

Texas Early Childhood Care and Education Institutions of Higher Education

Capacity Survey Final Report

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TABLE OF CONTENTS

Introduction.....	3
Education and Certification	5
Professional Preparedness	8
IHE Capacity	14
Student Preparedness and IHE Capacity	18
Challenges for Students, Faculty and Institutions	20
Recommendations for Future Research and Policy.....	26
Research Recommendations	26
Conclusion	27
References.....	28

LIST OF TABLES

Table 1. Highest Educational Attainment by Provider Type	6
Table 2. Preparation by Professional Type	9
Table 3. Preparation by Educational Attainment	11
Table 4. Preparation by Practicum	14
Table 5. Required Content Areas for Early Childhood Teacher Preparation Programs, by Program Type.....	17

INTRODUCTION

Understanding how Texas institutions of higher education (IHE) contribute to the performance of early childhood care and education (ECCE) professionals is a complex undertaking. Historically, any course of study within one of several disciplines focused on children of any age has been considered an acceptable form of ECCE professional preparation (Maxwell, Lim, & Early, 2006). However, with increased professional education requirements from state and federal programs, along with a proliferation of research on early childhood development, the evaluation of ECCE professional training is becoming an essential part of the development of a quality ECCE system.

Studies of early learning programs have repeatedly demonstrated that early childhood classroom experiences can improve young children's academic and social skills. Early et al (2007), for example, examined the links between teacher education, classroom quality and children's academic skills. The study compared data from seven major studies of early care and education to predict classroom quality and children's academic outcomes from the education and major of teachers of 4-year-olds. The findings suggest a weak and inconsistent relationship between teacher education and ECCE quality measures. On the other hand, a 2007 National Institute for Early Education Research meta-analysis of the literature reviewed 32 studies and found a modest positive effect on student outcomes among teachers with bachelor degrees, as compared to those with less education. Furthermore, the National Institute of Child Health and Human Development (NICHD, 2002) conducted a multi-year study of early care and education that included measures of education in the home, thereby more completely modeling the processes that contribute to children's learning and development. This study found that teacher education does contribute to children's learning and development. Indeed, classroom quality and positive child outcomes are influenced by a host of factors including the education of teachers and care providers, and attempts to isolate the impact of teacher education and training face many challenges.

The present paper contributes to the knowledge of how well IHE programs have prepared Texas' ECCE professionals for their work with young children, as well as information

on the IHE programs providing professional development for ECCE professionals. This paper synthesizes information from two recent reports presenting detailed survey findings: the Texas Early Childhood Care and Education Professional Preparation Survey Data Report (2013), and the Texas Early Childhood Care and Education Institute of Higher Education Survey Data Report (2013).

In the first report, survey data were collected from 304 ECCE professionals who received their professional certifications and/or degrees within the past five years and were employed in one of a number of settings, including licensed centers, licensed and registered homes, public school Pre-K, Head Start and Early Head Start (HS/EHS) programs. The surveys captured information on demographics, opinions on how well the respondents feel their education program prepared them, and on challenges experienced in pursuing their education and available continuing education opportunities.

In the second report, survey data were collected from 63 programs within 37 two- and four-year Texas Institutions of Higher Education that offered certificates and degrees in ECCE. Programs were chosen, rather than institutions, because many institutions have more than one program, and in many cases these programs are not located within the same department. Survey items included faculty characteristics such as numbers of faculty, degrees held by faculty members, numbers of faculty members with early child education or child development degrees, and faculty members who had direct experience working with young children. Items regarding program characteristics included child age ranges covered by program content, courses in specialized content areas, student enrollment, numbers of graduates per year, and estimates of student work outcomes.

This paper presents a synthesis of the information from the two reports on the education and certification levels of ECCE professionals, the level of workplace preparedness experienced by survey respondents, the capacity of IHEs to prepare students on a variety of workplace skills as reported by IHE administrators, and an analysis of the relationship between the professional's sense of preparedness and IHE academic offerings. Challenges facing both students and institutions are analyzed, followed by recommendations for future research and policy issues.

Education and Certification

The highest educational levels reportedly attained by Pre-K teachers, HS/EHS teachers, center providers and home providers are presented in Table 1. For those professionals with degrees, the subject areas of their highest degrees are listed. Among the respondents with degrees, the majority reported having obtained degrees in the areas of education, early childhood education and child and family development.

Table 1. Highest Educational Attainment by Provider Type

	Public School Pre-K (n=55)	HS/EHS (n=97)	Centers (n=95)	Homes (n=57)
High School Diploma or GED	0	1%(1)	2.1%(2)	14%(8)
Child Development Associate (CDA)	0	11.3%(11)	17.8%(17)	17.5%(10)
Some College	0	2.1%(2)	7.4%(7)	31.6%(18)
Associate's	0	15.4%(15)	17.8%(17)	17.5%(10)
Bachelor's	63.6%(35)	53.6%(52)	41%(39)	15.7%(9)
Master's	36.3%(20)	16.4%(16)	13.6%(13)	3.5% (2)
Degree Subject				
Business, Accounting, etc.	3.6%(2)	3%(3)	6.3%(6)	3.5%(2)
Education, ECE, Child & Family Development	63.6%(35)	73.1%(71)	61.1%(58)	38.6%(22)
Helping Professions	7.3%(4)	0	3.2%(3)	0
Liberal Arts	21.8%(12)	15.4%(15)	16.8%(16)	3.5%(2)
Computer, Hard Sciences	1.8%(1)	2%(2)	0	0
Other	1.8%(1)	3%(3)	2.1%(2)	3.5%(2)
Other 1- or 2-year ECCE Certification or Credential	69.1%(38)	30.9%(30)	27.4%(26)	24.6%(14)
Director's Certification	0	14.4%(14)	38.9%(37)	50.8%(29)
Practicum Experience	65.4%(36)	61.8%(60)	58.9%(56)	57.9%(33)

Source: Texas Early Childhood Care and Education Professional Preparation Survey Data Report

The Texas public school Pre-K program requires Pre-K teachers to have bachelor's degrees (Barnett et al., 2012). Consistent with that requirement, all public school Pre-K teacher respondents reported having a bachelor's or master's degree, making them the most educated respondents. In addition, 70% of Pre-K teacher respondents have an additional ECCE certificate or credential.

Head Start /Early Head Start teachers and assistant teachers are required to meet specific education requirements as stated in the 2007 revisions to the federal Head Start Act. The revised Act specifies that by September 30, 2013, at least 50 percent of Head Start (3- and 4-year old) teachers in center-based programs nationwide have a bachelor's degree in early

childhood education; or a baccalaureate and coursework equivalent to a major relating to early childhood education, with experience teaching preschool-age children. According to the 2011-2012 Texas Head Start Program Information Report (PIR, 2011-2012), 61.5% of classroom teachers of 3- and 4-year olds meet this educational requirement, and 62% of HS assistant teachers meet the minimum qualification for their position: a Child Development Associate CDA credential; or enrollment in a CDA credential program that will be completed within 2 years; or have an associate's or baccalaureate degree (in any area); or enrollment in a program leading to such a degree.

The Head Start Act further specifies that by September 30, 2012 all Early Head Start teachers must have at a minimum a CDA credential and must have been trained in early childhood development with a focus on infant and toddler development. The 2011-2012 PIR reports that approximately 62% of the EHS teachers have met this requirement.

As noted in Table 1, among HS/EHS teachers who responded to this survey, nearly 98% have at least a CDA, 70% have a bachelor's or master's degree, and 31% have an additional ECCE certificate or credential. Over 40% of center respondents have a bachelor's degree, 14% have a master's, 28% have an additional ECCE certificate or credential and 39% have a child care director's certificate. Home providers were least likely to report having CDA's, associate's or higher degrees (approx. 54%), yet nearly 51% have a director's certification. An ECCE literature review conducted during the design phase of the National Study of Child Care Supply and Demand reported no nationwide reliable source of the educational levels of individuals providing home and center based care (Guzman et al., 2009). However, a recent survey of Texas providers (TELC, 2013) found similar educational levels to those reported here for center directors and home providers.

Professional Preparedness

Professionals were asked how well their educational programs prepared them for varied aspects of ECCE and their responses are presented in Tables 2, 3, and 4. The answers were provided on a Likert scale, with responses ranging from 1, “Very Poor” to 5, “Very Good.”¹

The internal consistency of the scale was found to be very high, with a Cronbach’s coefficient alpha measured at 0.98. Thus responses to the items on the scale are highly inter-related, suggesting they redundantly measure a similar underlying concept of overall preparedness. The first row of data presents the average across all 28 items of the scale for all professionals and sub-groups. These scale averages clustered around 4 to 4.5, indicating that respondents typically felt ‘Good’ or ‘Very Good’ about how well their educational programs prepared them for the experiences listed.

Statistics are also presented for individual items in the second half of the tables. For this analysis, answers of ‘Very poor’, ‘Poor’, and ‘Adequate’ were aggregated together as an indicator of those who felt less prepared². Across all professional types, the poorest preparation was perceived in the arenas of curricula for science, technology, and engineering (30.9%), for special need students (26%), and coping effectively with conflict in the work environment (22%).

Although respondents generally felt prepared overall, Pre-K teachers appeared to feel less prepared than the other provider types. Pre-K teachers, for example, had the lowest mean preparation score (4.1), and they reported being underprepared at a higher rate than any other group for 24 of the 28 questions.

¹The Texas Early Childhood Care and Education Professional Preparation Data Report includes: individual counts of item responses tabulated by professional type and by educational attainment in Appendix A and additional statistics, including standard deviations, on all items for the entire sample are available in Appendix B.

² Due to heavy use of the ‘Good’ and ‘Very Good’ points on the response scale, researchers decided to include responses of feeling merely ‘Adequate’ in the underprepared group in order to reveal substantial variation in responses among groups.

Table 2. Preparation by Professional Type

	All Professionals (N=304) Mean	PreK (N=55) Mean	HS/EHS (N=97) Mean	Center (N=95) Mean	Home (N=57) Mean
Mean of Preparation Scale (1 =Very Poor 5=Very Good)	4.30	4.10	4.43	4.31	4.26
Rate how well your education program prepared you for the following experiences:	Percent of Individual Items Answered "Very Poor", "Poor", or "Adequate"				
a) To meet the education and care needs of children with the age range you are currently working with	13.5%	23.6%	14.4%	10.5%	7.0%
b) Observe and assess child development and learning	15.5%	25.5%	12.4%	15.8%	10.5%
c) Implement curriculum	17.4%	25.5%	14.4%	15.8%	17.5%
d) Adapt curriculum to meet the needs of individual children	15.8%	25.5%	11.3%	14.7%	15.8%
e) Adapt curriculum and materials to meet the needs of children with special needs and disabilities	26.0%	40.0%	21.6%	21.1%	28.1%
f) Implement curriculum experiences to promote literacy	16.1%	23.6%	14.4%	11.6%	19.3%
g) Implement curriculum experiences to promote numeracy and math	18.4%	27.3%	14.4%	14.7%	22.8%
h) Implement curriculum experiences to promote science, technology, and engineering	30.9%	43.6%	24.7%	27.4%	35.1%
i) Implement curriculum experiences to promote social and emotional development	13.2%	23.6%	12.4%	10.5%	8.8%
j) Implement curriculum activities to promote physical health and motor development	17.4%	32.7%	12.4%	16.8%	12.3%
k) Implement curriculum experiences to promote health and nutrition	20.1%	34.5%	17.5%	17.9%	14.0%
l) Ensure that all children see their home language and culture reflected in the classroom	19.4%	29.1%	14.4%	18.9%	19.3%
m) Maintain a positive relationship with each child	7.6%	12.7%	7.2%	5.3%	7.0%
n) Maintain a positive social emotional climate in the classroom	8.2%	12.7%	8.2%	6.3%	7.0%
o) Help children to develop self-regulation	18.1%	29.1%	15.5%	16.8%	14.0%
p) Set clear and reasonable limits on children's behavior	15.5%	25.5%	14.4%	11.6%	14.0%
q) Design and maintain the physical environment to protect the health and safety of children	11.8%	20.0%	10.3%	10.5%	8.8%
r) Organize a class schedule	17.1%	29.1%	14.4%	15.8%	12.3%
s) Organize classroom material	17.8%	30.9%	14.4%	14.7%	15.8%
t) Maintain a positive relationship with each child's family	9.9%	18.2%	8.2%	7.4%	8.8%
u) Establish and maintain regular, frequent two-way communication with families	11.2%	18.2%	9.3%	9.5%	10.5%
v) Encourage parent involvement in their child's education	18.4%	23.6%	12.4%	18.9%	22.8%
w) Work effectively with another teacher, co-teacher or teacher's aide	20.7%	29.1%	14.4%	18.9%	26.3%
x) Work effectively with your supervisor	19.4%	23.6%	13.4%	18.9%	26.3%
y) Collaborate with other professionals	17.1%	20.0%	11.3%	15.8%	26.3%
z) Cope with professional issues of confidentiality and ethics	14.8%	18.2%	10.3%	14.7%	19.3%
aa) Cope effectively with conflict in the work environment	22.0%	25.5%	17.5%	22.1%	26.3%
bb) Effectively complete the administrative duties of your position	17.4%	29.1%	12.4%	14.7%	19.3%

Source: Texas Early Childhood Care and Education Professional Preparation Survey Data Report

Table 3 presents perceived preparation of respondents broken out by their level of educational attainment. Again, the scale averages clustered around 4 to 4.5, indicating that on average respondents felt 'Good' to 'Very Good' about how well they were prepared by their educational program for the experiences listed.

Interestingly, those with greater educational attainment levels seemed to feel the least prepared for their work. Those with a master's degree, for example, had the lowest average perceived preparedness (4.09), while those with a high school diploma or CDA reported the

highest overall perceived preparedness (4.48). Those with a master's felt underprepared at a higher rate than any other group for 26 of the 28 questions.

In searching for an explanation of this finding, we did further analysis to determine whether this puzzling relationship between education and felt preparedness might be due to differences in experience levels. We first tested for differences between the four educational level group average preparedness scores using analysis of variance (ANOVA), and found that they differed significantly ($F(3,300)=2.93, p=.034$). We then included years of experience in child care as a covariate in the model, and the difference due to educational level was no longer statistically significant ($F(3,299)=2.28, p=.079$), while the effect of experience was statistically significant ($F(1,299)=3.94, p=.048$). This indicates that the reduced preparedness reported by the most educated professionals was at least partially accounted for by their lesser average years of experience in the child care field.

Table 3. Preparation by Educational Attainment

	All Professionals (N=304) Mean	High School or CDA (N=49) Mean	Associate Deg/ Some College (N=69) Mean	Bachelor (N=135) Mean	Master (N=51) Mean
Mean of Preparation Scale (1 =Very Poor 5=Very Good)	4.30	4.48	4.37	4.28	4.09
Rate how well your education program prepared you for the following experiences:	Percent of Individual Items Answered "Very Poor", "Poor", or "Adequate"				
a) To meet the education and care needs of children with the age range you are currently working with	13.5%	6.1%	8.7%	15.6%	21.6%
b) Observe and assess child development and learning	15.5%	8.2%	13.0%	16.3%	23.5%
c) Implement curriculum	17.4%	10.2%	14.5%	18.5%	25.5%
d) Adapt curriculum to meet the needs of individual children	15.8%	10.2%	13.0%	14.8%	27.5%
e) Adapt curriculum and materials to meet the needs of children with special needs and disabilities	26.0%	20.4%	26.1%	27.4%	27.5%
f) Implement curriculum experiences to promote literacy	16.1%	12.2%	13.0%	14.8%	27.5%
g) Implement curriculum experiences to promote numeracy and math	18.4%	10.2%	15.9%	20.0%	25.5%
h) Implement curriculum experiences to promote science, technology, and engineering	30.9%	26.5%	30.4%	29.6%	39.2%
i) Implement curriculum experiences to promote social and emotional development	13.2%	8.2%	5.8%	14.8%	23.5%
j) Implement curriculum activities to promote physical health and motor development	17.4%	6.1%	7.2%	21.5%	31.4%
k) Implement curriculum experiences to promote health and nutrition	20.1%	8.2%	8.7%	24.4%	35.3%
l) Ensure that all children see their home language and culture reflected in the classroom	19.4%	12.2%	17.4%	20.0%	27.5%
m) Maintain a positive relationship with each child	7.6%	4.1%	7.2%	6.7%	13.7%
n) Maintain a positive social emotional climate in the classroom	8.2%	2.0%	5.8%	8.1%	17.6%
o) Help children to develop self-regulation	18.1%	4.1%	11.6%	20.7%	33.3%
p) Set clear and reasonable limits on children's behavior	15.5%	8.2%	10.1%	17.0%	25.5%
q) Design and maintain the physical environment to protect the health and safety of children	11.8%	2.0%	7.2%	14.1%	21.6%
r) Organize a class schedule	17.1%	6.1%	8.7%	20.0%	31.4%
s) Organize classroom material	17.8%	6.1%	11.6%	19.3%	33.3%
t) Maintain a positive relationship with each child's family	9.9%	4.1%	7.2%	8.9%	21.6%
u) Establish and maintain regular, frequent two-way communication with families	11.2%	4.1%	8.7%	9.6%	25.5%
v) Encourage parent involvement in their child's education	18.4%	8.2%	18.8%	21.5%	19.6%
w) Work effectively with another teacher, co-teacher or teacher's aide	20.7%	14.3%	13.0%	22.2%	33.3%
x) Work effectively with your supervisor	19.4%	18.4%	15.9%	17.0%	31.4%
y) Collaborate with other professionals	17.1%	18.4%	15.9%	15.6%	21.6%
z) Cope with professional issues of confidentiality and ethics	14.8%	16.3%	10.1%	16.3%	15.7%
aa) Cope effectively with conflict in the work environment	22.0%	22.4%	17.4%	21.5%	29.4%
bb) Effectively complete the administrative duties of your position	17.4%	16.3%	8.7%	17.8%	29.4%

Source: Texas Early Childhood Care and Education Professional Preparation Survey Data Report

Continuing the discussion of experience, many programs offer practicum experiences intended to prepare students for future work in ECCE. It was expected that those professionals who had a practicum would feel more prepared for their work in ECCE than those who did not have a practicum. For this study, practicum was defined as “supervised work in a care or educational setting with children, any ages from 0 to 4”. Mean responses to the preparation scale are presented in Table 4 by those whose education did and did not include a practicum component.

In general, those who had experienced a practicum felt more prepared overall (4.35) than those who had not (4.22). On responses to 23 of the 28 preparation items, those with a practicum felt more prepared than those who did not have a practicum. The largest gaps in feelings of preparedness between those with and without a practicum (about 7 percentage points) were in the areas of implementing curriculum experiences to promote numeracy and math, coping with professional issues of confidentiality and ethics, and coping effectively with conflict in the work environment.

Although this survey did not address remediation, in regard to study respondents' educational experiences, a Texas report released by Complete College America (2011) found that half of the students entering 2-year programs enroll in remediation and over 20% of the students entering 4-year colleges also enroll in remediation. Further, a report by the National Center for Education Statistics indicated that remedial courses in mathematics were taken by more freshmen than remedial reading and writing courses. Given this, it is possible that the survey respondents also faced challenges with mathematics and the opportunities to observe and implement math curriculum during the practicum experience contributes to a higher sense of preparedness.

Coping with workplace issues of ethics, confidentiality and conflict are all fluid experiences. A number of state and federal laws provide rules regarding the confidentiality of child and family information that is typically supported by program policy and procedure, yet sometimes the decision regarding who has "a need to know" specific information about a child or family may not be clear. The National Association for the Education of Young Children (NAEYC) Ethical Code of Conduct (2005) acts as guide in dealing with situations that may not have an obvious path to resolution. This guide is promoted by the Council of Professional Development that awards the CDA credential as well as being used by NAEYC in the accreditation process for associate degree programs. Resolution of conflict in the workplace is also addressed by program policy and procedure guidelines; however, in many day to day instances in the workplace, program guidelines may not be applicable. Often times the "right answer"—the best course of action to take—is not obvious regarding issues of confidentiality, ethics and resolving conflicts. Perhaps students involved in practicum situations have more

opportunities to observe and practice the resolution of these types of issues, thus contributing to their greater sense of preparedness.

Table 4. Preparation by Practicum

	All Professionals (N=304) Mean	Had a Practicum (N=185) Mean	Had No Practicum (N=119) Mean
Mean of Preparation Scale (1 =Very Poor 5=Very Good)	4.30	4.35	4.22
Rate how well your education program prepared you for the following experiences:	Percent of Individual Items Answered "Very Poor", "Poor", or "Adequate"		
a) To meet the education and care needs of children with the age range you are currently working with	13.5%	11.9%	16.0%
b) Observe and assess child development and learning	15.5%	14.6%	16.8%
c) Implement curriculum	17.4%	18.9%	15.1%
d) Adapt curriculum to meet the needs of individual children	15.8%	15.7%	16.0%
e) Adapt curriculum and materials to meet the needs of children with special needs and disabilities	26.0%	26.5%	25.2%
f) Implement curriculum experiences to promote literacy	16.1%	15.1%	17.6%
g) Implement curriculum experiences to promote numeracy and math	18.4%	15.7%	22.7%
h) Implement curriculum experiences to promote science, technology, and engineering	30.9%	29.7%	32.8%
i) Implement curriculum experiences to promote social and emotional development	13.2%	11.9%	15.1%
j) Implement curriculum activities to promote physical health and motor development	17.4%	16.2%	19.3%
k) Implement curriculum experiences to promote health and nutrition	20.1%	21.1%	18.5%
l) Ensure that all children see their home language and culture reflected in the classroom	19.4%	20.0%	18.5%
m) Maintain a positive relationship with each child	7.6%	5.4%	10.1%
n) Maintain a positive social emotional climate in the classroom	8.2%	7.0%	10.1%
o) Help children to develop self-regulation	18.1%	18.4%	17.6%
p) Set clear and reasonable limits on children's behavior	15.5%	13.0%	19.3%
q) Design and maintain the physical environment to protect the health and safety of children	11.8%	10.8%	13.4%
r) Organize a class schedule	17.1%	15.7%	19.3%
s) Organize classroom material	17.8%	16.2%	20.2%
t) Maintain a positive relationship with each child's family	9.9%	8.1%	12.6%
u) Establish and maintain regular, frequent two-way communication with families	11.2%	9.7%	13.4%
v) Encourage parent involvement in their child's education	18.4%	17.8%	19.3%
w) Work effectively with another teacher, co-teacher or teacher's aide	20.7%	18.9%	23.5%
x) Work effectively with your supervisor	19.4%	17.3%	22.7%
y) Collaborate with other professionals	17.1%	15.1%	20.2%
z) Cope with professional issues of confidentiality and ethics	14.8%	11.9%	19.3%
aa) Cope effectively with conflict in the work environment	22.0%	19.5%	26.1%
bb) Effectively complete the administrative duties of your position	17.4%	16.2%	19.3%

Source: Texas Early Childhood Care and Education Professional Preparation Survey Data Report

IHE Capacity

The Texas Early Learning Council has published Core Competencies for Early Childhood Practitioners and Administrators (2013). The Core Competencies are statements about the knowledge and skills that early childhood professionals should be able to demonstrate to be

successful in their careers. The Core Competencies are intended to guide the training and professional development of ECCE professionals. The broad content areas of the core competencies include:

- child growth and development;
- responsive interactions and guidance;
- learning environments, planning framework, curriculum and standards;
- supporting skill development;
- observation and assessment;
- diversity and dual language learners;
- family and community relationships;
- health, safety, and nutrition; and
- professionalism and ethics.

Content areas reported to be required by the ECCE programs surveyed are presented in Table 5, broken out by the level of degree or certificate awarded. The content areas align with the core competencies. In this context, “Required Content Areas” are those in which at least one entire course was required.

Patterns in the table suggest that master’s level programs have a unique focus compared to bachelor and associate degree programs. In general, bachelor’s and associate’s degrees prepare individuals to practice in their chosen field, while master’s degrees typically prepare students to lead or manage teams, and doctoral programs prepare students to conduct research (Carliner, 2012). This survey was designed to capture the education requirements that support ECCE professionals working with children 0-4.

The associate’s programs reported the broadest coverage in required course areas. Fourteen of the 20 topics were required in at least 74% of the associate programs. Only three topics were required in fewer than 50% of the associate programs: bilingual education, adult learning, and research method areas. This high degree of consistency of course topics across the associate degree programs may be a result of a determination on the part of community colleges to develop a series of coordinated course titles, numbers, and content sequences that are compatible among all 2-year IHEs (TELC, 2012). Of the 1- and 2-year certificate programs

responding, fewer than 65% required an entire course in any of the content areas, with the exception of classroom and behavior management, a topic that was required by 70% of the programs.

Eighty-nine percent of the bachelor level programs required a course in bilingual education, yet only 23% required a course on health and nutrition. This relatively low percentage of required course work in health and nutrition was surprising in light of the recent focus on childhood obesity in the early childhood field.

That 89% of bachelor level programs require a course in bilingual education is not surprising given the structure of bilingual and ESL certification within IHEs. The education departments at 4-year institutions offer specialized instruction to prepare students to apply for, and test for, ESL and bilingual certifications. Most 2-year institutions offer English as a second language (ESL) and bilingual certifications as advanced certification available for individuals who already have a bachelor's degree in education. Typically, at 2-year institutions, these certifications are not offered through the same departments that offer the ECCE degrees and certifications.

Seventy percent of the master's level programs responding to this study required students to take a course in research and evaluation methods. Only three other content areas are required for a substantial portion (at least 43%) of master's level programs: working with families, emergent literacy and literacy strategies, and appropriate learning environments and activities for young children.

Table 5. Required Content Areas for Early Childhood Teacher Preparation Programs, by Program Type

	1-2 Year Certificates (N=20)	Associate's Degrees (N=22)	Bachelor's Degrees (N=11)	Master's Degrees (N=7)
a. Education and care of infants and toddlers	65%	93%	50%	13%
b. Education and care of preschool aged children	65%	90%	80%	13%
c. Education and care of young children	60%	74%	98%	4%
d. Working with families	55%	95%	93%	43%
e. Working with children and families from diverse ethnic & cultural background	65%	88%	93%	30%
f. Working with bilingual children or children learning English as a second language	40%	43%	89%	30%
g. Assessment/observation of young children	55%	86%	49%	38%
h. Emergent literacy and literacy strategies	60%	95%	92%	43%
i. Numeracy and math for young children	40%	83%	55%	25%
j. Science, technology, and engineering for young children	40%	76%	55%	25%
k. Health and nutrition for young children	65%	95%	23%	4%
l. Social and emotional development of young children	60%	79%	89%	4%
m. Appropriate learning environments and activities for young children	65%	95%	89%	43%
n. Classroom or behavioral management of young children	70%	93%	91%	38%
o. Early childhood program administration	45%	94%	9%	21%
p. Collaborating with professionals in other disciplines	30%	52%	17%	30%
q. Professional knowledge (ex. confidentiality, ethics and codes of conduct)	65%	59%	17%	9%
r. Adult learning and development	15%	18%	16%	0%
s. Leadership and advocacy	45%	63%	9%	30%
t. Research and evaluation methods	30%	46%	17%	70%

Source: Texas Early Childhood Care and Education Institute of Higher Education Survey Data Report

Student Preparedness and IHE Capacity

Across all professional types, the poorest preparation was perceived in the arenas of curricula for science, technology, and engineering (30.9%), for special need students (26%), and coping effectively with conflict in the work environment (22%, see Table 2). The literature regarding preparation of students to enter the fields of science, technology and engineering, often referred to as STEM (science, technology, engineering and math), typically focuses on grades K-12. Only recently has the discussion included younger students and their teachers. In this study, 76% of the associate's and 55% of the bachelor's programs offer a full course on these topics (see Table 5). Only 40% of the certificate programs and 25% of the master's level programs offer these courses.

While respondents reported feeling underprepared for special need students, IHE administrators report offering at least a full course or practicum experience in the topic of working with children with disabilities: 99% of the 2-year institutions report offering this content, as well as 93% of the 4-year institutions. Additional information regarding the content of the course and practicum experiences is needed to further evaluate the relationship between student's perceived lack of preparedness and available courses and practicum experiences in the topic of working with children with disabilities.

In addition, across all professional types, respondents reported feeling underprepared to cope effectively with conflict in the work environment. Like many professions in the helping field, ECCE professionals work in the context of their relationships with children, parents, co-workers, administrators and other professionals. The professional's capacity to negotiate positive, supportive relationships with a diverse group of children, families and coworkers is central to creating an environment where children will learn and thrive. Yet many of the professionals participating in this study report feeling underprepared to respond to conflict in the workplace. This study does not provide detailed information on how IHEs prepare students for this issue. The set of core competencies that were used to guide the creation of the IHE tool on course content is a guide for working with children, but not for adults working with each other. Additional content areas included in the tool, such as program administration and

collaboration with other professionals, do not focus on the day-to-day communication issues between staff members on a team.

Also unspecified as a core quality standard in the field of ECCE are the skills required to effectively communicate. The CDA credential requires the completion of 120 hours of formal early childhood education training covering the growth and development of children aged from birth to 5 years. The 120 hours must include a minimum of 10 training hours in eight areas, but communication skills and relationship building are not listed among the eight required areas of focused study. The NAEYC accreditation process reviews associate degree programs along six core standards that describe what well-prepared early childhood professionals should know and be able to do. Again, effective communication is not specified. The TELC Core Competencies, the CDA credential requirements and the NAEYC accreditation core standards can all be interpreted as requiring a solid foundation of effective communication skills. The work required in achieving the outlined goals and standards requires effective communication skills. Perhaps bringing this foundation work more explicitly into requirements for credentialing could lead IHEs to focus instruction on this identified need of ECCE professionals.

Challenges for Students, Faculty and Institutions

Reported challenges facing ECCE teacher preparation programs are presented in Table 6. The answers were provided on a Likert scale, with responses ranging from 1, “Not a challenge” to 5, “A large, frequent challenge.”

Table 6. Mean Challenge Facing Early Childhood Teacher Preparation Programs

	2- Year (N=24)	4-Year (N=13)
Student-Related		
Students’ competing work or family related responsibilities	3.66	3.56
Lack of student motivation	2.94	1.53
Students’ lack of academic preparation or skill	3.81	1.62
Lack of financial support or scholarships	3.25	3.24
Faculty-Related		
Lack of faculty in your department with expertise in early childhood education	1.17	1.93
Lack of full-time faculty in department	1.47	2.19
Poor faculty working conditions and wages	1.45	1.82
Difficulty attracting and retaining ethnically diverse faculty	2.39	3.24
Difficulty attracting and retaining linguistically diverse faculty	2.47	2.97
Institution-Related		
Problems with transfer of credits and articulation	3.45	1.61
Lack of support from your college/ university for early childhood teacher preparation	1.73	1.89
Inability to serve the number of students who want to enroll	1.28	1.82
Community-Related		
Lack of quality early childhood practicum sites	1.60	2.80
Attracting and keeping students due to poor working conditions and wages in the field of early childhood.	2.99	2.14

Note: 1 = not a challenge; 3 = somewhat of a challenge; 5 = a large, frequent challenge

Source: Texas Early Childhood Care and Education Institute of Higher Education Survey Data Report

Two-year program administrators reported that students are challenged by a lack of academic preparation or skill (3.81). A recent report by the National Conference of State Legislators (NCSL) backs up this claim, finding that on average, 43 percent of community colleges students require remediation. The study further reports that adults who have been

out of high school for some time and are returning to college to earn a degree or receive job training often need to take remedial courses to brush up on their math, reading or writing skills. This finding suggests that the lack of academic preparation or skill among the Texas students enrolled in ECCE programs is not unusual. However, as indicated earlier, the utilization of remedial course work by survey respondents is unknown.

Both the 2-year and 4-year institutions identified competing work or family related responsibilities (3.66 and 3.56, respectively) as another challenge faced by students. Four-year program administrators reported the challenge of students' lack of financial support (3.24). These findings are supported by the administrators' report indicating the majority of their students do work full-time.

Two-year institutions report challenges with transfer of student credits and articulation agreements (3.45), while 40% of the 2-year students continue their education at a 4-year institution. A recent TELC report, Texas Higher Education Articulation Agreement Project (2012), identified a number of weaknesses in the current system of articulation between 2- and 4-year programs. According to the TELC report, the current Texas system allows 4-year institutions the ability to create their own requirements for degrees and transfers. Thus, universities may add requirements or reject the transfer of degree specific courses, even if the course was based on the same competency standards.

Lack of quality early childhood practicum sites was reportedly a larger issue for 4-year than 2-year institutions (1.60 and 2.80, respectively). Across the state, Texas has only 246 National Association for the Education of Young Children (NAEYC) accredited ECCE sites. There are too few choices for high quality ECCE field settings and currently no quality standards for evaluating the settings where community college students can satisfy their field placement requirements. Some programs allow students who are employed at child care centers to achieve their practicum hours at their place of work. Other programs, such as the one at Austin Community College (ACC), require all hours to be completed at the ACC Children's Lab School (an NAEYC accredited program) unless the student is working 30 hours or more per week directly with young children. At ACC, if the student is working 30 hours a week or more directly

with young children, then half of the required hours can be completed at the students place of employment and the other half at ACC children's Lab School.

Administrators also reported difficulty attracting and retaining ethnically diverse faculty, a finding correlated with difficulty attracting and retaining linguistically diverse faculty.

Table 8 presents the race/ethnic makeup of Texas children aged 0-4 as reported in the 2010 U.S. Census, compared to the race/ethnicity of ECCE professional survey respondents and the IHE administrator's reports of faculty race/ethnicity.

Table 8. Race/Ethnicity of Texas Children 0-4 in 2010, ECCE Professionals and IHE Faculty by Certificate and Degree Program

Race/Ethnicity	Texas Children 0-4 2010	ECCE Professionals Certif. & Degree		IHE Faculty Program Type	
		2-year	4-year	2-year	4-year
Hispanic of any race	976,671(50.64%)	27.97%	27.96%	21.16%	9.74%
Non-Hispanic					
• White	610,478(31.65%)	33.90%	47.31%	61.54%	77.69%
• African American/Black	216,545 11.22%)	30.51%	16.67%	12.12%	1.33%
• Asian*	65,555 (3.39%)	0.00%	2.69%	0.55%	2.93%
• Other	59,224 (3.07%)				
Total	1,928,473				

Note: For ECCE professionals and IHE Faculty Asian category includes pacific islanders. All column totals do not equal 100% for each type due to variations in responses: information unavailable, respondent preferred not to answer the question or unknown.

Sources: Texas Early Childhood Care and Education Professional Preparation Survey Data Report, Institute of Higher Education Survey Data Report and TEA Pre-K Fact Sheet.

In 2010, while half of all Texas children aged 0-4 were reported to be Hispanic, only 28% of the provider survey respondents with either a 2- or 4-year degree identify as Hispanic. Furthermore, only 21% of the 2-year faculty and only 10% of the 4-year faculty identify as Hispanic. The majority of the IHE faculty at 4-year programs is white (77%). As one ascends the ECCE career lattice, racial/ethnic diversity is less varied.

As a group, young children residing in Texas are racially and ethnically diverse; they also represent a linguistically diverse group. According to a Texas Education Agency (TEA) report, English language learners represent 40% of the 2010-2011 Texas public school Pre-K student enrollments. The Head Start PIR report for 2010-2011 identified Spanish as the primary language spoken at home for 35% of program enrollees. Table 9 presents mutually exclusive categories of respondents who held certifications as bilingual instructors, ESL instructors and those respondents who held both certifications. Although small shares of center and home providers held such certifications, roughly 25% of HS/EHS teachers were ESL certified, while among Pre-K teachers who responded, 18% had bilingual certification, 33% had ESL certification, and 22% had both certifications. Nearly 50% of HS/EHS center staff are bilingual English/Spanish (PIR, 2010-2011). Though fewer certifications are held by HS/EHS teachers and

assistant teachers, these professionals have a wealth of training and resources available to them through the National Center on Cultural and Linguistic Responsiveness.

Table 9. Bilingual and ESL Certification

	Public School Pre-K (n=55)	HS/EHS (n=97)	Centers (n=95)	Homes (n=57)
Only Bilingual Certification	18.2%	5.2%	3.2%	3.5%
Only English as a Second Language (ESL) Certification	32.7%	24.7%	3.2%	1.8%
Both Bilingual & ESL Certification	21.8%	8.2%	0.0%	1.8%

Source: Texas Early Childhood Care and Education Professional Preparation Survey Data Report

Table 10 indicates diminished levels of experience working with children ages birth to 4 among faculty at 4-year programs. In addition, fewer faculty at the 4-year program level report having early childhood degrees with content specific to children ages birth to 4. Indicating that as ECCE professionals pursue advancement upon the career lattice, they are less likely to be trained by individuals with early childhood classroom experience or degrees specific to working with children ages 0-4.

Table 10. Education, Qualifications, and Work Experience of Faculty in Early Childhood Teacher Preparation Programs

	2- Year	4-Year
Faculty with an early childhood degree covering an age span that includes children ages birth to 4	67.33%	37.51%
Faculty who have had direct employment experience working with children ages birth to 4	74.64%	35.94%
Faculty who are fluent in a language other than English	22.26%	22.78%

Source: Texas Early Childhood Care and Education Institute of Higher Education Survey Data Report

The challenge for IHE is to include and retain racially, ethnically and linguistically diverse professionals from within the ECCE profession into positions where the wealth of their experience can guide the education and training of other professionals.

RECOMMENDATIONS FOR FUTURE RESEARCH

Research Recommendations

The analysis presented in this report can be viewed as a starting point for gathering more detailed information on a number of issues regarding the education and training of the ECCE workforce. Research questions raised by this analysis include:

1. ECCE professional preparation programs are housed in different IHE departments, typically child and family development or education departments. These departments may offer more than one program related to ECCE. How do the varying approaches to the preparation of ECCE professionals from different types of programs housed in different administrative departments contribute to teacher effectiveness?
2. The TELC Core Competencies and Early Learning Guidelines outline quality outcomes for professionals and young children. How does variation in ECCE program content, program alignment with the Core Competencies and Early Learning Guidelines, contribute to ECCE professional effectiveness?
3. For this survey, practicum was defined as “supervised work in a care or educational setting with children, any ages from 0 to 4”. This definition covered a broad range of experiences from semester long student teaching to more limited experiences. How do the variations in practicum experiences, amount of observation and practice, supervisor, and setting, impact ECCE professional effectiveness?
4. Recent policy changes to state and federal funded programs regarding the training and education of ECCE professionals has created a “natural experiment.” What is the impact of these policy changes on ECCE professional effectiveness?
5. Across all professional types, survey respondents identified feeling unprepared to cope effectively with conflict in the work environment. What are the interpersonal

- issues that contribute to stress in the ECCE workplace and what types of training and supervision are needed to support professional workplace relationships?
6. A recent report indicated that 43 percent of community college students require remediation, and the need for remediation is linked to lack of certificate and degree completion. Information specific to the remediation needs of ECCE students is unknown. What are the amounts and levels of remediation Texas ECCE students require in pursuit of certificates and degrees, and what is the impact of remediation on degree and certificate completion?
 7. Many ECCE professionals are employed in the field of ECCE while pursuing higher education and professional credentials. The Texas Early Childhood Career Lattice identifies an educational and experience path for ECCE professionals to follow in advancing their careers. How does the ECCE professional's sense of preparedness change overtime as individuals achieve experience, education and other specific professional development training along their career path?
 8. Classroom quality and positive child outcomes are influenced by a host of factors. What is the relationship between ECCE professional's sense of preparedness and child outcomes?

Conclusion

Studies of early learning programs have repeatedly demonstrated that early childhood classroom experiences can improve young children's academic skills, and that teacher education contributes to children's learning and development along with a variety of other factors that influence the education outcomes for young children. This study contributes to the knowledge of how well Texas IHE programs prepare ECCE professionals for their work with young children. The analysis identified research questions and policy recommendations to further the development of a comprehensive, quality ECCE professional development system.

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