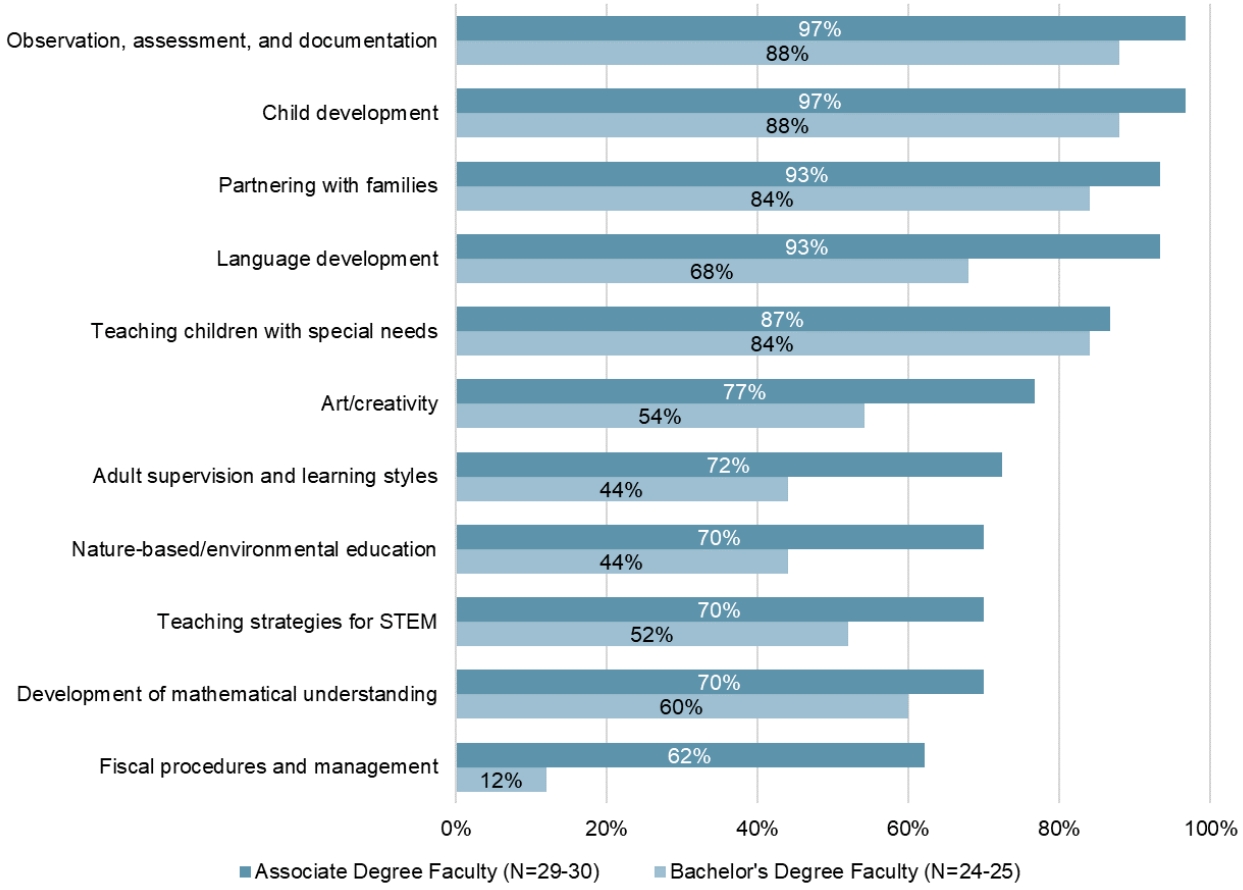
[7] Capacity to teach topics related to family engagement, early mathematical development, and working with dual language learners is described in detail in Part 2 of this report.

development and skills," "supporting the cognitive and social development of children with disabilities or developmental delays," and "facilitating the developmental course of motor development in young children."

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 these content areas either as a separate course, embedded within a broader course, or both (see **Figure 12**). Nearly all the faculty members (93 percent) participating in the *Inventory* reported teaching content related to "general domains of child development" and "observation, assessment, and documentation to inform teaching and learning." Faculty members were least likely to report having taught courses related to "fiscal procedures and management," "adult supervision and learning styles," and "nature-based/environmental education." Faculty members reported that topics listed in the *Inventory* were most likely taught within a broader course, as opposed to being a separate course.

Figure 12. Recent Teaching Experience: Percentage of Faculty Members Reporting Having Taught Content Area in the Past Two Years, by Degree Level



Professional Development Participation and Interest

Professional Development

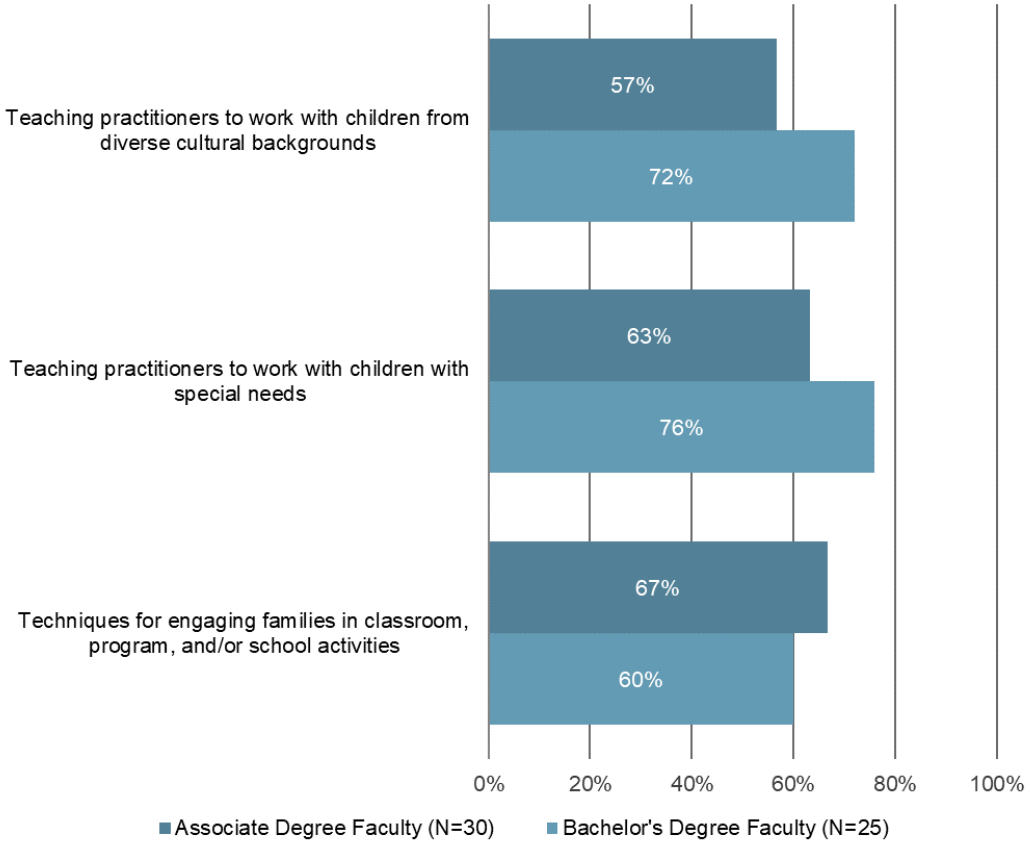
The vast majority of faculty members across both degree levels reported participating in professional development during the past three years.[8] The most frequently reported professional development experiences, which were participated in by between 55 and 70 percent of faculty members, included "teaching practitioners to work with children from diverse cultural backgrounds," "teaching practitioners to work with children who have experienced trauma," "evidence-based research on the importance and value of building respectful and trusting relationships with families," and "techniques for engaging families in classroom, program, and/or school activities." Faculty members were least likely to have participated in professional development related to early mathematical development; 56 percent of faculty members across

[8] 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.

both degree levels had not participated in professional development on any of the topics related to early math in the past three years. Additionally, 49 percent of faculty members across both degree levels had not participated in professional development on any topic related to administration and leadership 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 13** for an example). The most commonly identified topics focused on teaching practitioners to work with specific groups of children (e.g., children with special needs, children from diverse cultural backgrounds, and children who have experienced trauma) as well as teaching practitioners effectively engage families. Across both degree levels, interest in professional development topics related to administration and leadership was low.

Figure 13. Interest in Professional Development in Select Topics by Faculty Members Participating in the Maryland Inventory: Percentage Reporting "Very Interested," by Degree Level



FINDING FIVE: SUPPORTING STUDENTS
Services Offered and Program Articulation

Maryland early childhood degree programs offer multiple types of support services specifically tailored to help early childhood education students access resources and strengthen their academic skills. Associate degree programs are more likely than bachelor's degree programs to offer blended programs (combining online and in-person courses) as well as other access supports such as alternative class schedules and classes in community locations. Across both 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 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 and increase educator qualifications, 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 services and degree level.

Skill Support

Across both degree levels, approximately 45 percent of programs offered academic tutoring for early childhood education students in math, 38 percent of programs offered academic tutoring in reading and writing, and 38 percent of programs offered academic tutoring in other subject areas. Additionally, 24 percent of programs provided academic assistance for students who are English-language learners, and 14 percent provided training in computers and technology. For each of these five topics, the percent of programs that offered the service was greater for associate degree programs than for bachelor's degree programs. Finally, approximately one-half (46 percent) of programs across both degree levels reported offering contextualized math courses,[9] with associate and bachelor's degree programs being equally likely to do so.

Counseling and Cohort Models

Less than one-quarter (22 percent or less) of programs at each degree level reported offering cohort models tailored to students in the degree program. Slightly more than three-fifths (62 percent) of programs across both degree levels reported offering tailored academic counseling, although associate degree programs were significantly more likely than bachelor's degree programs to do so. Fewer programs offered financial aid counseling: slightly more than one-third (38 percent) of programs across both degree levels offered this service specifically dedicated to their early childhood education students, with associate degree programs more likely to do so than bachelor's degree programs.

Access Support

Associate degree programs were more likely to offer formats other than (or in addition to) traditional/on-campus programs. The vast majority (85 percent) of associate degree programs offered a "blended" program (combining online and in-person courses), compared to one-third (33 percent) of bachelor's degree programs.

[9] Contextualized math courses focus on the mathematics required for early childhood educators or administrators, for example, calculating child enrollment and ratios or developing a classroom budget.

Approximately three-fourths (72 percent) of programs across both degree levels offered financial assistance other than federal financial aid to early childhood education students, with associate degree programs twice as likely to do so as bachelor's degree programs. More than one-half (60 percent) of associate degree programs offered alternative class schedules for working adults. Associate degree programs were less likely to offer classes off campus in community-based settings (15 percent). None of the bachelor's degree programs included in the *Inventory* offered alternative class schedules or classes off campus in community-based settings.

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.

One-third (33 percent) of Maryland's early childhood degree programs reported that students entered their program as an even mix of first-year and transfer students. While the majority (75 percent) of bachelor's degree programs reported articulation agreements with one or more associate degree program, 42 percent of associate degree programs reported no such agreements. Notably, more than one-half (57 percent) of programs across both degree levels reported that students face challenges in transferring their associate degree credits into bachelor's degree programs.

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). The Maryland Child Care Credentialing Program provides this system of stackable credentials for Maryland's early educators, with seven staff credential levels and four administrator levels (Maryland State Department of Education Office of Child Care Credentialing Branch, 2015).

In Maryland, early childhood associate degree programs are more likely than bachelor's degree

programs to offer and accept these credentials/certificates, allowing students to move into and through the community college system. Just slightly less than one-half (44 percent) of associate degree programs offer these credentials, and 39 percent accept credentials earned at other institutions or professional development providers. However, 44 percent of associate degree programs do not currently offer or accept these credentials, and more than 60 percent of those programs have no plans to offer them in the future.

FINDING SIX: PROGRAM CHALLENGES
Faculty and Program Needs

Maryland early childhood degree programs experience challenges related to the time and resources faculty members require to fulfill their responsibilities, as well as the need for faculty members with specific expertise, such as teaching dual language learners. The majority of program leads 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 (48 percent) of degree program leads indicated that "faculty administrative responsibilities interfere with student time," and associate degree programs were more likely to report this interference as a challenge than bachelor's degree programs.

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 funding for travel. One faculty member commented:

> ***"As an adjunct faculty, no professional development is given. There is minimal contact with full-time faculty during the semester."***

Faculty Expertise

Among needs related to faculty expertise, the highest percentage (43 percent) of program leads across both degree levels indicated the "need for additional faculty expertise in teaching young children who are dual language learners." The second most frequently cited topic related to the need for greater faculty expertise was "working with college students who are English-language learners" (29 percent). Bachelor's degree program leads also frequently identified the "need for additional faculty expertise in teaching infants and toddlers" (38 percent), although this need was identified less frequently by associate degree program leads (20 percent).

Faculty Diversity

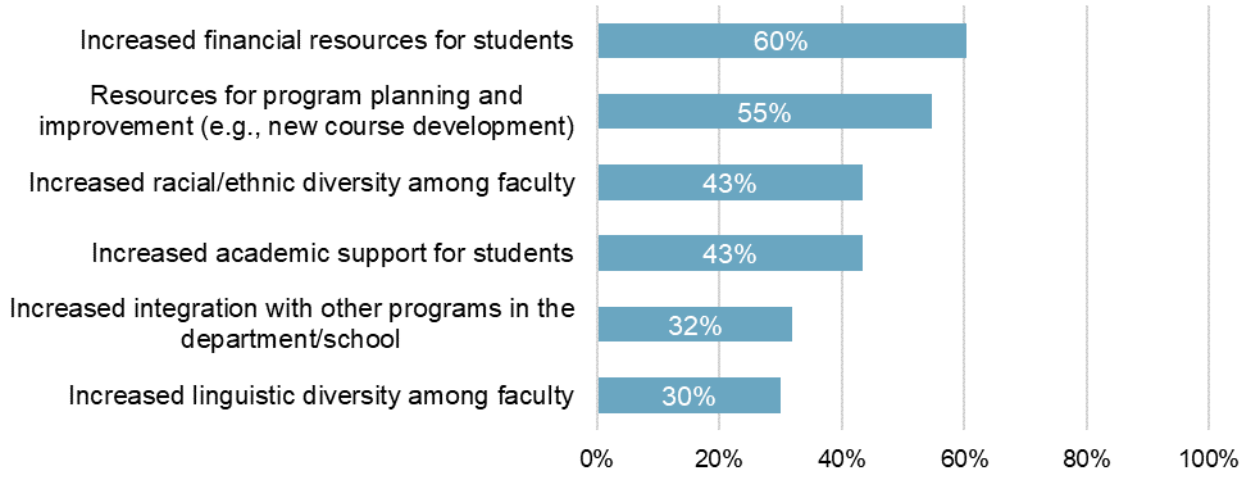
Across degree programs, a greater percentage of faculty members reported the need for increased racial/ethnic diversity among faculty (43 percent) than the need for increased linguistic diversity among faculty (30 percent). A greater percentage of bachelor's degree faculty members identified the need for increased racial/ethnic diversity among faculty (54 percent of bachelor's degree faculty compared to 34 percent of associate degree faculty), while a greater percentage of associate degree faculty members identified the need for increased linguistic diversity.

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 three-fifths (59 percent) of programs. Additionally, one-third (34 percent) of program leads across both degree levels reported a "lack of recognition of the value of early childhood from within the department or school."

Among faculty members, more than one-half of faculty members across both degree levels identified "increased financial resources for students" and "resources for program planning and improvement" as needs (60 percent and 55 percent, respectively). Other frequently reported issues among faculty were "increased racial/ethnic diversity among faculty" (43 percent) and "increased academic support for students" (43 percent; see **Figure 14**).

Figure 14. Additional Resources Needed for Program Improvement, as Reported by Faculty Members Participating in the Maryland Inventory (N=53)



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 the age-group focus changing depending on the degree level. Faculty members reported feeling most capable of teaching topics related to engagement with families of school-age children. Faculty members expressed varied levels of interest in professional development in this topic area, with associate degree faculty members expressing higher interest than bachelor's degree faculty members.

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 focus limited attention on building student competence in this area (Epstein, Sanders, & Clark, 1999; Nathan & Radcliffe, 1994; Shartrand, Weiss, Kreider, & Lopez, 1997).

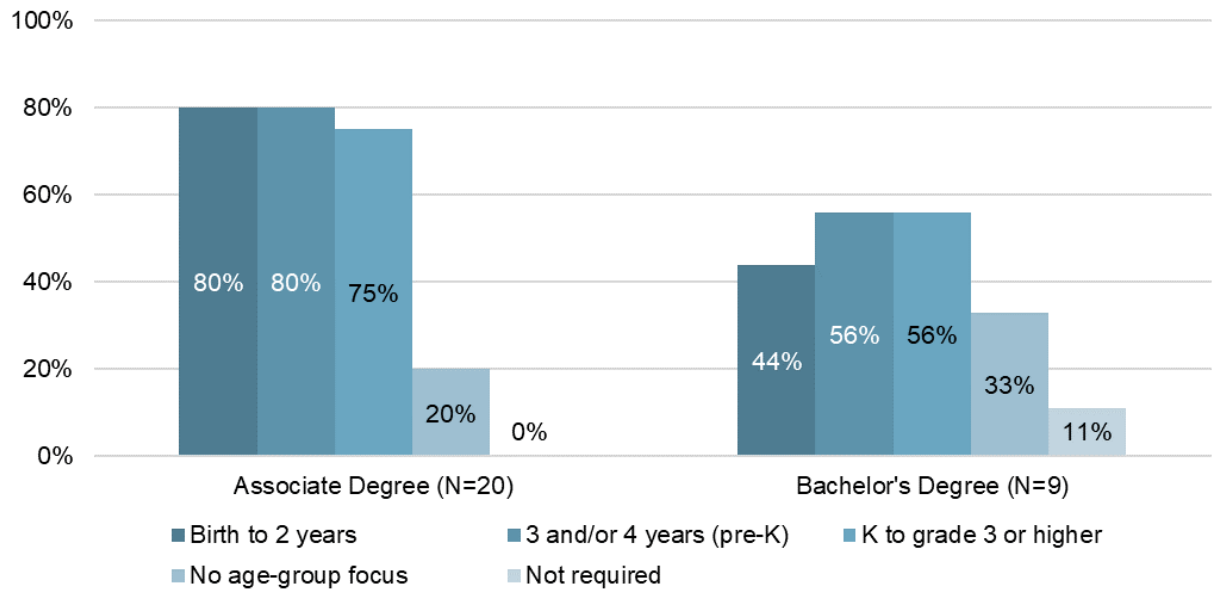
Required Family Engagement Topics in Degree Programs

Program leads were asked about required course content and age-group focus related to seven topics of family engagement (see **Table 4** for the list of topics). Across the seven topics, the vast majority (at least 89 percent) of programs across both degree levels reported requiring each topic. The topic most frequently required was "evidence-based research on the importance and value of building relationships with families." Across all topics, associate degree programs were most likely to require the topic for infants/toddlers and preschool-age children, while bachelor's degree programs were most likely to require the topic for preschool- and school-age children (see **Figure 15** for an example).

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

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 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 15. Working With Families of Children With Special Needs: Required Age-Group Focus of Programs Participating in the Maryland 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 87 percent of faculty members teaching in associate degree programs and by 88 percent or more of faculty members teaching in bachelor's degree programs (see **Box 3** on page 26 for how this assessment was conducted). Faculty members rated the inclusion of family engagement content in higher education programs as slightly more important than the inclusion of content related to supporting dual language learners. Additionally, faculty members were more likely to rate the inclusion of family engagement content as "very important," compared to the inclusion of early mathematics content.

Teaching Capacity and Experience Teaching Coursework on Family Engagement

In addition to consistently noting the importance of family engagement, most faculty members across both 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.

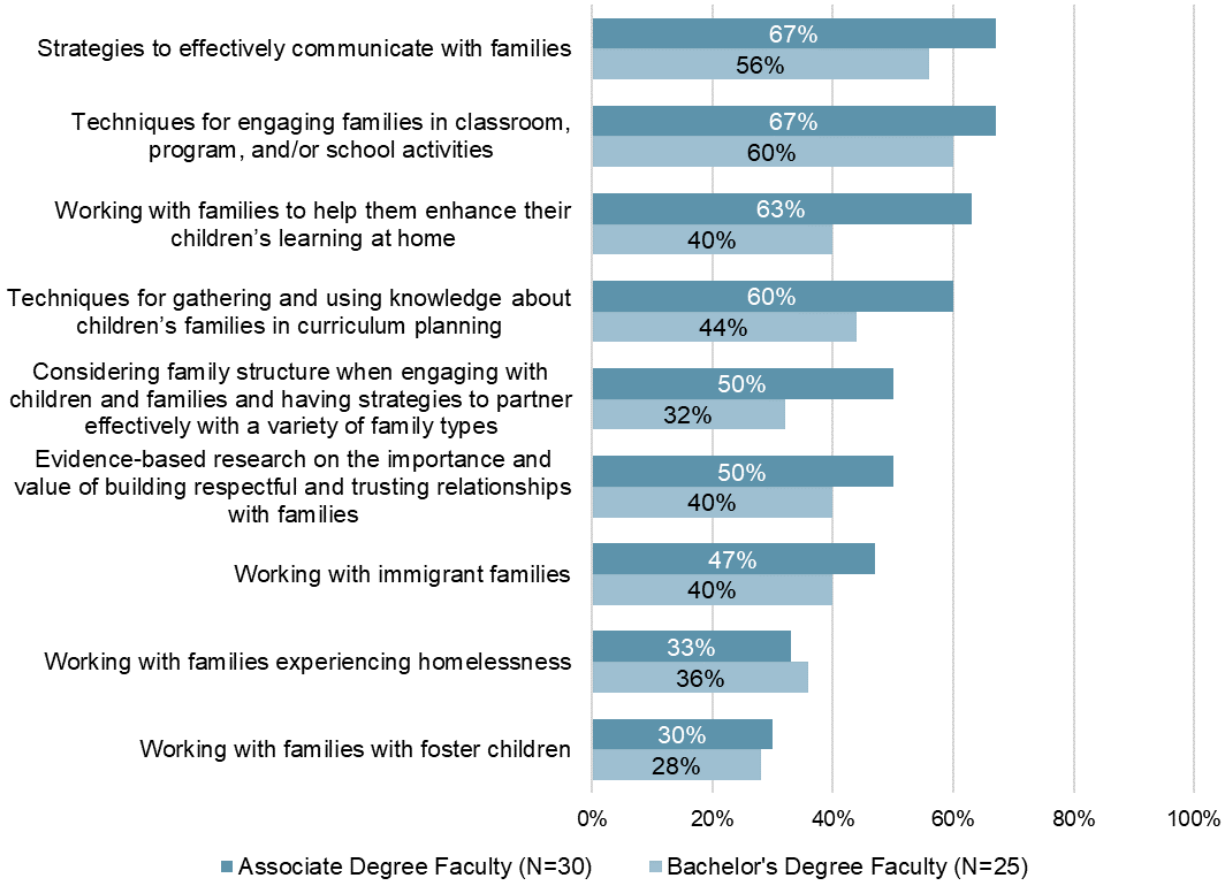
When asked about their current and recent experience teaching courses related to family engagement, nearly all faculty members (84 percent or more) across both degree levels reported that they had taught coursework related to "partnering with families to enhance children's learning in school and at home" during the past two years. Most often, faculty members 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 70 and 85 percent of faculty members across both degree levels reported having participated in professional development related to family engagement in the past two years. The topic most commonly covered by associate degree faculty was "techniques for engaging families in classroom, program, and/or school activities." The topic most commonly covered by bachelor's degree faculty was "evidence-based research on the importance and value of building respectful and trusting relationships with families." With the exception of one topic ("working with immigrant families"), associate degree faculty were more likely than bachelor's degree faculty to have participated professional development related to each of the nine family engagement topics.

Faculty members were also asked to rate their interest levels in nine topics related to family engagement, using a Likert scale of 1 to 5, with 1 being "not at all interested" and 5 being "very interested." In general, faculty members teaching in associate degree programs were more interested in future professional development opportunities related to family engagement than faculty members teaching in bachelor's degree programs. Interest across both degree levels was highest for the topics "techniques for engaging families in classroom, program, and/or school activities" and "strategies to effectively communicate with families, including communicating in their home language, home visits, using technology, and provide families opportunities for feedback" (see **Figure 16**).

Figure 16. Interest in Professional Development Related to Family Engagement, as Reported by Faculty Members Participating in the Maryland Inventory: Percentage Reporting "Very Interested," by Degree Level



FINDING EIGHT: EARLY MATHEMATICS
Required Offerings, Faculty Attitudes, Teaching Experience, and Professional Development Interests

Across both degree levels, programs were less likely to require math content for infants and toddlers, compared to older children. Similarly, faculty members were less likely to rate the inclusion of early mathematics as "very important" for infants and toddlers, compared to preschool- and school-age children. More than one-half of faculty members across both 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, Whitebook, & Cassidy, 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 10 of the 11 topics, more than 90 percent of programs in both degree levels required students to engage with the content; one topic, "assessing children's mathematical development," was required by 86 percent of 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 were most likely to require a focus on preschool-age children. Both degree levels were least likely to focus on infants and toddlers.

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

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

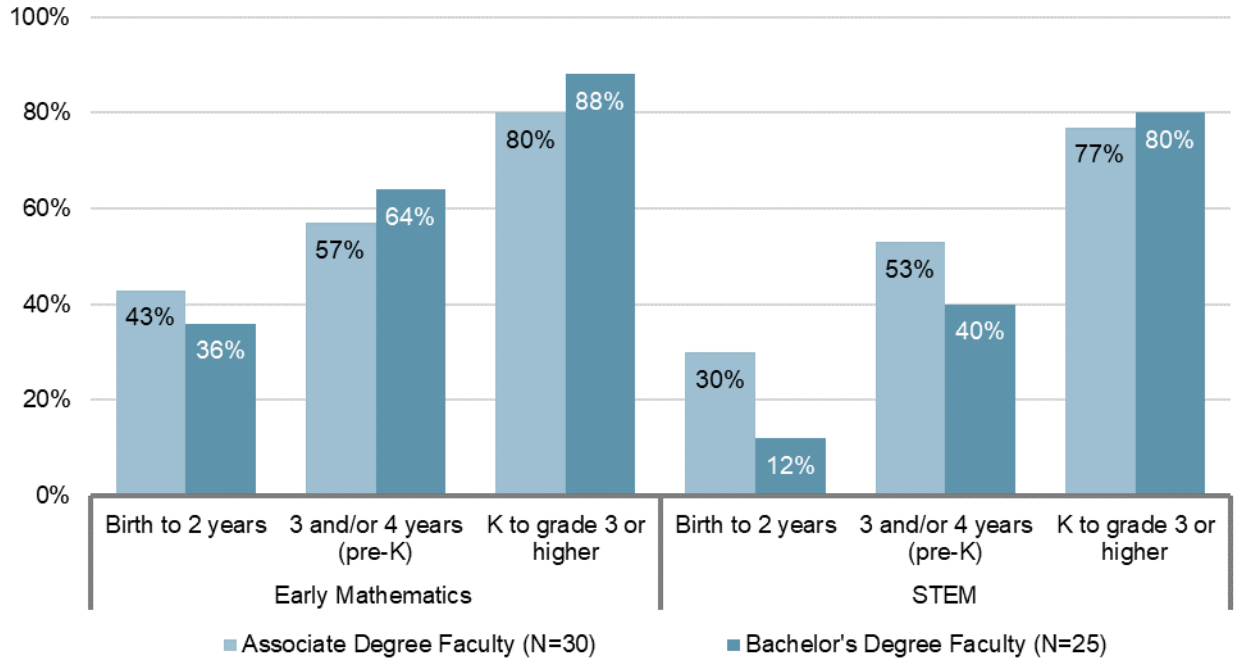
Faculty Attitudes About the Importance of Early Mathematics in Degree Programs

Faculty members at both degree levels were less likely to consider it "very important" to include the domains of early mathematics and STEM (science, technology, engineering, and math) than other domains in teacher preparation programs for practitioners working with infants and toddlers. Less than one-half (43 percent) of faculty members teaching in associate degree programs and slightly more than one-third (36 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. Even fewer faculty members at both the associate and bachelor's degree levels (30 percent and 12 percent, respectively) considered it "very important" to include the STEM domain in teacher preparation programs for teachers of infants and toddlers (see **Figure 17)**.

Faculty members in both degree levels were more likely to consider it "very important" to include the early mathematics and STEM domains for practitioners working with older children. For

example, three-fifths (60 percent) of faculty members in both degree levels considered the inclusion of early math "very important" for those teaching preschool-age children. Additionally, more than four-fifths (84 percent) of faculty members in both degree levels considered the inclusion of early math "very important" for those teaching school-age children.

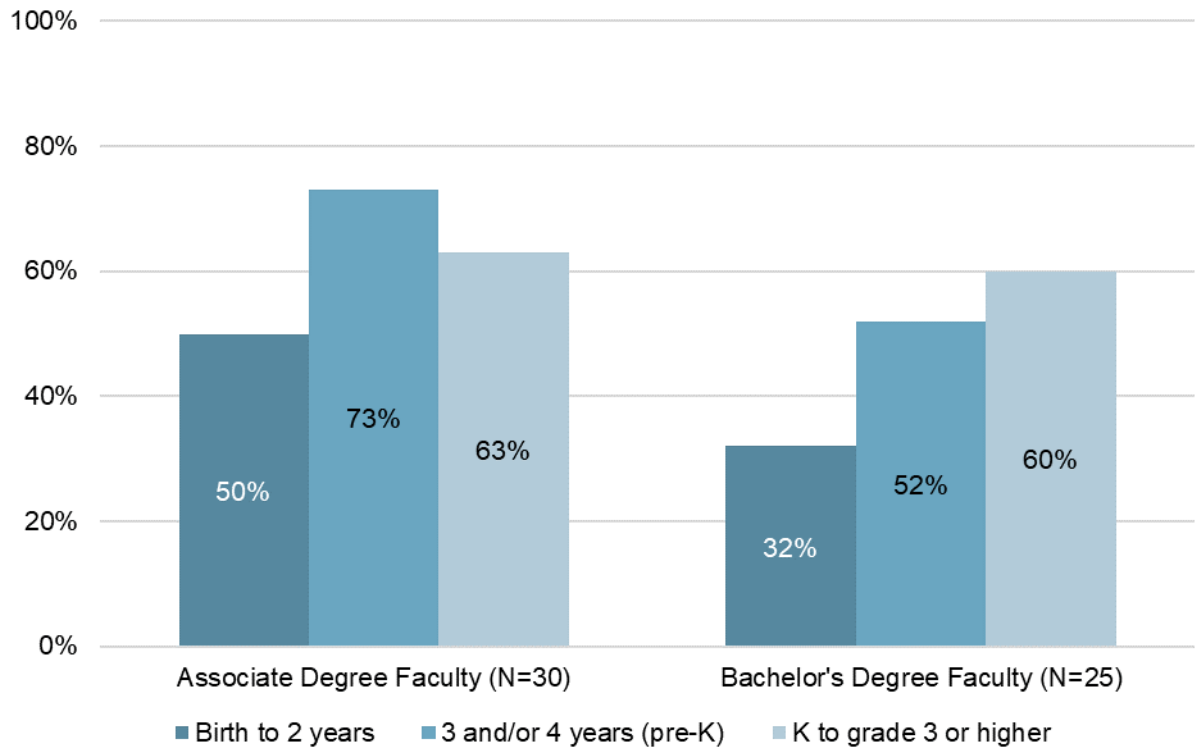
Figure 17. Importance of Including Early Mathematics in Degree Programs: Percentage of Faculty Reporting "Very Important," by Degree Level



Teaching Capacity and Experience Teaching Coursework on Early Mathematics Topics

In addition to the broad question regarding the capacity to prepare 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 both associate and bachelor's degree programs felt most capable of preparing teachers to work with preschool- and 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 18** for an example). In general, the faculty members teaching in bachelor's degree programs who participated in the *Inventory* did not feel comfortable preparing educators to support children's mathematical development (see the **Technical Report** for more detail).

Figure 18. Teaching Children Operations and Algebraic Thinking: Capacity to Prepare Teachers Working With Children of Various Ages, as Reported by Faculty Members Participating in Maryland Inventory, by Degree Level



Faculty members were asked whether they had taught "development of mathematical understanding" and "teaching strategies for STEM (science, technology, engineering, and math)" in the past two years and, if so, whether these topics were taught as separate courses or embedded within broader courses. Seventy percent of faculty in associate degree programs and 60 percent of faculty in bachelor's degree programs reported teaching "development of mathematical understanding" in the past two years. Similarly, seventy percent of faculty in associate degree programs and 52 percent of faculty in bachelor's degree programs reported teaching "teaching strategies for STEM" in the past two years. Both topics were 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 in both degree levels reported participating in some type of professional development, more than one-half (56 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 in kindergarten through grade 3 and higher," which was reported by approximately one-third (36 percent) of faculty in both 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 (51 percent) reported being "very interested" was "teaching practitioners how to effectively use assessment to inform and individualize their mathematical instruction." 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 degree programs.

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

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*. Faculty members were not highly likely 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[10] 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,[11] 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 (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.

[10] 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).

[11] 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 focused on dual language learners (see **Table 7** for a list of topics). Across topics, the percentage of degree programs requiring this content ranged from 53 to 78 percent. 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, course requirements and offerings were consistent across age groups; however, the percentage of programs requiring the topic for any particular group were low. For instance, 42 percent of associate degree programs required students to take coursework on supporting the language development of young DLLs who are infants and toddlers, while 16 percent require the topic but do not specify an age range the students must cover and 42 percent do not require the topic at all to attain the degree (see the **Technical Report** for more detail).

Table 7. Percent of Programs Requiring Topics Related to Teaching Young Dual Language Learners (DLLs), by Degree Level

Topic	Associate Degree (N=19)	Bachelor's Degree (N=8-9)
Importance and benefits of bilingualism for young children's development	58%	75%
Role of home-language development in helping young children learn English	74%	78%
Strategies to support the cognitive development of young DLLs	63%	62%
Strategies to support the language development of young DLLs	58%	62%
Strategies to support the literacy development of young DLLs	63%	62%
Strategies to support the development of mathematical knowledge and understanding of young DLLs	53%	62%
Strategies to support the socioemotional development of young DLLs	63%	62%
How to use appropriate teaching strategies for young DLLs within various classroom language models	53%	62%
How to use observation, assessment, and documentation to inform strategies for teaching young DLLs	63%	62%
Strategies for engaging families from linguistically diverse backgrounds	74%	78%

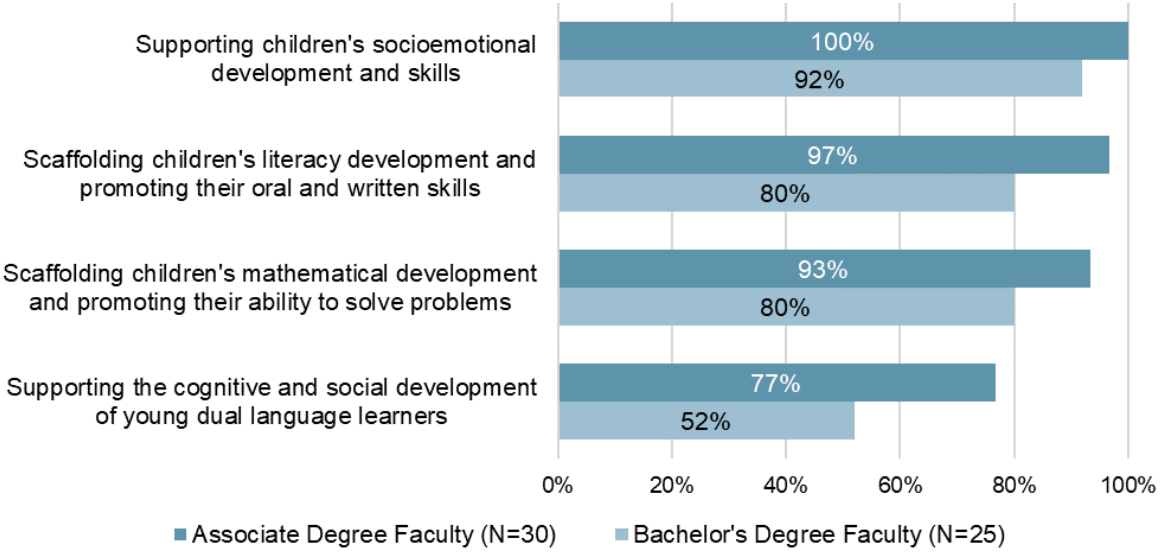
Faculty Attitudes About the Importance of Teaching Young Dual Language Learners in Degree Programs

The importance of understanding and implementing strategies to support the cognitive and social development of young dual language learners was considered "very important" by 80 percent or more of faculty members across both degree levels for those teaching all ages of children (see **Box 3** on page 26 for an explanation of how this assessment was conducted). However, faculty members were less likely to consider it as important as the domain of socioemotional development.

Teaching Capacity Related to Dual Language Learning

While the vast majority of faculty members in both degree levels noted the importance of supporting dual language learners, faculty members felt the least prepared to teach this topic, compared to all the other topics asked about in the *Inventory* (see **Figure 19**). Nearly one-quarter (23 percent) of faculty members teaching in associate degree programs and about one-half (48 percent) of faculty members teaching in bachelor's degree programs noted that they did not feel capable of preparing teachers to "support the cognitive and social development of young dual language learners."

Figure 19. Capacity to Prepare Teachers to Support and Promote Children's Development, as Reported by Faculty Members Participating in the Maryland Inventory, by Degree Level



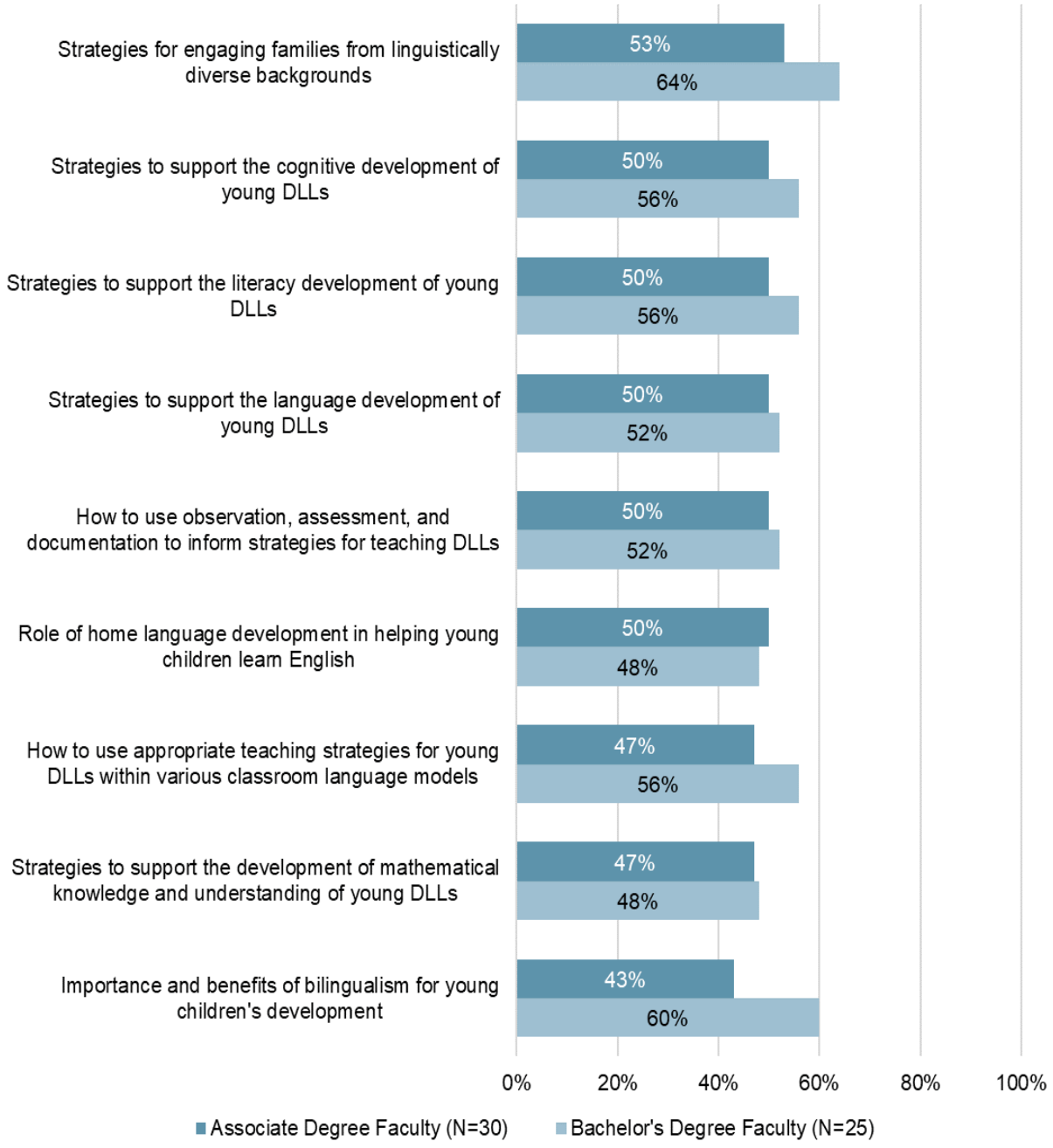
Faculty Participation and Interest in Professional Development Related to Dual Language Learners and Diverse Families

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 both degree levels were low and varied by degree level and topic. Faculty members teaching in bachelor's degree programs were less likely than those teaching in associate degree programs to have participated in professional development on this topic (52 percent and 65 percent, respectively). Two-fifths (41 percent) of all faculty members participating in the study did not participate in professional development related to any of the DLL topics listed in the *Inventory*.

The DLL professional development topic in which faculty members teaching in associate degree programs were most likely to have participated was "strategies for engaging families from linguistically diverse backgrounds" (50 percent). Faculty members teaching in bachelor's degree programs were equally likely (43 percent) to have participated in professional development regarding "strategies for engaging families from linguistically diverse backgrounds" and "strategies to support the language development of young DLLs."

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 in both degree levels, but unlike professional development opportunities related to family engagement and early mathematics, interest was overall somewhat higher among faculty members teaching in bachelor's degree programs than among faculty members teaching in associate degree programs. On average, approximately one-half of faculty members in both degree program levels identified being "very interested" in professional development topics related to teaching dual language learners (see **Figure 20**).

Figure 20. Interest in Professional Development Related to Dual Language Learners (DLLs), as Reported by Faculty Members Participating in the Maryland Inventory: Percentage Reporting "Very Interested," by Degree Level



Discussion and Recommendations

In this final section, we outline an approach toward strengthening early childhood workforce development in Maryland, 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 learning more about the depth of instruction delivered in early childhood higher education programs, ensuring that the various components be implemented in unison, and calling for a research agenda to measure progress and challenges over time. The efforts should be coordinated among key stakeholders in Maryland (including the Maryland Department of Education's Division of Early Childhood and the Maryland Higher Education Commission), and their success is 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. Unify expectations 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 learning experiences. As evidence and experts identify the need to focus early childhood teacher preparation on ages prior to pre-kindergarten (IOM & NRC, 2015), Maryland's inclusion of an Early Childhood Education (Pre-K-Grade 3) licensure endorsement option in their teacher credentialing system is a step in the right direction toward preparing future educators to more effectively work with students prior to kindergarten. To build on this progress, we recommend:

- Expanding the Pre-K-3rd endorsement to begin at birth (similar to the certification available for Special Education for Infant/Primary that covers birth to third grade) to ensure that educators working in early childhood and early elementary have an understanding of development and learning taking place prior to pre-kindergarten.

Additionally, standards that apply to early childhood teachers and administrators in private settings across Maryland vary according to program type and, in general, are minimal (e.g., many positions only require minimal experience or early childhood-related college courses), while more rigorous licensure standards and higher education degree requirements apply to early childhood teachers working in public preschool settings. Thus, institutions of higher education in Maryland offer programs that vary widely in course content and field experiences required for student learning, making it challenging to ensure that all early childhood education students have opportunities to engage in the type of content and field experiences recommended by the Institute of Medicine and National Research Council.

Clarity among degree programs as to their purpose and scope is required in the effort to align with the IOM/NRC recommendations and to ensure that all children receive the same quality of education regardless of their education setting. To initiate this process, we recommend:

- Strengthening the connections between the Maryland Child Care Credentialing Program and degrees granted by institutions of higher education in order to facilitate streamlined pathways for early educators to work toward attainment of higher credentials and degrees; and
- Aligning early education degree program course requirements with state standards and competencies, such as the Maryland Early Learning Standards Birth – 8 Years.

2. Strengthen program content and equity across the age span

Many ECE stakeholders emphasize the importance of relying on research 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. The majority of degree programs in Maryland noted a strong emphasis on preparing educators to work with preschool-age children; however, a significant proportion of bachelor's degree programs reported a lack of content on infants and toddlers. Additionally, the diversity of the child population suggests a need to prepare teachers to work with a broad range of children, including those who are learning more than one language, and to ensure that all content is culturally and linguistically responsive to the children and families served by ECE programs.

To strengthen required content and align it with child development and teacher preparation research and to equitably adjust 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.

3. Strengthen the application of field-based learning experiences

Although most early childhood degree programs in Maryland require students to participate in at least one practicum course, and the vast majority of bachelor's degree programs require student teaching, there is great variation in the characteristics of these experiences. Because less than one-half of programs require students to work with infants and toddlers, dual language learners, or children with disabilities during their student teaching and practica, graduates from Maryland degree programs may participate in highly disparate field-based learning experiences that may not reflect the realities of their current or future environments.

To strengthen the content 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 early elementary grades;
- 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 (e.g., the California Early Childhood Mentor Program); 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.

4. Provide increased access and supports for students in attaining their degrees

Because many early childhood education students in Maryland, particularly in associate degree programs, are non-traditional students and given the current COVID-19 pandemic impacting in-person learning, a focus on providing access to higher education and effective supports to current students is imperative. We recommend implementing or expanding the following supports for early childhood students across the state to ensure that a diverse current and incoming workforce can successfully meet standards and attain competency:

- Increased financial and technical support for students enrolled in blended or fully online degree programs;
- Alternative class schedules and locations;
- Academic counseling;
- Cohort models; and
- Financial resources for students.

5. Establish partnerships among and improve articulation agreements between two- and four-year institutions

In Maryland and across the country, 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. While the majority of associate and bachelor's degree programs note an existing articulation agreement in place with at least one other institution, inconsistencies currently exist in the practice and perception of articulation agreements between two- and four-year institutions. We recommend:

- Ensuring that all community colleges have a comprehensive articulation agreement with a four-year college or university that is geographically accessible to students; and
- Offering dedicated advising staff who can provide students with the necessary guidance to take full advantage of articulation agreements, including information on the transfer process, required courses, and accepted credits.

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

In Maryland, K-12 principals are required to have more than two years of teaching experience, hold a master's degree or higher, hold an administrator certification or a combination of graduate level coursework in specific content areas, and achieve a qualifying score on the School Leaders Licensure Assessment (Maryland State Department of Education, 2020). In contrast, minimum requirements for directors of center-based ECE programs vary according to the ages and number of children enrolled. The most stringent requirements (for the largest centers serving preschool

children) require directors to have earned an associate degree with early childhood coursework, some additional administrative training, and at least one year of experience (Maryland State Department of Education, 2016). In light of these inconsistent and nominal expectations for ECE leadership positions and the lack of a pipeline from the classroom to 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. Studies of ECE work environments reveal that a significant proportion (ranging from 25 to 32 percent) of early educators are responsible for supervising other teaching staff in their classroom or center (Whitebook, King, Phillip, & Sakai, 2016; Whitebook, Schlieber, Hankey, Austin, & Philipp, 2018), so this gap in coursework suggests a need for increased attention to preparing educators to succeed in these 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 specific skills and knowledge;
- Ensuring training and ongoing professional opportunities for faculty 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 graduate and undergraduate levels 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 a faculty workforce that is primarily monolingual and lacks the capacity to prepare teachers to work with children who are dual language learners. To increase the diversity of Maryland's early childhood higher education faculty, we recommend:

- Investigating 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 diversity among faculty members, particularly in key leadership positions;
- Identifying options to increase faculty members' expertise in working with college students, young children, and families of diverse racial, ethnic, and linguistic backgrounds; and
- Providing opportunities for faculty members to pursue professional development related to teaching dual language learners, including strategies to develop the language, literacy, mathematical, and cognitive abilities of this population.

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. Early childhood degree programs in Maryland rely heavily on faculty members to perform program administrative duties, which constrains the time they have to dedicate to students. Faculty members also identify the need for greater opportunities to engage in their own professional growth in response to new developments in the field and changing characteristics of the populations they serve.

To decrease the workload on faculty, we recommend:

- Developing strategies to support an increase in the number of full-time faculty members, with sufficient release time, who can share in administrative responsibilities.

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;
- Developing additional opportunities for faculty professional development in the areas of preparing practitioners to work with children with special needs, children from diverse backgrounds, and children who have experienced trauma; and
- Ensuring adequate resources, including funding, staffing, and dedicated time for program planning and improvement.

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 Maryland's early childhood higher education landscape amid efforts to invest in, strengthen, and coordinate early childhood workforce development efforts. A strong preparation system for Maryland's early childhood teachers and administrators is central to these efforts aimed at ensuring that all young children in Maryland 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 early childhood higher education degrees.

However, while it is crucial that early educators receive the education and training they need, the preparation of the early care and education 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 early care and education workforce. Without these larger systemic changes, we will continue to disadvantage early educators and the children and families they serve.

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