TEACHING THE TEACHERS OF OUR YOUNGEST CHILDREN:

THE STATE OF EARLY CHILDHOOD HIGHER EDUCATION IN NEBRASKA, 2015

SEPTEMBER 2015

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The Center for the Study of Child Care Employment (CSCCE), founded in 1999, focuses on achieving comprehensive public investments which 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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INTRODUCTION

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

In 2015, the Institute of Medicine and the National Research Council of the National Academy of Sciences 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) transitioning 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 early care and education professionals, including practice-based and supervised learning opportunities.[1]

In recent years, Nebraska, like many states, has committed public and private resources toward multiple efforts to improve educational services and to ensure that teacher education degree and certification programs can better prepare their graduates to meet the complex needs of young children of all ages (Swartz & Johnson, 2010; Ray, Bowman, & Robbins, 2006; Hyson, Horm, & Winton, 2012). Yet there remains a demand for more than 7,000 new early childhood professionals to provide quality care and education to Nebraska's most at-risk children (First Five Nebraska, 2015). Critical to responding to this need is the establishment of a well-coordinated and comprehensive professional preparation and development system that can prepare an incoming generation of professionals while also strengthening the skills of the existing early education workforce. Institutions of higher education are critical to meeting these evolving and increasing demands for improving developmental and learning outcomes for the state's young child population.

[1] Adapted from "Transforming the Workforce for Children Birth Through Age 8: A Unifying Foundation," by the Institute of Medicine and National Research Council, copyright 2015 by the National Academy of Sciences.

The Buffett Early Childhood Institute (Institute) is engaged in an ongoing effort, through its Early Childhood Workforce Development Program, to improve the quantity, quality, and skills of educators and other professionals who teach and care for children, and to address the shortage of early childhood professionals. In light of the changing expectations for effective preparation recommended by the Institute of Medicine/National Research Council, and the workforce needs of the state, now seemed the appropriate time to examine the status of early childhood higher education offerings in Nebraska, in order to allow policy makers, institutions of higher education, and other stakeholders to assess the capacity of the state's higher education system and inform policy, practice, and investment.

To undertake this assessment, the Institute commissioned the Center for the Study of Child Care Employment (CSCCE) to implement the *Early Childhood Higher Education Inventory* (Kipnis, Ryan, Austin, Whitebook, & Sakai, 2012a), a research tool used to describe the landscape of a state's early childhood degree program offerings at the associate, bachelor's, master's, and doctoral levels, and to provide a portrait of early childhood faculty members.[2] (See **Box 1** for a description of the Inventory Methodology.)

The Early Childhood Higher Education Landscape in Nebraska

A network of eight community colleges and 12 public and private colleges and universities offers a complex array of early childhood degree programs, serving more than 1,700 prospective and current early childhood practitioners across the state.[3] This network includes eight community colleges that offer 12 associate degree programs. It also includes 12 colleges and universities (six public and six private) that offer 20 bachelor's degree programs, eight master's degree programs, and two doctoral degree programs in early childhood. Approximately three-quarters of associate degree programs, and 60 percent of bachelor's degree programs, reported serving a mix of those already working in the early childhood field as well as more traditional pre-service students. Four of the six master's degree program reported exclusively serving those already working in early childhood settings.

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[2] Nebraska is one of seven states (along with California, Indiana, New, Hampshire, New Jersey, New York, and Rhode Island), that have participated in the Inventory to date.

[3] Based on information provided by programs that participated in the Inventory, it is estimated that during the 2013-2014 academic year, 960 students were registered in community college programs, 678 students were registered in bachelor's degree programs, and 94 students were registered in master's degree programs. During this same time period, colleges and universities that participated in the Inventory estimated that they conferred 116 associate degrees, 147 bachelor's, and 24 master's degrees.

The Inventory findings are presented in two sections. The first section, *Early Childhood Higher Education Today* examines the extent to which Nebraska ECE higher education 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 Nebraska ECE higher education programs have incorporated recent findings related to the importance of:

- promoting early mathematical understanding; and
- engaging families to support young children's optimal development, learning and school success.

Box 1. Study Design

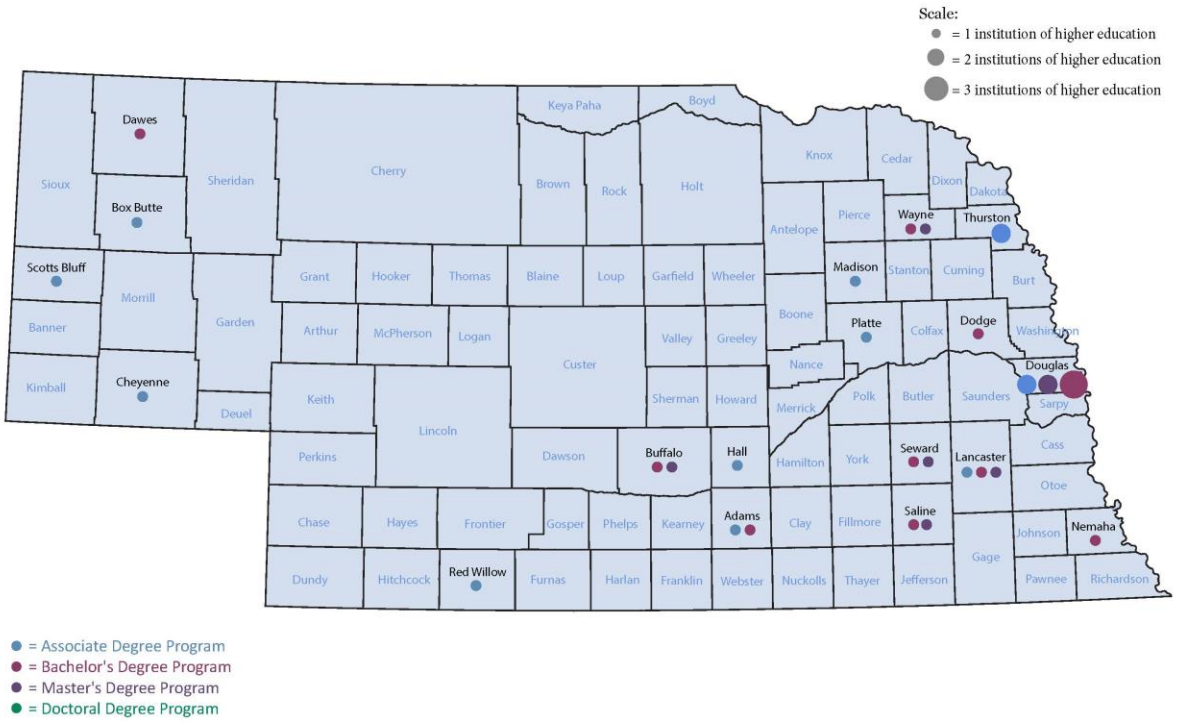
In the 2014-15 academic year, researchers from CSCCE implemented the Early Childhood Higher Education Inventory, which consists of three modules: a mapping of the population of higher education programs within a state; an online program survey completed by the degree program leader (e.g., dean, chair, or coordinator); and an online faculty survey completed by individual faculty members. The program findings reported here are drawn from a final sample of nine associate, 15 bachelor's, and six master's degree programs.[4]

The faculty findings are drawn from a final sample of 26 community college faculty members, and 45 bachelor's, 26 master's, and 12 doctoral degree faculty members. Individual faculty members may teach in more than one type of degree program.

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

[4] There are two doctoral programs in Nebraska specifically identified as focused on early childhood education, and both are offered through the University of Nebraska, Lincoln. As data for these two programs cannot be dis-identified, program data collected for the programs are not included in this report.

Distribution of Nebraska Institutions of Higher Education Offering Early Childhood Degree Programs[1]



[1]Population of degree programs based on data collected in the 2014-2015 academic year.

A note on interpreting the findings presented in this report: Due to small sample for some groups (e.g., six master's degree programs, 12 doctoral faculty members), the findings should be interpreted with caution and should not be assumed to be generalizable to other populations.

PART 1: EARLY CHILDHOOD HIGHER EDUCATION TODAY

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

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

Nebraska early childhood degree programs report differing goals for preparing students. These programs offer a range of topics related to child development and approaches to teaching, but content focused on infants and toddlers is notably underrepresented across all degree levels. Few programs offer an in-depth focus on topics related to administration and leadership.

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

Program leaders participating in the Inventory (e.g., deans, coordinators) were asked to indicate the primary goal of their degree program(s) among four 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 roles of early interventionists or early childhood special educators; and
4. to prepare students for multiple roles involving young children, working in many types of settings.

Program leaders were also asked to identify course content topics for the degree related to three domains:

1. child development and learning;
2. teaching (comprising three primary content areas):
    - 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 and teaching domains, respondents were asked to indicate whether a series of specific topics were required, and if so, the age-group or grade-level focus of each. For the administration and leadership domain, respondents were asked to identify topics offered to students in the degree program. (See **Table 1**.)

Program Goals

In Nebraska, education requirements for those teaching in or administering early care and education programs vary primarily by funding source. Requirements for those working in private settings (e.g., licensed family child care, center-based child care) range from less than a high school diploma and some training, to no more than a high school diploma and verifiable experience. In contrast, those working in publicly funded programs (e.g., school-based preschool, Head Start) are typically required to hold a degree and/or certification that includes early childhood.

It is likely, however, that many early childhood teaching staff in Nebraska mirror their counterparts nationally, who possess higher levels of education and training than may be required (National Survey of Early Care and Education Project Team [NSECE], 2013). Additionally, initiatives such as T.E.A.C.H. Early Childhood,® which has awarded hundreds of education scholarships to early educators in the state (Nebraska Association for the Education of Young Children, n.d.), and Nebraska Step Up to Quality, which requires higher levels of staff education in order to achieve higher ratings (Nebraska Department of Education, n.d.), have supported many in the workforce in pursuing and obtaining college-level education.

Those teaching under the auspices of a public school are required to hold the state-issued Certificate Endorsement, which includes a specific course of study. But most early childhood teachers and administrators in Nebraska have acquired an education within one of several disciplines, some related only tangentially to early childhood—a situation that has historically been considered acceptable preparation for teaching in or administering a program serving children prior to kindergarten. Despite progress in the alignment of programs of study leading to a Certificate Endorsement, there remains variability within and across degree levels with regard to what constitutes a course of study for those who will teach the state's youngest children.

At the associate degree level, two-thirds of degree programs identified teacher and administrator preparation as their primary goal; 44 percent identified the primary goal as preparing students for teaching and/or administrative roles only in early childhood education settings; and 22 percent identified the primary goal as preparing students for teaching and/or administrative roles in both early childhood *and* elementary education settings. At the bachelor's degree level, approximately one-half (47 percent) of programs, and at the master's

degree one-third of programs, identified preparing teachers and administrators for roles in early childhood and elementary education settings as their primary goal. (No bachelor's or master's degree programs identified their primary goal as preparing teacher and administrators for roles exclusively in early childhood settings). Bachelor's degree programs (53 percent) and master's degree programs (50 percent) were more likely than associate degree programs (33 percent) to report that their primary goal was to "prepare students to work in multiple roles involving young children, working in many types of settings." (See **Figure 1**.) It is important to recognize that even if programs reported a primary goal other than teacher or administrator preparation, these degree programs may still be preparing students for teaching and administrative roles.

Figure 1: Primary Goal of Nebraska's Early Childhood Higher Education Degree Programs, by Program

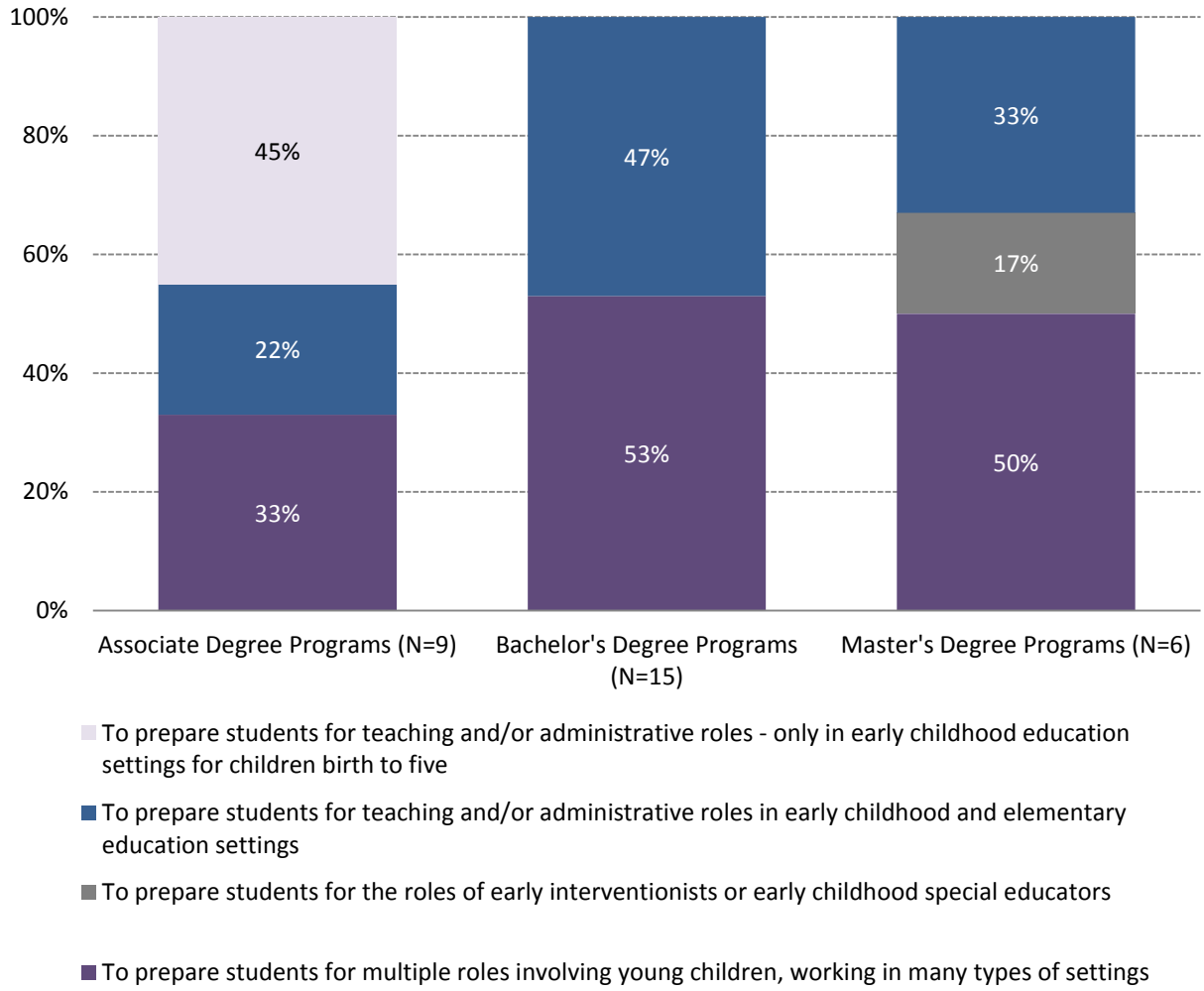


Table 1. List of Domains and Topics of Course Content Included in the Nebraska Early Childhood Higher Education Inventory	
Domain	**Topics**
Child development and learning	Knowledge about children's development in different domains
	Effects of culture, gender, class, and race on development
	Understanding the effects of disability on child development
	Development of children's understanding and skills: early literacy, and science
	Child development theory and its relationship to teaching
Teaching	*Teaching diverse child populations*: children who are living in poverty, are dual language learners, have special needs, and/or exhibit challenging behaviors, and children from diverse ethnic and cultural backgrounds
	Teaching and curriculum: using integrated curriculum and play in teaching, supporting social and physical development, and 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, implementing inclusion strategies for children of all abilities to participate in learning, and classroom management
Administration and leadership	*Supervision*: Building relationships with other teachers and/or early childhood professionals, guiding practitioners in implementing curriculum and appropriate teaching strategies, adult supervision, adult learning styles, and assessment and documentation to inform teaching and learning
	Program operations: Assessment and documentation to inform program quality, program planning, development, and operations (e.g., child enrollment, daily operations), using technology to maintain records and enhance program operations, managing and maintaining facilities, human resources/personnel policies, fiscal procedures and management, grant management and proposal writing, and organizational development and change
	Policy and advocacy: The early childhood system and public policy, effective advocacy, and policy analysis and development

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).

Child Development and Learning

All associate and nearly all bachelor's and master's degree programs reported requiring the course content topics related to the domains of child development and learning, with two exceptions. Only three of the six master's degree programs required the topics "development of dual language learners" and "understanding the effects of disability on child development."

Teaching

Similar to the child development and learning domain, all or nearly all degree programs, across levels, required course content topics in each of the three dimensions of the teaching domain, with two exceptions. Among master's degree programs, only one-half of programs required the topic "teaching children who are dual language learners," and four out of six (67 percent) required the topic, "teaching children with special needs."

Administration and Leadership

Course content was not consistently offered to prepare practitioners for early childhood supervisory, administrative, or other leadership roles. Overall, a smaller percentage of degree programs across all types reported offering coursework related to this domain than any others. Only five of the 15 topics examined in the Inventory—assessment and documentation to inform program planning; assessment to inform teaching and learning; building relationships with other teachers and/or early childhood professionals; guiding practitioners in implementing curriculum and appropriate teaching strategies; and the early childhood system and public policy—were offered by three-quarters or more of all programs, across degree levels.

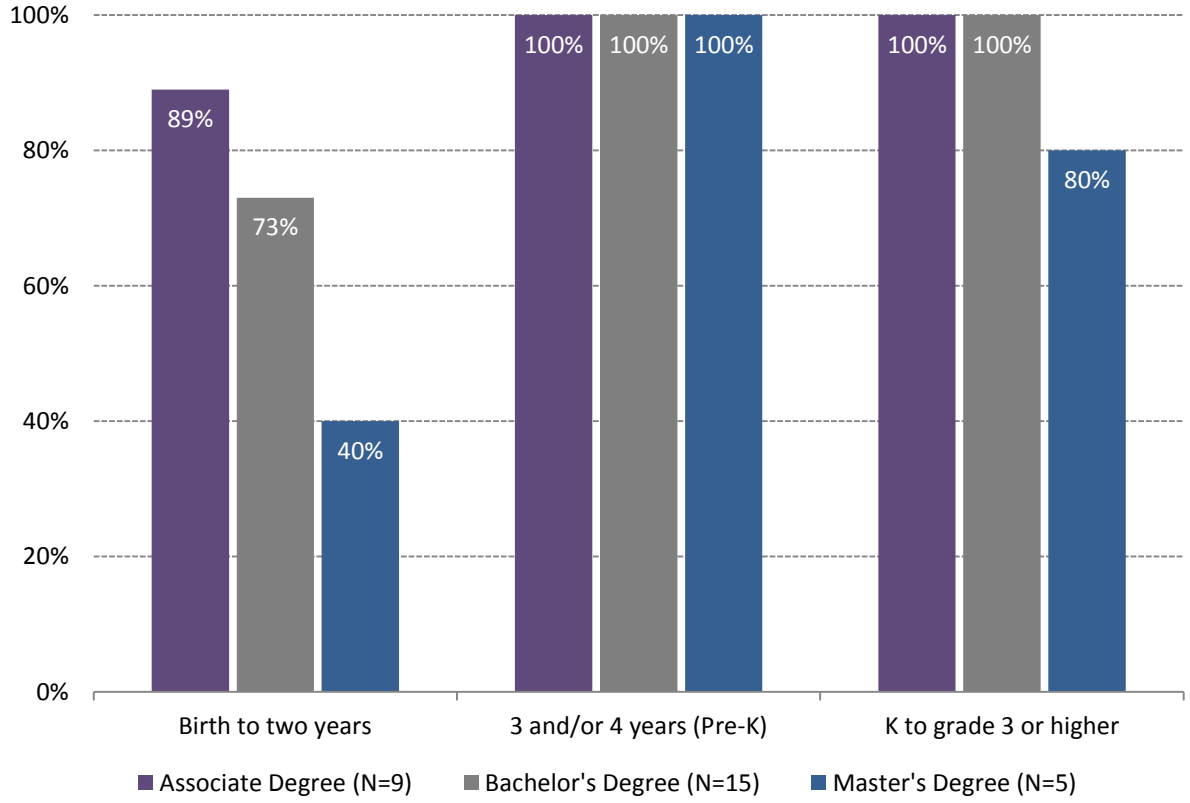
Age-Group Focus

Depending on the ages of 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). The Institute of Medicine and the National Research Council conclude that this variability 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 from birth to age eight (IOM & NRC, 2015).

Thus, creating an integrated birth-to-age-eight early care and education system, inclusive of the institutions preparing the ECE workforce, has emerged as a major goal, as well as a metric by which to measure progress toward it. The Inventory intentionally sought to

compare differences among programs along the age continuum. When child development and learning and teaching topics were required, degree programs across all types consistently reported that these were focused on preschool-age children, and often also included a focus on children in the elementary grades. The focus on infants and toddlers, however, varied by topic and degree program, and was typically included less often than a focus on older children. For example, all associate and bachelor's degree programs, and all but one master's degree program, required the topic, "development of children's early literacy skills." Among those programs, all required a focus on preschool-age children, and with one exception at the master's degree level, required a focus on children in elementary school, whereas the focus on infants and toddlers varied by degree level. (See **Figure 2**.)

Figure 2: Development of Children's Literacy Skills: Age-Group Focus of Programs Participating in Nebraska Early Childhood Higher Education Inventory, Selected Topics



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

Students earning a bachelor's degree in early childhood are typically required to complete a student teaching experience, and participate in additional practica. In contrast, the majority of students completing an associate or master's degree in early childhood participate only in practica, and there is little consistency as to the duration and frequency of the experiences.

What we asked about field-based experiences:

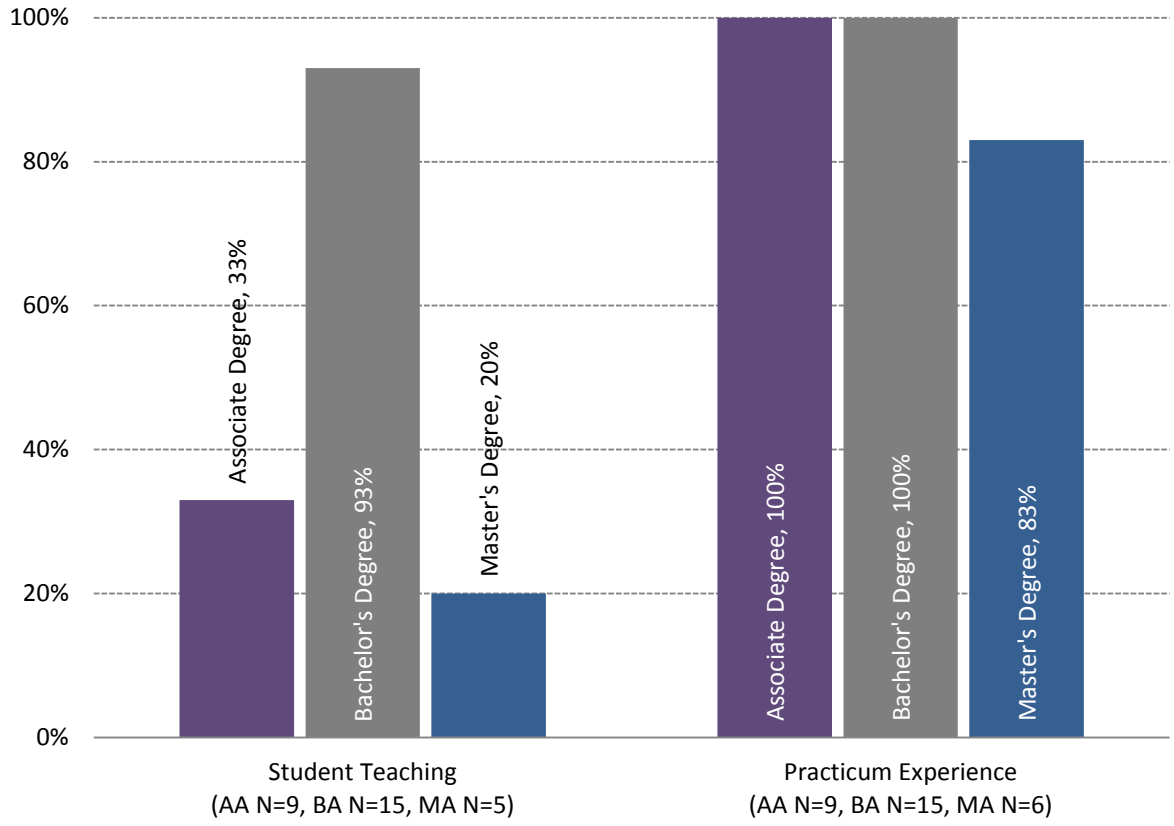
Program leaders were asked about two distinct types of field experiences: student teaching and practica. For each, respondents were asked to indicate whether the field-based experience was required in order to attain the degree, and if it was, they were asked a series of questions pertaining to the field experience, including: 1) timing and duration; 2) age-group focus; and 3) differences in field experience structures for pre-service and experienced teachers.

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 upon existing ones (IOM & NRC, 2015; Whitebook et al., 2012; National Council for Accreditation of Teacher Education, 2010b). 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 experience (Whitebook et al., 2012). In early childhood, however, there is no widely implemented standard of field experience, such as student teaching (Whitebook, 2014; Whitebook & Ryan, 2011). This structural divide in educator preparation runs counter to the call by many experts, policy makers, and stakeholders for a more integrated birth-to-age-eight educational system (IOM & NRC, 2015).

Required Field-Based Experiences

Reflecting alignment with state program standards for Nebraska teacher preparation, nearly all bachelor's degree programs (93 percent) required a student teaching experience, and all (100 percent) also required at least one practicum. In contrast, one-third of associate and less than one-quarter of master's degree programs required student teaching, although all associate (100 percent) and most master's (83 percent) degree programs required at least one practicum. (See **Figure 3.**)

Figure 3: Field Experiences Required in Nebraska Early Childhood Higher Education Degree Programs



Number, Duration, and Timing of Practicum Experiences

Practica are the most common, and for many, the only type of field-based learning experience required across Nebraska early childhood degree programs.[5] The total number of practica, and of hours that students were engaged in a practicum, is difficult to assess, however, as the number of on-site hours typically required for completing a practicum course ranged from nine to 150 hours per practicum. (See **Table 2**.)

[5] Because practica were the primary strategy for field-based experiences required by degree programs, they are the focus of this section of the report. For details on the number, duration, and timing of student teaching requirements, see the Technical Report.

Table 2. Number and Mean Hours of Practica Required by Programs Participating in the Nebraska Early Childhood Higher Education Inventory					
Program Type	**One practicum required**	**Two practica required**	**Three practica required**	**Four or more practica required**	**Mean number of hours typically required for completing a practicum course**
Associate Degree (n=9)	0%	45%	11%	44%	65
Bachelor's Degree (n=15)	6%	20%	27%	47	55
Master's Degree (n=5)	40%	0%	20%	40%	40

The first practicum experience occurred at different times for students at different degree levels. Associate degree programs (78 percent) were more likely than bachelor's (53 percent) and master's (50 percent) degree programs to require that the first practicum occur at the beginning of the course of study. Practicum experiences for early childhood students were relatively unlikely to reflect students' status as either novice or experienced teachers. Less than one-quarter of degree programs at all levels reported structuring practicum experiences differently for novice and experienced teachers.

Age-Group Focus

All associate degree programs (100 percent) required practicum experiences to include a focus on all age groups of children from infancy through early elementary school. Most bachelor's degree programs required a focus on preschool-age children (93 percent) and children in early elementary grades (87 percent); fewer (73 percent) required a focus on infants and toddlers. Most master's degree programs (80 percent) that required a practicum required a focus on preschool-age children; only two programs required a focus on infants and toddlers, and just one master's degree program required a focus on children in the elementary grades.

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

Nebraska early childhood degree programs are staffed mostly by full-time faculty. Nebraska's early childhood faculty workforce closely reflects the racial, ethnic and linguistic composition of the state. Most faculty members report having had academic preparation specific to early childhood, and most associate and bachelor's degree faculty report having worked in an array of ECE professional roles in the past decade. Most faculty, however, have not had recent experience teaching children, particularly infants and toddlers. Nebraska early childhood degree program faculty members are particularly interested in professional development related to working with diverse children, and utilizing technology in teaching.

What we asked about and of faculty members:

Program leaders 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 demographic characteristics, including: a) age; b) race/ethnicity; and c) linguistic capacity;
2. their academic background;
3. the primary focus of their teaching and expertise related to children across the birth-to-age-eight spectrum;
4. professional experiences in addition to college-level teaching in the previous ten years; and
5. professional development in which they had participated, and topics in which they would find it helpful to gain additional knowledge and training.

Employment Status

The reliance on part-time faculty is endemic throughout institutions of higher education, constituting two-thirds or more of faculty in colleges and universities nationwide (Curtis & Thornton, 2014; Center for Community College Student Engagement, 2014), and can pose multiple challenges for both faculty and students.

Faculty members teaching in Nebraska early childhood degree programs defy this national trend. Among those who participated in the Inventory, more than one-half (58

percent) of associate and approximately three-quarters of bachelor's and master's degree faculty members reported being employed full-time in their respective degree programs; all 12 doctoral degree faculty members reported full-time status.

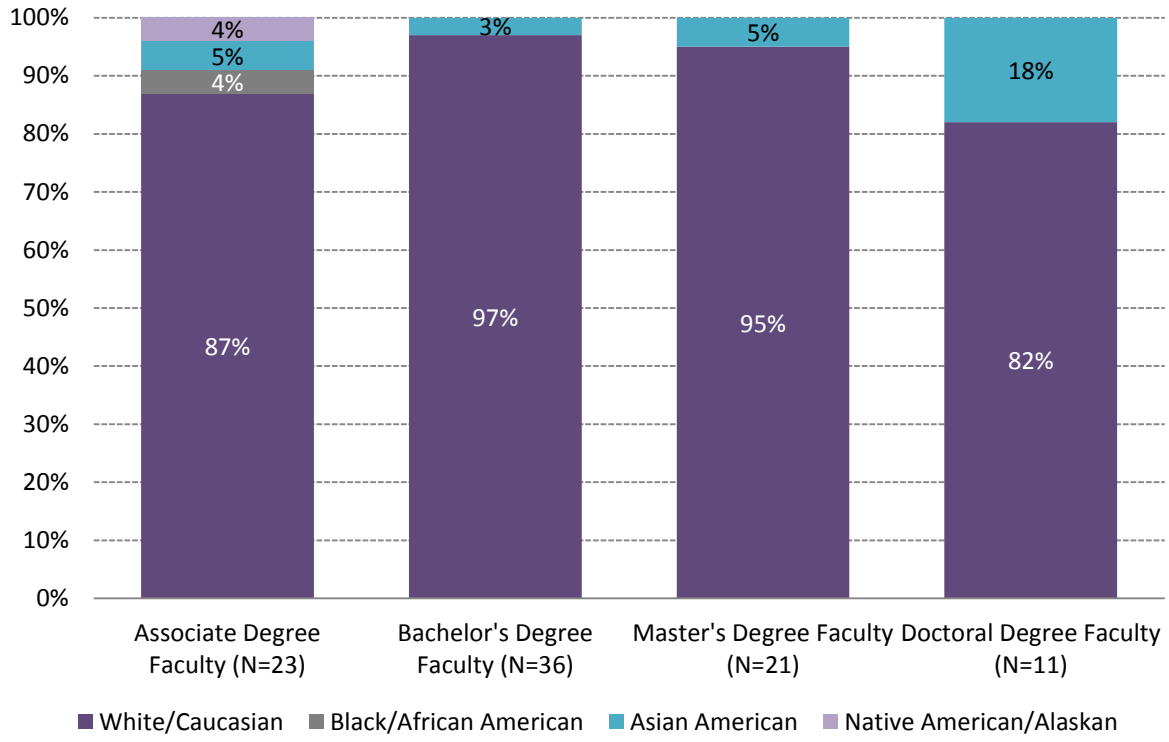
Demographic Characteristics

The absence of racial and ethnic minorities among early childhood faculty, in contrast to early childhood student and child populations, is also well documented, with implications for the degree of focus on diversity in coursework and the availability of role models for students (Bornfreund, 2011; Johnson et al., 2010; Lim, Maxwell, Able-Boone, & Zimmer, 2009; Maxwell, Lim, & Early, 2006; Whitebook, Bellm, Lee, & Sakai, 2005; Ray, Bowman, & Robbins, 2006; Early & Winton, 2001).

Racial, Ethnic, and Linguistic Diversity

Most faculty members participating in the Inventory identified as White/Caucasian and monolingual. (See **Figure 4**.) Associate degree faculty members were less diverse than the community college student body population, which is about 75 percent White, non-Hispanic (Nebraska's Coordinating Commission for Postsecondary Education [NCCPE], 2014). Similarly, bachelor's and master's degree faculty members were somewhat less diverse than the student body population across the University of Nebraska and Nebraska State College systems, and across independent colleges and universities, whose student body populations were between 80 and 85 percent White, non-Hispanic (NCCPE, 2014). Though no data were available about the demographics of the early childhood teaching workforce in Nebraska at the time of this report, Census data point to an increasingly diverse population in the state, with a child population under the age of five being 69 percent White, non-Hispanic, and 18 percent Hispanic or Latino (The Annie E Casey Foundation, 2013). While all faculty members at all degree levels reported fluency in English, few reported fluency in another language. Approximately one-quarter of bachelor's, one-third of associate and master's, and one-half of doctoral degree faculty members identified Spanish as a language they would like to know in order to communicate better with their students.

Figure 4: Race/Ethnicity of Faculty Participating in the Nebraska Early Childhood Higher Education Inventory, by Degree Program



Professional Background and Development Needs

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 faculty to be versed in the foundational theories of development and learning, subject matter content, and methods of pedagogy that comprise the basic competencies expected of ECE practitioners working with young children. Additionally, teacher educators themselves are increasingly called upon to be effective practitioners, preferably having had classroom experience with children within the last decade (National Council for Accreditation of Teacher Education, 2010a & 2010b).

Academic Preparation and Teaching Focus Related to Early Childhood

Approximately three-quarters of associate, master's, and doctoral degree faculty members, and more than one-half (57 percent) of bachelor's degree faculty members, had earned at least a bachelor's degree in early childhood education or child development. While we did not ask faculty members about the primary focus of their own early childhood degrees,

we asked them 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," and we asked about their expertise related to various age groups of children. Most faculty members, across degree levels, reported focusing on "curriculum and teaching methods" (either exclusively, or equally with child development and learning). While nearly all faculty members across degree levels reported that their teaching expertise included preschool-age children, associate (54 percent), master's (52 percent), and doctoral (60 percent) degree faculty members were also more likely to report that their teaching expertise included infants and toddlers than were bachelor's (38 percent) degree faculty members.

Professional Teaching Experience

The majority of associate (65 percent) and bachelor's (54 percent) degree faculty members reported experience in other professional roles, including "classroom teacher" and "early childhood professional development provider" (e.g., coach, mentor, or trainer), within the previous ten years. Less than one-third of master's degree and only two doctoral degree faculty members reported experience in other professional roles within the previous ten years. Most associate (80 percent) and bachelor's (60 percent) degree faculty members reported that they had worked as a "classroom teacher" in the last decade. Among associate degree faculty members who had worked as classroom teachers in the previous ten years, such experience was more likely to have occurred with preschool-age children (75 percent) than with infants and toddlers (eight percent), or with children in kindergarten to third grade or older (50 percent). Most bachelor's degree faculty members who had worked as classroom teachers reported that they had worked with children beyond third grade (58 percent), one-quarter had worked with children in a K-3 setting, and one-third had worked with preschool-age children; none reported having worked with infants or toddlers.

Professional Development

The vast majority of faculty members at all degree levels reported having participated in professional development during the last three years (more than 90 percent of faculty members, across degree levels). The four most frequently reported professional development opportunities, participated in by at approximately one-third or more of faculty members at all degree levels, were "teaching practitioners to work with children with special needs," "strategies and techniques for mentoring/coaching of adult students," "using technology to promote adult learning," and "child assessment."

Faculty members at all degree levels indicated a number of areas in which it would be helpful to gain additional knowledge or training. The most commonly identified topics focused

on teaching practitioners to work with children from culturally and linguistically diverse backgrounds, and using technology with children and adults.

FINDING FOUR: SUPPORTING STUDENTS
Services Offered and Ongoing Challenges

Nebraska early childhood degree programs offer multiple types of support services designed to help students access resources and strengthen their academic skills. Associate and graduate degree programs are more likely to make coursework accessible in multiple formats by offering courses online, off-campus, or during alternative hours, such as evenings and weekends. Primary challenges for many institutions include having sufficient faculty with particular expertise related to teaching diverse populations of children and adults, and having adequate resources for program planning and faculty professional development.

What we asked about supporting student success:

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

1. counseling and cohort models;
2. access support; and
3. skill support.

Additionally, program leaders were asked to identify student-related challenges facing their programs, and faculty members were asked to identify student-related resources needed in order to improve the degree program.

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, are among the first in their families to attend college, often represent linguistic and/or ethnic minorities, and may also be parents of school-age or younger children (Sakai, Kipnis, Whitebook, & Schaack, 2014). 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) (Sakai et al., 2014; Whitebook, Schaack, Kipnis, Austin, & Sakai 2013; Kipnis et al., 2012a; Chu, Martinez-Griego, and Cronin, 2010).

Services Offered

As is customary among institutions of higher education, degree programs offered skill support around a range of academic topics including reading/writing and math. Generally, these supports were offered to all students in the institution, and were not targeted specifically to students in early childhood degree programs.

Associate and master's degree programs were more likely than bachelor's degree programs to offer their programs in formats other than, or in addition to, a traditional on-campus program. More than one-half of associate and one-third of master's degree programs offered an "online/distance learning degree program," as did one-quarter (27 percent) of bachelor's degree programs. More than three-quarters of associate (78 percent) and master's degree programs (83 percent) offered a "blended degree program, a combination of online and in-person courses." compared to only 40 percent of bachelor's degree programs.

Master's degree programs (83 percent) offered alternative class schedules for working adults at higher rates than did associate or bachelor's degree programs (67 percent and 60 percent, respectively). Associate and master's degree programs were the most likely to report offering classes off-campus in community-based settings; approximately two thirds (67 percent each) did so, compared to 53 percent of bachelor's degree programs. Cohort programs were more likely to be offered by bachelor's (53 percent) or master's (50 percent) than associate (22 percent) degree programs.

Student-Related Challenges

Among degree programs that reported experiencing at least one challenge, most programs reported an "insufficient ability to recruit students" as a challenge, and more than one-third of associate degree programs (38 percent) reported that an "insufficient ability to support students in completing the program" was a challenge. Among faculty members who reported that additional resources were needed in order to improve the early childhood degree program, 63 percent of associate degree faculty members identified "increased academic support for students" as a need.

FINDING FIVE: PROGRAM CHALLENGES
Faculty and Program Needs

Nebraska early childhood degree programs experience challenges related to time and resources in fulfilling faculty responsibilities, as well as the need for faculty with specific expertise, and for a more racially and ethnically diverse faculty. Early childhood faculty members are also in need of resources to help them participate in professional development and program planning.

What we asked about program- and faculty-related challenges:
Program leaders were asked to identify any challenges facing their degree programs. Faculty members were asked to identify any resources needed in order to improve the early childhood degree program.

Faculty-Related Challenges

Two major faculty-related challenges were identified: a lack of adequate time and resources for faculty responsibilities and professional development, and the shortage of faculty members with particular expertise and backgrounds.

Support for Faculty

Among faculty members who reported a need for additional resources, more than one-half across all degree levels identified needing resources for additional full-time faculty. Other staffing-related needs included resources for faculty professional development and funding for travel, effective mentoring of faculty, and more individual faculty planning time. Among associate and bachelor's degree program leaders reporting challenges, the one most commonly identified in relation to faculty support was that administrative responsibilities interfered with time for students.

Faculty Diversity and Expertise

Among faculty who reported a need for more resources in order to improve their programs, one-third or more across all degree levels identified a need to "increase racial/ethnic diversity among faculty," and more than one-third of master's and doctoral degree faculty also identified needing resources to increase the linguistic diversity of faculty. Among program leaders reporting challenges, most identified a lack of faculty expertise in teaching young children who are dual language learners. Other identified needs included faculty expertise in working with diverse population of college students. Associate and bachelor's degree program

leaders also identified a need for faculty expertise in teaching young children with special needs, and the majority of bachelor's programs reported a need for faculty expertise in teaching infants and toddlers.

Program-Related Challenges

Program-related challenges were identified less often than student- or faculty-related challenges.

Among faculty members citing a need for resources in order to improve the degree program, more than one-half, across degree levels, mentioned needing resources for program planning and improvement, and approximately one-third or more of faculty members, across degree levels, mentioned a need for more rigorous evaluation of the degree program in order to inform improvement. About one-third of associate (38 percent) and bachelor's (33 percent) degree program leaders identified insufficient access to quality clinical sites as a challenge. The majority of associate degree programs (63 percent) identified as a challenge a lack of recognition of the value of early childhood from within the department or school.

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 family engagement and early mathematical development.

FINDING SIX: FAMILY ENGAGEMENT
Faculty Attitudes, Required Offerings, and Professional Development Interests

Faculty members consider the inclusion of family engagement to be very important in the preparation of early childhood teachers, and rank its importance on a par with the domain of socio-emotional development. Multiple topics related to family engagement are embedded in all levels of degree programs, with some variation in age-group focus by degree level and topic. Faculty members expressed varied levels of interest in professional development in this topic area.

What we asked about the family engagement domain:

We asked faculty about:

1. attitudes/beliefs about the importance of inclusion of family engagement relative to other domains;
2. experience with teaching specific family engagement course content in the last two years; and
3. level of interest in professional development focused on topics related to family engagement.

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

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 last 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, 2012). As a consequence, the importance of including family engagement in teacher preparation has gained traction, particularly in light of research suggesting limited attention in teacher education programs to building student competence in this area (Nathan & Radcliffe, 1994; Shartrand, Weiss, Kreider, & Lopez, 1997; Epstein, Sanders, & Clark, 1999).

Faculty Attitudes about the Importance of Family Engagement in Teacher Preparation Degree Programs

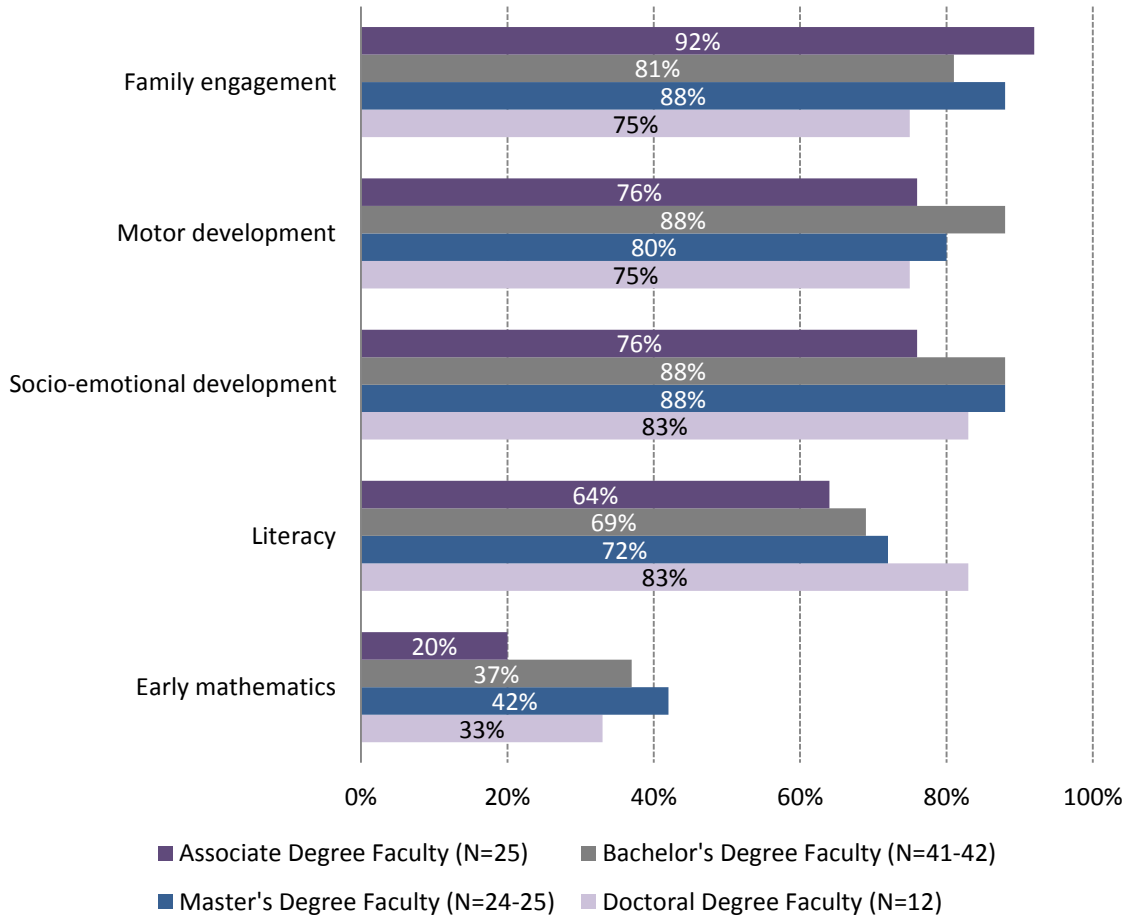
The importance of understanding and implementing integrated strategies in order to engage families in supporting children's development and learning was considered "very important" by the vast majority of faculty across degree levels, and ranked on a par with the domain of socio-emotional development. (See **Box 2** for how this assessment was conducted.) Roughly 80 percent or more of faculty members at each degree level considered it "very important" to include family engagement, as well as socio-emotional development, in courses for teachers of all age groups of children, including infants and toddlers. Faculty considered it more important to include family engagement content than literacy and mathematical development content in early childhood higher education degree programs. (See **Figure 5**.)

Box 2. Tapping Faculty Attitudes about Including Various Domains of Development and Learning in Teacher Preparation Programs

The Inventory assessed faculty attitudes about the relative importance of various domains of development and learning in teacher preparation 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:

- 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.
- Literacy: Understanding the components and sequence of literacy development in young children, and how to promote children's skills related to oral and written language.
- Social-emotional development: Understanding socio-emotional development and its relationship to learning, and how to support children's socio-emotional skills.
- Motor development: Understanding normal and atypical motor development in young children and its relationship to learning, and how to support the development of children's motor skills.

Figure 5: Importance of Inclusion of Domains in Teacher Preparation Programs: Percentage of Faculty Reporting "Very Important" for Infants and Toddlers, by Degree Program



Required Family Engagement Topics in Degree Programs

Program leaders were asked about required course content and age-group focus related to 13 topics of family engagement. (See **Table 3.**) All associate degree programs reported requiring each of the 13 topics, as did bachelor's degree programs, with one exception: 93 percent of bachelor's programs required the topic of "theories of family engagement." These topics were required by the majority of master's degree programs, although this varied by topic from two-thirds of programs to all programs requiring a given topic.

When a degree program did require a family engagement topic, it almost always included a focus on preschool-age children. With the exception of the topic of "engaging families in classroom, program, and/or school activities," all associate degree programs reported that course content included a focus on infants and toddlers. Most associate and bachelor's degree programs also included a focus on grades K-3. Among bachelor's degree

programs, a focus on infants and toddlers varied by topic from about two-thirds to 100 percent, and among master's degree programs, a focus on infants and toddlers and on grades K-3 varied by topic from less than two-thirds to about three-quarters of programs.

Faculty Interest in Professional Development

Using a Likert scale of 1 to 5, with 1 being "no interest" and 5 being "very interested," faculty were asked to rate their interest levels in 12 topics related to family engagement.

Faculty member interest in professional development topics varied by degree level. Associate and doctoral degree faculty expressed somewhat greater interest across all topics than did bachelor's and master's degree faculty members. (See **Table 3.**)

Table 3. List of Family Engagement Topics Included in the Nebraska Early Childhood Higher Education Inventory

Topic	One-third or more of faculty members "very interested" in professional development on topic			
	Associate Degree	Bachelor's Degree	Master's Degree	Doctoral Degree
Theories of family engagement	✓		✓	✓
Working with various family structures	✓			
Working with families of various economic, cultural, ethnic, racial, and linguistic backgrounds	✓	✓		✓
Working with families to extend children's learning at home	✓		✓	✓
Engaging families in classroom, program, and/or school activities	✓	✓		✓
Teaching practitioners to work with families of children with special needs	✓			✓
Negotiating conflict with families	✓			
Effective communication strategies with families	✓		✓	✓
Techniques for gathering knowledge about children's families	✓			
Using community resources to support families	✓			✓
Incorporating knowledge about families in curriculum planning	✓			✓
Using technology to communicate and interact with families	✓			

FINDING SEVEN: EARLY MATHEMATICS
Faculty Attitudes, Required Offerings, Faculty Self-Assessment, Teaching Experience, and Professional Development Interests

Faculty members consider it less important to include early mathematics than other

domains in the preparation of early childhood teachers. Multiple topics related to early mathematics are embedded in required course content, with variation among degree levels by topic and by age-group focus. Many faculty do not consider themselves prepared to teach early math content, yet interest in ongoing math-related professional development varies by degree level and topic area.

What we asked about the early mathematics domain:

We asked faculty about:

1. attitudes/beliefs about the importance of including early math, relative to other domains;
2. experience with teaching specific early math course content in the last two years;
3. level of interest in professional development focused on topics related to early math; and
4. capacity to teach students about specific math-related topics.

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

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).

Faculty Attitudes about the Importance of Early Math in Teacher Preparation Degree Programs

Faculty members at all degree levels were less likely to consider it "very important" to include the early mathematics domain than other domains in teacher preparation programs for practitioners working with younger than school-age children, particularly infants and toddlers. Less than one-quarter of associate degree program faculty (20 percent), and only about one-third of faculty members across all other degree levels, considered it "very important" to include the math domain in preparation programs for teachers of infants and toddlers. About three-quarters of bachelor's and master's degree faculty, and 60 percent of associate degree faculty, considered it "very important" for teachers working with preschool-age children. In contrast, 60 percent or more of faculty members, across degree levels, considered it "very important" to include the literacy domain for teachers of infants and toddlers, and about 90 percent or more of faculty members considered the literacy domain "very important" for

teachers working with children ages three and older. At least 80 percent of faculty, across degree levels, considered the inclusion of early math "very important" for those teaching in kindergarten or higher grades, a rate closer to that for the literacy domain.

Required Offerings

Program leaders were asked about required course content and age-group focus related to 13 topics of early math. (See **Table 4.**)

All thirteen early math topics were required by all bachelor's degree programs, and all thirteen early math topics were required by all associate degree programs, with the exception of "supporting English language learners in developing mathematical knowledge as they concurrently acquire English," which was required by two-thirds of associate degree programs. Three of the 13 topics were required by all master's degree programs, and the other topics were required by one-half to two-thirds of programs. In associate and master's degree programs, when an early mathematics topic was required, it was much more likely to be focused on preschoolers than on younger or older children, and in bachelor's degree programs, the topics were more likely to be focused on preschoolers and older children than on infants and toddlers. Across degree levels, topics related to the development of children's mathematical understanding were more likely to include a focus on infants and toddlers than were topics related to teaching math skills to children. (See **Table 4.**)

Table 4. List of Early Mathematics Topics Required by Programs in the Nebraska Early Childhood Higher Education Inventory, by Degree Program			
Topic	**When Topic is Required, Focus on Infants and Toddlers is Included by at Least 50% of Degree Programs**		
	Associate Degree	**Bachelor's Degree**	**Master's Degree**
Number sense for children	✓	✓	✓
Operations and algebraic thinking for children			
Measurement skills for children			
Geometry skills for children			
Children's mathematical reasoning/practices			✓
Building on children's natural interest in mathematics and their intuitive and informal mathematical knowledge	✓	✓	✓
Encouraging children's inquiry and exploration to foster problem solving and mathematical reasoning		✓	✓
Using everyday activities as natural vehicles for developing children's mathematical knowledge	✓	✓	✓
Introducing explicit mathematical concepts through planned experiences			✓
Creating a mathematically rich environment	✓	✓	✓
Supporting English learners in developing mathematical knowledge as they concurrently acquire English	✓	✓	✓
Developing children's mathematical vocabulary	✓	✓	✓
Assessing children's mathematical development	✓	✓	✓

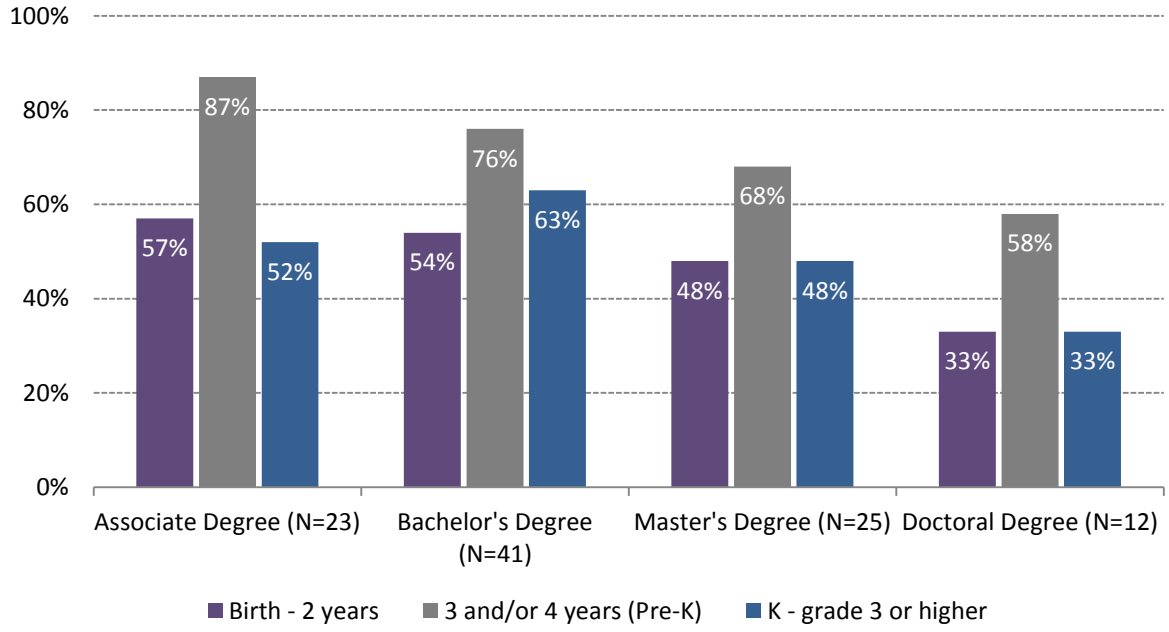
Preparedness to Teach Early Math Coursework

The Inventory asked faculty members to assess their capacity to prepare practitioners to promote children's mathematical understanding and to teach math skills. For each of the 13 topics (see **Table 4**), faculty members were asked to identify whether they:

1. had limited familiarity;
2. were knowledgeable but not prepared to teach others; and/or
3. were capable of preparing teachers working with children, in each of the following age groups:
   - Birth through 2 years
   - 3 and/or 4 years (Pre-K)
   - Kindergarten to Grade 3

At least one-half of faculty members across all degree levels reported being capable of preparing teachers working with preschool-age children for each of the topics, with one exception. Fewer than one-half of faculty, across degree levels, reported being capable of teaching the topic, "supporting English learners in developing mathematical knowledge as they concurrently acquire English," to any age group of children. Across other topics, fewer faculty members reported being capable of teaching the topics to practitioners working with infants and toddlers or in the elementary grades. (See **Figure 6** for an example.)

Figure 6. Creating a Mathematically Rich Environment: Knowledge and Skill, as Reported by Faculty Participating in Nebraska Early Childhood Higher Education Inventory, by Age Group and Degree Program



Faculty Experience in Teaching Early Math, and Interest in Professional Development

Faculty members were asked whether they had taught early math content related to eight topics in the past two years. Associate degree faculty members were more likely than bachelor's or graduate degree faculty members to report having taught math topics during that time. At least 80 percent of associate degree faculty members reported teaching each of the topics, with the exception of "supporting English learners in developing mathematical knowledge as they concurrently acquire English," which was reported as being taught by about one-half (55 percent) of associate degree faculty members. Among bachelor's and graduate degree faculty members, at least one-half reported teaching most of the math topics, with the exception of the topics "supporting English learners in developing mathematical knowledge as they concurrently acquire English," which was reported as being taught by about one-third of bachelor's and doctoral degree faculty members, and "introducing explicit mathematical concepts through planned experiences," reported by less than one-half of bachelor's (44 percent) and doctoral (46 percent) degree faculty members.

Using a Likert scale of 1 to 5, with 1 being "no interest" and 5 being "very interested," faculty members were asked to rate their levels of interest in professional development on 14 topics related to early math. Faculty interest varied by topics across all degree levels, and was somewhat lower in early math topics than in family engagement topics among bachelor's and graduate degree faculty members, and somewhat higher among associate degree faculty. In particular, one-half or more of associate degree faculty members identified being very interested in professional development topics related to teaching math skills and strategies.

DISCUSSION AND RECOMMENDATIONS

Below, we outline an approach to strengthening early childhood workforce development in Nebraska with an emphasis on higher education. We identify four discrete elements, which together constitute a strategy for aligning the current system with 21st-century expectations. The success of this approach requires ensuring that its various components be implemented in unison, and that a research agenda be developed for measuring progress and challenges over time, and for learning more about the depth of instruction delivered in higher education programs. This approach is predicated on identifying new resources from state, federal, and philanthropic sources, as well as reallocating a portion of existing revenues for quality improvement and workforce system development. We also encourage K-12 educators and leaders to be included in these efforts, since the coordination of workforce development and policy approaches across the birth-to-third-grade spectrum is critical to achieving a unified foundation of early learning.

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 and pathways for early childhood workforce preparation

Findings from Inventories conducted in other states suggest that when states intentionally redesign their certification systems for early childhood educators, the higher education system adjusts by making changes in required course content, age-group focus, and field-based practice as appropriate. But in the absence of well-articulated statewide certification standards that would apply to early childhood teachers and administrators in all types of ECE programs, working with all age groups of children, Nebraska institutions of higher education have largely responded only to the emphasis placed on preschool-age children in public settings, which affects only limited segments of the workforce.

A revision of Nebraska's current system for certifying teachers, administrators, and other practitioners could erase disparities in professional expectations and preparation among age groups in the birth-to-age-eight spectrum, in line with Institute of Medicine recommendations, and clarify the purpose of early childhood higher education degree programs (IOM & NRC, 2015). To initiate this process:

- Provide clear roadmaps for students enrolling in degree programs to meet teacher education or director requirements (e.g., in QRIS, Head Start, or public preschool), identifying whether particular courses of study will prepare them for the demands of teaching young children and/or for leading ECE programs.

- Provide clear information statewide about the types of certificate endorsements available, particularly since titles have changed; and coordinate among institutions of higher education to use standardized titles for degree programs that lead to the same endorsement. Greater differentiation among degree offerings will allow more informed choices about the types of preparation programs available to current and future ECE practitioners.

2. Strengthen program content and equity across the age span

Many ECE stakeholders emphasize relying on research evidence to guide ECE policy and practice, yet our findings suggest an uneven application of such evidence across multiple domains of early learning and development for children, from infancy through the early elementary grades. In particular, course content and field-based experiences related to working with infants and toddlers were most likely to be excluded from Nebraska early childhood degree programs, compared to those for preschool age-children. Additionally, the increasing diversity of Nebraska's population suggests a need to prepare teachers to work with a diverse range of children. To strengthen required content in order to align with research evidence on child development and teacher preparation, and to equalize required content for all children across the birth-to-age-eight spectrum:

- Engage faculty groups representing different degree levels and types of institutions, as well as other experts, to develop program content standards and/or faculty professional development, beginning in the following areas:
    - children's mathematical understanding from infancy through the early elementary grades, with a focus on children who are dual language learners;
    - teaching methods (pedagogy) for children of different ages;
    - infant development and learning across multiple domains;
    - working with children with special needs; and
    - working with children and families from diverse linguistic, racial/ethnic, and economic backgrounds.

To strengthen the application of field-based learning experiences:

- Engage faculty groups representing different degree levels and types of institutions to develop degree program standards for the timing, frequency, and duration of field-based experiences, differentiating between experiences for pre-service and in-service students, and offering opportunities focused on children from infancy through preschool, and children from diverse backgrounds.

3. Build a Leadership Pipeline

In Nebraska, K-12 principals are required to have teaching experience, and to develop their leadership skills by earning an administrative certificate. In public school settings, coordinators of ECE programs are required to hold a teaching certificate with some ECE credits, and qualifications vary for directors or administrators in other settings, sometimes with no ECE-specific education required. While mentors and coaches in K-12 are typically drawn from the teaching ranks, and receive specific training (Isner et al., 2011), there are no widely applied qualifications for mentors and coaches working with teachers of younger children. Further, although K-12 administrators may have oversight of public preschool classrooms and teachers, they are not required to have any early childhood-related training or education (Whitebook, 2014). In light of these inconsistent and ill-defined expectations for ECE leadership positions, it is not surprising that across degree levels, course content was not routinely offered for preparing practitioners for supervisory, administrative, or other leadership roles in early childhood programs.

To create a better-defined leadership pipeline:

- Establish a process to identify the specific skills and knowledge needed for common leadership roles in ECE (teacher leaders, coaches, site administrators, principals, program/quality improvement managers, and teacher educators);
- Identify the appropriate course of study and degree level (lower division, upper division, graduate) for each leadership role, based on the specific skills and knowledge identified above;
- Identify options to create leadership options and/or programs, particularly at the master's degree level; and
- Expand leadership certification standards for administrators in K-12 settings to include early education.

To increase the diversity of ECE faculty:

- Investigate strategies used in a variety of disciplines (e.g., health, education, social welfare) to develop a minority faculty development program, such as fellowship opportunities, to increase minority representation among faculty, and develop a plan tailored to the ECE field in Nebraska.

4. Increase faculty support

Nebraska early childhood higher education programs employ full-time faculty at rates higher than the national average. Programs nevertheless report being under-resourced, requiring additional support to allow faculty members to engage in program assessment, planning, and modification. Faculty also express the need for greater opportunities to engage in

their own professional growth, in response to new developments in the field and the changing characteristics of the populations they serve.

To facilitate improvements in program offerings, and to enable degree programs to engage in revamping or restructuring:

- Establish and fund an in-service academy, with well-articulated expectations for individual faculty professional development and for program improvements.

To measure progress on increasing support for faculty to engage in their own professional development, and building a more diverse teacher educator workforce; and to strengthen data coordination on early childhood higher education, the teaching workforce, and professional development efforts:

- Use the Nebraska Early Learning Connection Registry as a model for developing or adapting a module to capture ongoing data about early childhood higher education faculty; [6] and
- Ensure that early childhood workforce data systems and/or modules are coordinated to provide comprehensive, up-to-date information about both the ECE workforce and the professionals and system that are designed to support them.

[6] The Registry, currently under development, is a data system designed to track and promote the education, training, and experience of the early care and education workforce, in order to improve professionalism and workforce quality for the benefit of young children.

Concluding Thoughts

Calls for an integrated system of early learning for all young children rest upon an understanding of the critical importance of the early years, beginning at birth and extending through the first years of elementary school. But the early childhood service system and infrastructure, of which higher education is a cornerstone, is poorly integrated, ascribing differing expectations for teacher preparation across this age spectrum, and assigning different resources to teachers. This report provides a portrait of Nebraska's early childhood higher education landscape amidst efforts to invest in, strengthen, and coordinate early childhood workforce development efforts, in order to realize the goal of the Buffett Early Childhood Institute to make Nebraska "the best place in the nation to be a baby." Each of the recommendations outlined in this report addresses a critical component of a coordinated effort to attain a strong preparation system for Nebraska's early childhood teachers and administrators, central to ensuring that all young children in Nebraska have access to effective early learning experiences.

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