

Preparing the Early Education and Care Workforce: The Capacity of Massachusetts' Institutions of Higher Education



Nancy L. Marshall, Julie Dennehy,
Elizabeth Starr and Wendy Wagner Robeson

Center for Research on Women, Wellesley College

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Preparing the Early Education and Care Workforce

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Douglas Baird, Associated Early Care and Education, Inc.

Moacir Barbosa, The Medical Foundation

Vicki Bartolini, Massachusetts Association of Early Childhood Teacher Educators & Wheaton College

Barbara Beatty, Education Department, Wellesley College

Barbara Black, Northampton Public Schools

Grace Caines, Early Childhood Education, Urban College of Boston

Nancy Clark, Burnell Campus School

Jennifer Coplon, Child Care Resource Center

Joan Costley, Early Childhood Futures Consulting

Margaret Dunn, Boston Afterschool and Beyond

Vicky Gallagher, The School of Education, Salem State College

Ellen Gannett, National Institute on Out-of-School Time, Wellesley Centers for Women

Hanna Gebretensae, Child Care Resource Center

Wanda Geer, Tartts Day Care Centers Inc.

Joanne Gravell, Family Services of Central Massachusetts

Sue Halloran, Massachusetts Child Care Resource and Referral Network & Child Care Circuit

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Sara Nadig, Strategies for Children

Gil Noam, Project in Afterschool Education Research

Terry O'Neill, Lowell Public Schools

Don Pierson, Graduate School of Education, U Mass Lowell

Lynne Quintin, Early Childhood Department, Springfield Technical Community College

Jason Sachs, Early Learning Services, Massachusetts Department of Education

Carol Sartz, Education Department, Greenfield Community College

Elisabeth Schaefer, Early Learning Services, Massachusetts Department of Education

Rod Southwick, Massachusetts Department of Early Education and Care

Bernice Speiser, Education Department, Wellesley College

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GLOSSARY

Articulation Agreements: are designed to facilitate transfer of credits from community colleges to four-year colleges and universities. The Massachusetts Early Childhood Transfer Compact, effective Fall term 2004, is designed to facilitate the transfer of credit from community colleges to public four-year institutions that prepare graduates for the Early Childhood Teacher (prek-2nd grade) licensure in the public schools.

Certificate: an award from an institution of higher education, acknowledging the completion of a related set of college-level coursework, but less than the requirements for an Associates degree.

Career Lattice: term used to expand the image of a linear career ladder to that of a trellis, with multiple points of entry, opportunities for lateral movement (across settings, age groups, programs) as well as progression from entry levels to advanced professional levels.

CDA (Child Development Associate): a nationally recognized credential for people who provide early education and care to young children, awarded by the Council for Professional Recognition. To earn a CDA, people must document and demonstrate their competency in supporting the healthy growth and development of children in center-based care, family child care, or home visiting programs.

Core Competencies: – the knowledge and skills needed to provide quality education and care to children (birth through school-age) – that reflect current research and best practices and can be aligned with national, industry and higher-education standards.

EEC (Department of Early Education and Care): effective July 1, 2005, the new Massachusetts Department of Early Education and Care (EEC) combines the functions of the Office of Child Care Services (OCCS) with those of the Early Learning Services Division at the Department of Education. EEC is supervised and guided by a new independent board, the Board of Early Education and Care, and led by Commissioner Ann Reale.

ECE (Early Care and Education): We use the acronym ECE to describe the field of Early Care and Education, since this is the national usage. We use EEC to refer to the new Massachusetts Department of Early Education and Care.

IHEs: are Institutions of Higher Education – community colleges, 2-year, 4-year colleges, and universities.

Infants: as defined by EEC are children under the age of 15 months.

Out of School Time (OST): general term used to include school age child care as well as youth work programs serving children and youth ages 5 – 18 years during the out-of-school hours.

Practicum: supervised experience working with children in early education and care settings – practica provide students the opportunity to put their classroom learning into practice and to receive feedback on their competencies from their supervisor.

Prek: see preschool.

PreK-2 licensure: required by the MA Department of Education for individuals to teach in public preschool or prekindergarten (Prek) programs, and grades Kindergarten through 2nd grade.

Preschool: education and care for children approximately ages 3 – 5 years. Preschool classrooms can be located in child care centers, family child care homes, Head Start and/or public preschool programs. Also called Prek (prekindergarten); both terms are used interchangeably in this report.

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Preschoolers: as defined by EEC, are children ages 2 years 9 months and older but under age 7 years and not yet in first grade. Typically, preschool programs serve children ages 2 years 9 months until age 5 or 6 years when they enter kindergarten.

Professional Registry: a database that documents the professional development (degrees, awards, accomplishments, etc) of the workforce and allows for the on-going assessment of the needs of the workforce.

Toddlers: as defined by EEC are children ages 15 months to 33 months.

School Age Children: as defined by EEC are children ages 5 years (or enrolled in kindergarten) to 13 years, 16 if diagnosed with special needs.

School Age Child Care Program (SACC): Any program or facility operated on a regular basis which provides supervised group care for school age children not of common parentage. Such a program may operate before and/or after school, and may also operate during school vacations and holidays.

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INTRODUCTION

On July 1, 2005, the Massachusetts Department of Early Education and Care began work on the goals set forward by the Massachusetts legislature, including:

[to] oversee the development and implementation of a workforce development system designed to support the education, training and compensation of the early education and care workforce, including all center, family child care, infant, toddler, preschool and school-age providers. - Chapter 205 of the Acts of 2004, Section 3(a)

“In sum, quality is inherent in the ...provider, whether it is the grandmother, an unrelated sitter, or a center-based teacher. Critical to sustaining high-quality [early education and care] for young children are the provider’s ...education, specialized training, and attitudes about their work and the children in their care, and the features of [early education and care] that enable them to excel in their work and remain in their jobs, notably small ratios, small groups, and adequate compensation.”

– *From Neurons to Neighborhoods*, National Research Council (2000)

We know that early education and care programs are important preparation for young children, and that well-trained, qualified teachers and providers are necessary for programs to promote children’s development. In an extensive review of the state-of-the-field, the National Research Council (2000, pg 316) found that “both formal education levels and recent, specialized training in child development have been found quite consistently to be associated with high-quality interactions and children’s development in center-based, family day care and even in in-home sitter arrangements.”

In a series of studies of Massachusetts’ early education and care programs in centers, public schools and family child care homes, teacher/provider education was found to be a strong and consistent predictor of the quality of the program.¹ Center-based preschool classrooms with smaller ratios of children-to-teachers and in which teachers had more formal education provided higher quality early education and care (Marshall, et al, 2001). In public school preschool classrooms, where all teachers have at least a bachelor’s degree, additional training in early childhood education was linked to a more stimulating learning environment; smaller ratios and smaller groups of children were also important to overall quality (Marshall, et al, 2002). In family child care homes – with smaller group sizes required by regulations – providers’ formal education was the strongest predictor of the quality of the program (Marshall, et al, 2003); the more years of formal education that a provider had completed, the higher the quality scores she received. In addition, holding constant the number of years of formal education, providers who held a CDA (Child Development Associate) credential offered significantly higher quality programs than did providers who did not hold a CDA credential, but had similar levels of formal education (often in fields other than early childhood education).²

Both national research and research conducted on Massachusetts’ own early education and care programs provide strong evidence of the importance of professional development to program quality, and to young children’s school readiness. To ensure that every child “has access to a high-quality education and care program which meets professionally-accepted standards,” the Massachusetts General Court established the Department of Early Education and Care in the Acts of 2004. In the same legislation, the General Court identified the importance of “well-trained early educator[s] in a variety of public and private settings” as part of a “first-rate early education and care system.”

¹ These studies were commissioned by the Massachusetts Department of Education, and funded by the Department and by the U.S. DHHS Administration for Children, Youth and Families (ACYF).

² The CDA is described more thoroughly in the section on professional development for family child care providers.

To meet this goal, *The Report of the Early Education and Care Advisory Committee* (2004) recommended that the new department:

Recommendation WF1. Develop a comprehensive professional development system that supports the early education and care field (birth through school-age). The system's elements should provide the existing workforce (teachers, paraprofessionals, administrators, directors, supervisors, and others who work directly with teaching staff) opportunities to transition to higher standards, should improve retention rates, and should attract new recruits to the field of early education and care. At a minimum, the system should reflect leading industry approaches to the following elements:

- Core competencies
- Collaboration with higher education
- Credit for prior learning
- Compensation/recruitment/retention
- Access to professional development opportunities
- Professional development registry
- Career ladder

Key to achieving these objectives is the capacity of Massachusetts' Institutions of Higher Education (IHEs), both public and private, to effectively educate the early education and care (EEC) field serving children birth to school-age to the standards of skill and knowledge required. This study assesses the current capacity of Massachusetts' IHEs to prepare the EEC workforce, as well as the current state of progress on the elements identified in the *Report of the Early Education and Care Advisory Committee* as critical to advancing a professional development system. Funded by the National Institute on Early Education Research, with additional funding from Strategies for Children, the United Way of Massachusetts Bay, the A.L. Mailman Family Foundation and the Boston Foundation, this study seeks to contribute to the formation of a comprehensive workforce development system in the Commonwealth.

The objectives and systemic elements recommended in the *Report of the Early Education and Care Advisory Committee* delineate a thoughtful roadmap to progress. However, in order to move forward effectively, it is vitally important to assess where we are now, the magnitude of change required, and the terrain on which the Commonwealth of Massachusetts can shape its future investments in workforce development for the EEC field. This report undertakes that important task.

Part of a series of research projects conducted on the EEC workforce, this report provides a detailed analysis of the Massachusetts Capacity Survey, conducted in 2005, of 59 Institutions of Higher Education (IHE) (See Appendix A for details on the Survey). For previously released research briefs on workforce characteristics, visit www.wcwonline.org/earlycareindex.html.

SECTION I. CAPACITY OF MASSACHUSETTS IHEs TO PREPARE THE EARLY EDUCATION AND CARE WORKFORCE

Massachusetts currently provides early education and care for children birth through 14 years (16 years with special needs) through a mixed delivery system. This delivery system includes centers, family child care homes, public school preschool programs, Early Head Start and Head Start programs, school-age programs and youth-serving programs. The early education and care workforce includes teachers and assistant teachers working in classrooms, paraprofessionals and aides and family child care providers, as well as program administrators, staff in Resource and Referral agencies, early intervention programs, home visitors, health and mental health services, etc. In assessing the capacity of Massachusetts IHEs to prepare the EEC workforce, we have chosen to focus on classroom teachers (in centers, public preschool classrooms, and Head Start programs) and family child care providers. However, we believe that the qualifications of others in the early education and care workforce are also important and should be included in plans for workforce development. The estimates in this report serve as a starting point for discussion and planning.

In this section of the report, we describe the education levels of the current workforce and the capacity of Massachusetts IHEs to prepare the EEC workforce to meet higher standards. We address the question of capacity separately for the workforce providing early education and care for 3-5 year olds (preschool workforce), the workforce providing early education and care for infants and toddlers, and the out-of-school-time workforce (including school-age staff).

We discuss capacity using the current workforce's needs; however, IHEs are actually preparing both the current workforce and new entrants to the workforce. With turnover rates estimated as high as 30%, we can expect that the workforce 5 years from now will have many new faces. However, we have chosen to use the educational needs of the current workforce as a proxy for this future workforce for two reasons. First, the *number* of teachers and providers in the current workforce reflects the stable size of the workforce under current policies. Second, new entrants to the workforce are likely to be similar to the current workforce, at least as long as wages, working conditions and education requirements and opportunities remain the same.

Early Education and Care for 3-5 Year-olds

- **Massachusetts Current Service Delivery System:** A total of 10,303 programs provide early education and care for 3-5 year olds. Over half (58%) of 3-5 year-olds receiving early education and care are in EEC-licensed centers.
- **Workforce:** Estimating one lead teacher per preschool classroom, there are 6,822 teachers in center, Head Start and public school preschool classrooms, as well as 7,369 family child care providers.
- **Education:** Among classroom teachers, 40% hold a Bachelors or graduate degree in ECE, 21% hold an Associates degree in ECE, and 4% hold a CDA. Over a third of classroom teachers (35%) do not hold a CDA or degree. Over half (56%) of family child care providers do not hold a CDA or degree.
- **Diversity of the Workforce:** About three-quarters of teachers and providers are non-Hispanic white; 11% are Hispanic/Latino, 8% are Black or African American, 2% are Asian or Pacific Islander, and 3% are multi-racial or of another race/ethnic group – similar to the race/ethnic diversity of 3-5 year old children in Massachusetts.
- **Salary:** The early education and care workforce in centers and family child care homes earn less than their counterparts in public schools. For example, center preschool teachers, with a Bachelors degree in Early Childhood Education, earn less than half the hourly wages of public school preschool teachers.
- **Turnover:** Turnover rates – around 30% among center teachers – are more than three times the national turnover rate of 10% in education services. Turnover rates are higher among staff with lower qualifications.

Source: *Massachusetts Capacity Study Research Brief: Characteristics of the Current Early Education and Care Workforce Serving 3-5 Year-olds.*

1.1 PREPARING THE PRESCHOOL WORKFORCE

One of the charges to the Early Education and Care Advisory Committee¹ was to make recommendations for “the foundational and organizational elements for a statewide, high-quality, voluntary, universally accessible preschool program” (EECAC, page 2). Therefore, we begin our report on the capacity of Massachusetts IHEs with a discussion of the preschool workforce – those who work with children ages 3 to 5 years old, in early education and care settings.² Table 1.1 provides an overview of the number of programs, children served and teachers/providers serving 3-5 year-olds. We begin with a discussion of the capacity of IHEs to prepare one teacher per preschool classroom; a separate section on family child care providers follows.

Table 1.1 Number of Programs, Children Served and Teachers/Providers Serving 3-5 Year-olds

	Centers	Public Preschool	Head Start	FCC
Number of Programs	2,305	466	163	7,369
Number of Children	91,232	22,533	12,969	29,476
Number of Teachers/Providers¹	4,562	1,339	981	7,369

See Appendix B, Table B.1.1 for detailed information on sources of all data.

¹ Assuming one teacher per classroom

Education Levels of the Current Classroom Workforce. While many of Massachusetts teachers in preschool classrooms already exceed current regulations for training and education, higher levels of education and training in early childhood education are associated with higher quality early education and care for young children in Massachusetts (Marshall, et. al., 2001).

Table 1.2 summarizes the education levels of teachers currently serving children ages 3-5 years. Across all these settings, an estimated 40% of the preschool classroom workforce (2,744 teachers) holds a Bachelors or graduate degree in ECE, 21% (1,442 teachers) hold an Associates degree in ECE, and 4% (257 teachers) hold a CDA.³ Over a third of the current classroom workforce (35%) does not hold a CDA or degree.

Table 1.2 Education Levels for Preschool Classroom Teachers Serving 3-5 Year Olds

	Centers		Public Preschools		Head Start		All Classrooms	
	%	N	%	N	%	N	%	N
Number of Teachers		4,562		1,339		981		6,882
Education Level	%	N	%	N	%	N	%	N
CDA	2%	77	-	0	18%	180	4%	257
Associates degree	23%	1,047	1%	15	39%	380	21%	1,442
Bachelors, Masters or advanced degree in field	28%	1,286	91%	1,220	24%	238	40%	2,744
Number without CDA or any degree in ECE	47%	2,152	8%	104	19%	183	35%	2,439

Source: Calculated from Table 1.1 and *Massachusetts Capacity Study Research Brief: Characteristics of the Current Early Education and Care Workforce Serving 3-5 Year-olds* (2005).

Capacity of Massachusetts IHEs to Prepare the Preschool Workforce

The Capacity of Massachusetts IHE can be described in terms of the number of degree and certificate programs, student enrollments and the number of graduates. Each of these provides important information about the current IHE system (see Table 1.3).

There are currently 59 IHEs offering 127 Certificate, Associates, Bachelors or Masters programs in

¹ Established by the Massachusetts legislature as part of the planning process for the establishment of the new Department of Early Education and Care.

² See *Massachusetts Capacity Study Research Brief: Characteristics of the Current Early Education and Care Workforce Serving 3-5 Year-olds* (2005) for more detailed information about this workforce.

³ 45% of center teachers and 9% of Head Start teachers have completed at least one college course in the field.

Early Care and Education (ECE)¹. Among both Bachelors-level and Masters-level programs, some programs concentrate on preparing graduates for Prek-2 licensure through the Massachusetts Department of Education, while others concentrate on preparing graduates for certification by the Department of Early Education and Care, continuing education in early care and education or employment in other ECE fields. We report the survey results separately for these programs.

Massachusetts Public IHEs (specifically, community colleges) offer the majority of Certificate and Associates programs in the state, while Private IHEs offer the majority of the programs that graduate students with Bachelors or Masters degrees. Therefore, any efforts to address Massachusetts capacity to prepare the ECE workforce must include private as well as public institutions of higher education, and address issues of articulation between community colleges and both public and private Bachelors-level programs.

Table 1.3 Capacity of IHE ECE Programs: Total, by Public and Private IHEs

Number of:	Certificate	Associates	Bachelors: Prek-2	Bachelors: Other ECE	Masters: Prek-2	Masters: Other	Total
Programs	24	33	33	12	12	13	127
Public IHEs	17	24	8	2	7	5	63
Private IHEs	7	9	25	10	5	8	64
Enrolled Students	586	2,746	1,341	352	202	346	5,573
Public IHEs	259	2,194	731	34	138	92	3,448
Private IHEs	327	552	610	318	64	254	2,125
Graduates/year	197	517	237	64	60	193	1,268
Public IHEs	78	392	97	3	23	14	607
Private IHEs	119	125	140	61	37	179	661
Graduates in ECE fields (estimated)²	185	517	114	42	33	81	972
Public IHEs	66	392	33	NA	9	4	504
Private IHEs	119	125	81	42	24	77	468

Certificates and Associates Programs. There are 41 Certificate and Associates programs in public IHEs, and an additional 16 programs in private IHEs. These programs currently enroll 3,332 students, graduating 714 in one year. In two years (a common length for a full-time Associates program), about 45% of enrolled students graduate. It appears that a significant portion of students enrolled in Certificate and Associates programs are either part-time students (taking more than two years to complete) or do not seek/receive Certificates or Associates degrees.³ However, almost all graduates of Certificate and Associates programs are employed in centers, public preschools or as family child care providers. A high proportion of graduates also continue their education in ECE, with 47% of Certificate holders going on to pursue an Associates degree and 60% of those earning an Associates degree going on to pursue a Bachelors degree in the field (See Appendix Table B1.1 for detailed information on careers after graduation). Table 1.3 provides an estimate of the number of graduates who are employed in the ECE field each year.

Bachelors Programs. There are 25 Bachelors programs in private IHEs and 8 additional Bachelors programs in public IHEs whose primary focus is preparation of students for licensure at the Prek-2 level. Almost half of the graduates of these programs (44%) teach K-2nd grade, while one in six (16%) teach in public prekindergarten classrooms and about as many (21%) teach in

¹ We use the acronym ECE to describe the field of Early Care and Education, since this is the national usage. We use EEC to refer to the new Department of Early Education and Care.

² Number of Graduates "in the field" estimated based on reported number of graduates who go on to teach or work with children ages 0-5 in a center-based, public preschool or family child care setting; work in an administrative, research or policy capacity in the field, or go on to pursue an Associates or Bachelors degree in ECE (the latter applies to Certificate and Associates program graduates only). See Appendix Table B1.2.

³ Currently, EEC licensing requires coursework in ECE, not completed certificates or degrees; those students not pursuing a certificate or degree would still be able to meet the EEC licensing requirements. In fact, Certificate and Associates programs report that meeting EEC licensing requirements is one of the options for students.

EEC-licensed centers.

There are 10 Bachelors programs in private IHEs and two additional Bachelors programs in public IHEs whose primary focus is preparation of students for careers in ECE, but not preparation for Prek-2 licensure. About half (51%) of the graduates of these programs in private IHEs teach in centers, and an additional 9% work in ECE administration, research or policy.¹ Another 7% are employed in public prekindergarten classrooms, and 20% are employed at the K-elementary school level. Table 1.3 provides an estimate of the number of graduates from both types of Bachelors-level programs who are employed in the ECE field each year.

Underutilized Capacity and Future Expansion. IHE programs actually have greater capacity than current enrollments suggest. Fifty-eight percent of programs are interested in expanding their ECE degree programs; and 86% of these programs say they could do so within their existing structure (there is room for more students given current classes, faculty and building limitations). In fact, almost half (47%) of IHEs reported that insufficient enrollment for ECE programs was somewhat (31%) or a large (16%) problem for them. Further, 90% of IHE programs reported that their institutions support program expansion, if the student interest warrants it. When asked about problems recruiting students for their programs, many programs reported that they had difficulty attracting and keeping students due to poor working conditions or wages in the field (see Section II for more in this issue). With better wages and working conditions, IHE programs could expand their capacity to prepare students for the EEC workforce.

IHE Capacity to Meet Workforce Education Needs. Massachusetts IHEs currently graduate an estimated 1,268 students a year from ECE programs, with an estimated 972 working in ECE positions after graduation, and/or continuing their education in ECE. Given this capacity under current conditions (including wage levels and related ability of IHEs to attract students in their ECE programs), how long would it take to prepare one teacher per classroom serving 3-to-5 year old children, to meet higher educational standards?

The early education and care workforce includes teachers and assistant teachers working in classrooms, paraprofessionals and aides and family child care providers, as well as program administrators, staff in Resource and Referral agencies, early intervention programs, home visitors, health and mental health services, etc. In assessing the IHE capacity to prepare the workforce, we have chosen to focus on the qualifications of classroom teachers in centers, public preschool classrooms, and Head Start programs; family child care providers are discussed later in the report. However, we believe that the qualifications of others in the early education and care workforce are also important. Therefore, our estimates of IHE capacity are conservative, and serve only as a starting point for discussion and planning.

Given the current capacity of Massachusetts IHEs, the current employment choices of ECE graduates, and full-time enrollment in a 2-year Associates program, **we estimate that it would take seven years for one teacher per classroom (centers, Head Starts and public preschools) to graduate with an Associates degree in ECE.**

It would take a minimum of seven years for one teacher per classroom (centers, Head Starts and public preschools) to graduate with an Associates degree in ECE. It would take a minimum of 19 years for one teacher per classroom to graduate with a Bachelors degree in ECE.

Further, **we estimate that it would take 19 years for one teacher per classroom (centers, Head Starts and public preschools) to graduate with a Bachelors degree in ECE, assuming full-time enrollment.**

These estimates assume full-time enrollment in an IHE program, and no barriers to enrollment, participation in practica or graduation. Recognizing the needs of adult learners for part-time enrollment and other accommodations, as well as the needs of other members of the EEC

¹ We do not have data on the placements of graduates of the two public IHE programs.

workforce, these are conservative estimates (see Section II of this report for more discussion of workforce characteristics and related issues). These estimates also assume no change in the size of the workforce (no expansion of the number of early education and care programs or the number of children served) and no turnover, in a field that has an annual turnover rate estimated at 30%.¹ While these estimates depend on these assumptions, they provide a picture of the capacity of current IHE programs, and the minimum amount of time needed to meet specific benchmarks under current systems of service delivery.

Table 1.4 Capacity of IHEs Compared to Need for Education for Classroom Teachers Providing ECE to 3-5 Year Olds

Education Level	Number Needing Education [1]	IHE Annual Capacity [2]	Number of Years to Prepare [3]
Do not hold an Associates	2,696	517	7 years
Do not hold a Bachelors in ECE [4]	4,138	270	19 years

[1] Classroom teachers in all settings, including center-based, public preschool and Head Start.

[2] Associates and Bachelors adjusted for post-graduation employment in ECE (see *N Graduates in ECE* of Table 1.3).

[3] Calculated as “Number Needing Education” divided by “Annual Capacity”, plus number of years of full-time program enrollment prior to graduation (2 years for Associates, 4 years for Bachelors)

[4] We assume, for the purposes of this table, that graduates of Masters ECE programs would also be able to meet this standard.

Regional Analysis

The capacity of IHEs varies by region of the state.² As Table 1.5 shows, Region 4 (MetroWest) has the greatest number of ECE IHE programs, followed by Regions 1 (Western Massachusetts) and 2 (Central Massachusetts); Regions 4 and 6 (Boston) have the greatest number of OST IHE programs.

Table 1.5 Capacity of IHE ECE Programs, by Region

IHE Programs	Region 1 West	Region 2 Central	Region 3 Northeast	Region 4 MetroWest	Region 5 Southeast	Region 6 Boston
ECE Programs						
N Programs	25	21	11	38	13	19
Enrollment	941	843	903	1270	593	1023
N Graduates (estimated)¹	133	153	176.5	459	78.5	264.5

¹ Because we estimated the number of graduates for each region, we report estimates to the first decimal place, to avoid rounding errors when comparing to the totals in previous Tables.

How long would it take, under ideal circumstances, to raise the educational level of one preschool teacher per classroom in an EEC-licensed center, given the capacity of IHEs in the same region?³ As we can see in Table 1.6, the number of years that it would take to prepare one teacher per preschool classroom at the Associates level ranges from 4 years in Region 1: Western Massachusetts to 16 years in Region 4: Northeastern Massachusetts. The range of time is even greater to reach the Bachelors level for one teacher per classroom – from 11 years in Central and MetroWest to 26 years in Western Massachusetts and 47 years in Southeastern Massachusetts.

These estimates are based on the assumption of full-time enrollment in an IHE program, and no barriers to enrollment, participation in practica or graduation –unrealistic assumptions for the current workforce. While these estimates depend on these assumptions, they provide a picture of the capacity of current IHE programs in each region, and draw attention to the importance of addressing regional variations in workforce qualifications and IHE capacity.

¹ *Massachusetts Capacity Study Research Brief: Characteristics of the Current Early Education and Care Workforce Serving 3-5 Year-olds* (2005).

² This research brief examines regional variation using the Executive Office of Health and Human Services (EOHHS) six regions of the state. These regions are used by EEC for statistical, care coordination and administrative purposes.

³ Members of the current ECE workforce, as well as the adult learners not yet employed in ECE, are most likely to attend classes at local IHEs; therefore, the local capacity needs to be considered in professional development plans. See Table B.1.3 for Number of Teachers with/without CDAs and ECE Degrees, by Region.

Table 1.6 Capacity of IHEs Compared to Need for Education among Current Center Workforce (Preschool Classrooms only), by EOHS Region

Region	Number Needing:[1]		IHE Annual Capacity [2]		Number of Years to Prepare [3]	
	Associates	Bachelors	Associates	Bachelors	Associates Level	Bachelors Level
1. West	214	448	100.5	20	4 years	26
2. Central	358	358	61.5	53	8 years	11
3. Northeast	518	727	37	75.5	16 years	14
4. MetroWest	567	659	173	91.5	5 years	11
5. Southeast	404	731	44.5	16.5	11 years	48
6. Boston	268	377	99.5	43.5	5 years	13

[1] Calculations based on data provided in Appendix B1.3

[2] Not adjusted for post-graduation employment in ECE

[3] Calculated as "Number Needing Education" divided by "Annual Capacity", plus number of years of program enrollment prior to graduation (2 years for Associates, 4 years for Bachelors)

Family Child Care Providers

Family child care homes have the capacity to care for an estimated 44,214 children; an estimated 29,476 children ages 3-5 years old (19% of all 3-5 year olds in ECE settings), and 14,738 infants and toddlers (43% of all infants and toddlers in ECE settings). Therefore, family child care providers are an important part of Massachusetts mixed delivery system of preschool education. However, under current regulations, the only coursework that providers are required to complete is pre-service training or orientation given by a Resource and Referral agency, and certification in CPR/First Aid. It is not surprising then, that more than half of providers have not taken a college course in ECE and do not hold a CDA¹, Associates or Bachelors degree in ECE.

Education Level	Percent	N
No College courses or CDA	56%	4,099
College courses in field	17%	1,253
CDA	7%	521
Associates degree	8%	592
Bachelors or graduate degree in field	12%	904
Total Providers	100%	7,369

Source: *Massachusetts Capacity Study Research Brief: Characteristics of the Current Early Education and Care Workforce Serving 3-5 Year-olds* (2005).

The importance of education and training for family child care providers. Research indicates that education and specialized training in child development contribute to higher quality early education and care in family child care homes (National Research Council, 2000). In a study of Massachusetts family child care homes, provider education was found to be a strong and consistent predictor of the quality of the program.² Providers' formal education was the strongest predictor of the quality of the program (Marshall, et al, 2003); the more years of formal education that a provider had completed, the higher the quality scores she received. In addition, holding constant the number of years of formal education, providers who held a CDA credential offered significantly higher quality programs than did providers who did not hold a CDA credential, but had similar levels of formal education. For example, among providers without a college education, providers with a CDA provided higher quality programs than did providers without a CDA.

If we wish to raise the standards of ECE in family child care homes, we will need to include family child care providers in a comprehensive professional development system that recognizes the educational and learning needs of providers. The first point of entry for many providers to professional development is through training offered by Resource and Referral agencies and/or

¹ CDAs are awarded by The Council for Professional Recognition. The CDA in family child care requires 150 clock hours of formal child care education, with no fewer than 10 hours in each of eight subject areas, as well as 480 hours experience with children in a group setting, and other assessments; see <http://www.cdacouncil.org/> for more information.

² These studies were commissioned by the Massachusetts Department of Education, and funded by the Department and by the U.S. DHHS Administration for Children, Youth and Families (ACYF).

through CDA credentialing. To ensure that providers can progress from these entry levels of training and education, it will be essential to develop linkages among community-based training, such as that offered by Resource and Referral agencies, and college-based training and education; a detailed examination of this issue is beyond the scope of this report. In addition, the CDA is an entry point for a significant number of providers (as well as Head Start teachers); a comprehensive professional development system should therefore also include the CDA.

Capacity to Prepare Family Child Care Providers. Much of the capacity to prepare providers is located in community-based training programs, the initial point of entry, or in CDA credentialing. In addition, while some providers have already received an Associates or Bachelors degree in ECE, over time, other providers (either current providers or new providers) will be interested in such preparation as part of a comprehensive professional development system.

CDAs are an important part of a career ladder, providing a first credential that can be a step to further education. While Massachusetts IHEs do not award CDAs, some offer coursework that meets CDA requirements. CDAs are particularly important as a credential for Head Start programs and family child care providers. However, according to The Council for Professional Recognition – the group that awards CDAs – only 172 people earned CDAs in Massachusetts in 2004. Massachusetts could increase the number of people earning CDAs by providing incentives to do so, and providing greater access to programs that prepare teachers and providers for the CDA. Without expanded capacity, CDAs will not be available as an entry point for providers and Head Start teachers.

We have estimated that it would take a minimum of 11 years for 7,369 providers (the current size of the workforce) to complete an Associates degree, assuming full-time enrollment, and doubling the effective IHE capacity to provide programs that could education both teachers and providers (see Table 1.7).

These estimates raise as many questions as answers. **Addressing the professional development of family child care providers requires a comprehensive system that integrates community-based training and IHE preparation, and allows providers a longer window in which to meet standards, because providers, as a group, start with fewer credentials than do classroom teachers.**

Table 1.7 Capacity of IHEs to Prepare Family Child Care Providers

Education Level	Number Needing Education	IHE Annual Capacity [1]	Number of Years to Providers [2]
Do not hold CDA [3]	5,352	172	31 years
Do not hold an Associates	5,873	517	11 years
Do not hold a Bachelors in ECE [4]	6,465	270	24 years

[1] For purposes of this estimate, we have assumed that IHEs would be able to expand the number of graduates in response to increased demand, and have estimated this expanded capacity as the total current capacity of IHEs, without adjusting for those graduates who become teachers vs. providers. See Table 1.4 for details on estimated IHE Capacity.

[2] The number of years is calculated as “Number Needing Education” divided by “Annual Capacity,” plus number of years of program enrollment prior to graduation (1 year for CDA, 2 years for Associates, 4 years for Bachelors).

[3] IHEs do not award CDAs, however they are included here as they are an important part of the education and professional development career ladder for family child care providers. CDA capacity is the number of CDAs earned in 2004; data provided by The Council for Professional Recognition (2005).

[4] We assume, for the purposes of this table, that graduates of Masters ECE programs would also be able to meet this standard.

1.2 PREPARING THE INFANT/TODDLER WORKFORCE

Massachusetts currently provides early education and care for infants and toddlers through a mixed delivery system that includes centers, family child care homes and Early Head Start.¹ Table 1.8 provides an overview of this delivery system. Family child care providers are discussed in detail in the previous section; the remainder of this section addresses the capacity of IHEs to prepare teachers in infant and toddler classrooms in centers and Early Head Start programs.

Table 1.8 Number of Programs, Children and Teachers/Providers for Infants & Toddlers

	Centers	Early Head Start	FCC (5)
Number of Programs	2,305	12	7,369
Number of Children	18,759	1,111	14,738
Number of Teachers/Providers	2,282	116	7,369

See Appendix B, Table B1.4 for detailed information on sources of all data.

Education is equally important for the infant/toddler workforce. In a review of the research in infant and toddler care, Phillips and Adams (in *The Future of Children*, Volume 11, Number 1, 2001) found that young children in early education and care benefit most when the care they receive is warm and responsive. Phillips and Adams also found that teachers and providers with more education and specialized training in infant-toddler development offered more responsive and stimulating care to infants and toddlers.

The Massachusetts Cost and Quality Study² found that toddler classrooms provided more age-appropriate learning opportunities when teachers had higher levels of education, and warmer interactions when classrooms had smaller ratios of children to teaching staff (Marshall et al, 2004). Infant classrooms with smaller ratios and smaller group sizes, as well as with more experienced teachers, provided higher quality education and care.

Education Levels of the Current Workforce. Infant and Toddler teachers in centers and Early Head Start programs are less likely to hold Associates or Bachelors degrees than are their colleagues in preschool classrooms in centers or Head Start programs. Table 1.9 summarizes the educational levels of Infant and Toddler teachers in

Early Education and Care for Infants and Toddlers

- **Massachusetts Current Service Delivery System:** Infants and toddlers receive early education and care in 2,305 centers, 12 Early Head Start programs and as many as 7,369 family child care homes. Over half (54%) of infants and toddlers receiving early education and care are in EEC-licensed centers.
- **Workforce:** Estimating one lead teacher per classroom, there are 902 infant teachers in centers, 1,383 toddler teachers in centers, and 116 teachers in Early Head Start classrooms – a total of 2,401 teachers in classrooms – as well as 7,369 family child care providers.
- **Education:** In centers, 13% of infant classroom teachers and 17% of toddler classroom teachers have a Bachelors or more in the field of early care and education. In EEC-licensed family child care homes, 13% of providers have a Bachelors or more. In Early Head Start (EHS) classrooms, 7% of teachers have a Bachelors or more; of the 13 EHS family child care teachers, 6% have a Bachelors or more.
- Across all program types, an estimated 15% of teachers and family child care providers hold a Bachelors or graduate degree in ECE, 13% hold an Associates degree in ECE, and 3% hold a CDA; 69% do not hold a CDA, Associates or Bachelors degree.

Source: *Workforce Characteristics of Infant and Toddler Caregivers in Centers, Family Child Care Homes and Early Head Start Programs: A Massachusetts Capacity Study Research Brief*

¹ See *Workforce Characteristics of Infant and Toddler Caregivers in Centers, Family Child Care Homes and Early Head Start Programs: A Massachusetts Capacity Study Research Brief* (2005) for more detailed information about this workforce.

² These studies were commissioned by the Massachusetts Department of Education, and funded by the Department and by the U.S. DHHS Administration for Children, Youth and Families (ACYF).

centers and Early Head Start programs.

Table 1.9 Education in Early Care and Education for Infant and Toddler Teachers

Education Level	Center Infant Teachers		Center Toddler Teachers		Early Head Start	
	%	N	%	N	%	N
College Courses in field	47%	423	49%	677	26%	30
CDA	4%	36	1%	14	27%	31
Associates degree	14%	126	12%	166	32%	37
Bachelors, Masters or advanced degree in field	13%	117	17%	235	7%	8

Source: Calculated from Table 1.8 and *Workforce Characteristics of Infant and Toddler Caregivers in Centers, Family Child Care Homes and Early Head Start Programs: A Massachusetts Capacity Study Research Brief*. (2005).

While many teachers have college courses in the field, little more than one-third of infant and toddler teachers hold an Associates or higher degree. Across centers and Early Head Start classrooms, 15% of teachers, or an estimated 360 teachers, hold Bachelors or graduate degrees in ECE, 14%, or 329 teachers, hold an Associates degree in ECE, and 3%, or 81 teachers, have a CDA. The majority of infant and toddler teachers do not hold a CDA or higher degree – there are 621 Center Infant Teachers, 968 Center Toddler Teachers and 40 Early Head Start Teachers with neither a CDA nor an ECE degree.¹

Capacity of IHEs

Describing the IHE capacity to prepare infant and toddler teachers separately from its capacity to prepare preschool teachers is difficult. The current infant and toddler workforce has often been prepared through programs described in the previous section as preparing the preschool workforce. In fact, 27 programs (of the 98 programs that completed the IHE survey on required coursework) report that they require at least one course in the education and care of infants and toddlers, and as many require practicum experience with infants and toddlers. In addition to these ECE programs, there are currently eight IHE programs that include a focus on infant and toddler teacher preparation – six are Certificate programs offered at community colleges, one is a Bachelors program and one is a Masters program.

Based on information from six of the eight programs, there are 46 students enrolled at the community college or Bachelors’ level, and 45 students in the Masters program. There are 10 graduates per year at the community college or Bachelors’ level, and 28 graduates per year from the Masters program. Three programs, including the Masters program, provided estimates of their graduates’ careers – 73% become EEC certified, 48% teach in centers, 17% are Family Child Care providers, 7% teach in elementary schools, 12% work in administrative positions, 7% work in research, and 8% are employed in fields other than ECE.

If we include teachers in infant and toddler classrooms and Early Head Start, as well as the preschool workforce, it would take a *minimum* of 11 years for one teacher per classroom to graduate with an Associates degree in ECE, and a *minimum* of 27 years for one teacher per classroom to graduate with a Bachelors degree in ECE.

IHE Capacity to Meet Workforce Education Needs. Massachusetts IHEs currently graduate an estimated 38 students a year from IHE programs with a specific focus on infants and toddlers – most of these are graduates of the one Masters program. Clearly, most infant and toddler teachers and family child care providers caring for infants and toddlers are not graduates of these programs; rather they have participated in courses and programs in general ECE IHE programs. When planning to meet the education needs of the preschool workforce, it is crucial that we remember that many of the graduates of IHE ECE programs will be employed in infant and toddler

¹ Calculated from the total number of teachers in Table 1.2.1 and the number of teachers with CDAs or degrees in Table 1.2.2.

classrooms, rather than in preschool classrooms.

Including the education needs of Infant and Toddler Teachers, **we estimate that it would take 11 years for one teacher per classroom (infant, toddler and preschool classrooms in centers, Early Head Starts, Head Starts and public preschools) to graduate with an Associates degree in ECE.**

Further, **we estimate that it would take 27 years for one teacher per classroom (infant, toddler and preschool classrooms in centers, Early Head Starts, Head Starts and public preschools) to graduate with a Bachelors degree in ECE.**

Table 1.10 Capacity of IHEs Compared to Need for Education Among Current Infant, Toddler and Preschool Classroom Teachers

Education Level Needed	Number Classroom Teachers Needing Education [1]	IHE Annual Capacity [2]	Number of Years to Prepare Classroom Teachers [3]
Do not hold CDA	4,068	172	24 years
Do not hold Associates	4,405	517	11 years
Do not hold Bachelors in ECE [4]	6,176	270	27 years

[1] Including center-based infant and toddler teachers and Early Head Start teachers (total = 2398 teachers), and center-based preschool teachers, Head Start teachers and public preschool teachers (total = 6,882 teachers)

[2] See Table 1.4 for explanation.

[3] Calculated as “Number Needing Education” divided by “Annual Capacity”, plus number of years program enrollment prior to graduation (2 years for Associates, 4 years for Bachelors)

[4] We assume, for the purposes of this table, that graduates of Masters ECE programs would also be able to meet this standard. The capacity estimate includes an estimated 13 graduates per year from the Masters program with an infants and toddlers focus, who are employed in centers after graduation.

1.3 PREPARING THE OUT-OF-SCHOOL-TIME (OST) WORKFORCE

The out-of-school time workforce includes individuals employed as teachers/ group leaders and assistant group leaders, as well as administrative and supervisory staff, in out-of-school time programs that serve school-aged children and youth ages 6-18; after school programs and youth centers are examples of such programs.¹ Three types of school-age programs are regulated by Massachusetts state agencies: [1] EEC licenses school-age programs; [2] DOE oversees 21st Century before- and after-school programs; and [3] DOE supports After-School and Out-of-School Time (ASOST) grant programs funded under the Academic Support State Line Item 7061-9404 (fund code 599). There are many more OST programs in Massachusetts including drop-in youth centers, prevention and/or training programs, and summer camps. However, due to the limited amount of research on the full breadth of OST staff, this report is limited to the data sources currently available in Massachusetts, which focus on the school-age care workforce.

Recent research has suggested that staff education and training levels also affect the quality of after school programs and therefore the development of more positive youth outcomes. Accumulating evidence suggests that after school programs can promote children and youth's healthy development, improve academic success, encourage leadership, and actively support and strengthen families.

After-school providers and youth workers often come to this field by way of many paths. Some may enter into this work without any formal education and training and gain knowledge and skills on the job. Others may come with a background in a variety of disciplines including social work, education, public health, community education, or psychology. Given the diversity of OST programs, all kinds of experience – formal and informal – are valuable in the professional development of practitioners.

Education Levels of Current Workforce

Across all program types, an estimated 33% of group leaders hold a Bachelors or graduate

Early Education and Care for School-Age Children and Youth

- **Massachusetts Current Service Delivery System:** 58,922 children and youth are enrolled in EEC -licensed after school programs; 18,800 children/youth participated in Department of Education 21st Century Community Learning Centers and After-School and Out-of-School Time programs.
- **Workforce:** Estimating one group leader per 13 children and youth, there are 5,979 group leaders in the EEC and DOE sponsored programs. 88% of OST staff work part-time.
- **Education:** Across all program types, an estimated 33% of group leaders hold a Bachelors or graduate degree, and 8% hold an Associates degree; 59% do not hold an Associates or Bachelors degree.
- **Diversity of the Workforce:** Three-quarters of group leaders are non-Hispanic white; 9% are Hispanic/Latino, 11% are Black or African American, 2% are Asian or Pacific Islander, and 3% are multi-racial or of another race/ethnic group – similar to the race/ethnic diversity of children and youth in Massachusetts.
- **Salary:** The OST workforce in community based programs receive pay that is lower than that received by their counterparts in public schools. For example, the average hourly wage for a group leader in a DOE-sponsored program is \$26.60, compared to \$12.10 per hour for a group leader in a CBO school-age program.
- **Turnover:** Turnover rates around 22% are more than double the national turnover rate of 10% in education services.

Source: *Evidence for Action: The Massachusetts Afterschool Workforce. 2005.*

¹ The National Institute on Out-of-School Time and the AED Center for Youth Development and Policy Research. 2003. *Strategic Plan: Building a Skilled and Stable Out-of-School Time Workforce.*

degree, and 8% hold an Associates degree; 59% do not hold an Associates or Bachelors degree. Table 1.11 estimates the number of group leaders with Associates or Bachelors degrees, or without these two credentials, in the three types of programs overseen by DOE or EEC.

Table 1.11 Estimated Education of School-Age Program Group Leaders

Program Type	Estimated Number of Group Leaders [1]			Total N Group Leaders
	Associates	Bachelors +	Do not hold Associates or Bachelors	
EEC-licensed School-Age programs [2]	408	906	3,218	4,532
21 st Century programs [3]	23	342	97	462
DOE ASOST programs [3]	49	729	207	985

[1] The total number of group leaders is estimated as the total number of children participating in these programs, divided by the EEC-regulated ratio of 1 adult for every 13 children. Education levels are estimated based on *Evidence for Action: The Massachusetts Afterschool Workforce (2005)*.

[2] The Economic Impact Report reported 58,922 children enrolled in EEC-licensed after school programs (Traill & Wohl 2004. *The Economic Impact of the Child Care and Early Education Industry in Massachusetts*); 58,922/13 = 4,532 group leaders.

[3] 12,800 children participated in ASOST programs in FY2003; 12,800/13 = an estimated 985 group leaders. More than 6,000 children participated in 21st Century school-age programs; 6,000/13 = 462 group leaders. Participation figures from Resnick, Church, Surr & Miller. 2004. *Building an Outcome Evaluation System. 21st Century Community Learning Centers & After-School and Out-of-School Time Programs. Report on Outcomes for FY 2003*. Massachusetts Department of Education. Education levels are estimated based on *Evidence for Action: The Massachusetts Afterschool Workforce (2005)*. (the higher proportion of DOE ASOST program staff with Bachelors degrees reflects the fact that DOE-funded programs were shown to employ significantly more certified public school teachers, 74% of whom hold a Bachelors or higher degree.)

Capacity of IHEs

The Capacity of Massachusetts IHE to prepare the OST workforce can be described in terms of the number of programs, enrollments and the number of graduates (see Table 1.12). There are currently 13 IHEs with a total of 24 Certificate, Associates, Bachelors or Masters programs in Out-of-School-Time (OST). Public IHEs offer the majority of the Certificate and Associates programs while private IHEs offer the majority of the programs that graduate students with Bachelors or Masters degrees. Of the 24 programs, eight focus on the School-Age workforce, three focus on the Youth Work workforce and 13 do not focus on a specific age group.

Table 1.12 Capacity of IHE OST Programs

Number of:	Certificate	Associates	Bachelors	Masters	Total
Programs	9	2	11	2	24
Public IHEs	6	2	1	0	9
Private IHEs	3	0	10	2	15
Enrolled Students	58	109	307	52	526
Public IHEs	53	109	30	0	192
Private IHEs	5	0	277	52	334
Graduates/year	41	2	61	12	116
Public IHEs	41	2	10	0	53
Private IHEs	0	0	51	12	63
Graduates in OST fields (estimated) ¹	41	2	30	6	79
Public IHEs	41	2	5	0	48
Private IHEs	0	0	25	6	31

Note: We do not have data on post-graduate placement of graduates from Certificate, Associates or Masters programs. Because most graduates of Certificate and Associates ECE programs go on to work in the ECE field, we have assumed the same pattern for OST, and estimated that all graduates of Certificate and Associates OST programs go on to work in OST. We have assumed that rates of Masters program graduates' employment in the OST field are similar for Bachelors program graduates.

About half (52%) of the graduates of the Bachelors-level programs are employed following graduation in after-school programs, youth work or an administrative, research or policy position in

¹ Number of Graduates "in the field" is estimated based on reported number of graduates who go on to "paid position in an afterschool program or youth work; work in a residential treatment center for youth; work in an administrative, research or policy capacity in the field, or go on to pursue an Associates or Bachelors degree in youth work/school-age care" (Certificate and Associates program graduates only). See Appendix B, Table B1.5 for detailed data.

the OST field. Another 30% are employed at the elementary or secondary school level or continuing their education in those fields (see Table B1.5 in Appendix B).

IHE Capacity to Meet Workforce Education Needs. IHE programs to prepare the OST workforce are relatively new, compared to ECE programs, and this is reflected in the small number of graduates (116 in one year, and only 79 that stay in the OST field), especially relative to enrollments, particularly in the Associates-level programs. However, even projecting higher graduation rates as these programs reach full capacity, there are clearly not enough IHE degree-awarding programs to prepare the school-age and youth work workforce.

II. DEVELOPING A COMPREHENSIVE PROFESSIONAL DEVELOPMENT SYSTEM

The *Report of the Early Education and Care Advisory Committee* recommended that the Department of Early Education and Care (Recommendation WF1):

Develop a comprehensive professional development system that supports the early education and care field (birth through school-age). The system's elements should provide the existing workforce (teachers, paraprofessionals, administrators, directors, supervisors, and others who work directly with teaching staff) opportunities to transition to higher standards, should improve retention rates, and should attract new recruits to the field of early education and care.

A comprehensive professional development system requires several key elements, including a career ladder or lattice, access to the professional development system, core competencies, recognition and rewards, and systematic planning to integrate all elements of the system.¹

2.1 CAREER LADDERS AND LATTICES

The Early Education and Care Advisory Committee recommended that the Department of EEC develop “a comprehensive career ladder or lattice that allows for multiple points of entry, opportunities to move within the field and across settings, programs and age groups (birth through school-age)” *Recommendation WF8*.

Career ladders establish linear pathways for individuals to progress from entry level positions to advanced professional positions. The term Career Lattice is used to expand the image of a linear ladder to that of a trellis, with multiple points of entry, opportunities for lateral movement (across settings, age groups, programs) as well as progression from entry levels to advanced professional levels.

A Career Lattice for Early Education and Care would include lateral linkages – across settings, age groups and programs, and among positions requiring similar knowledge and skills (core competencies) – as well as hierarchical linkages across levels (entry level to advanced professionals) – requiring credit for prior learning and articulation agreements among training programs, community colleges and four-year colleges that facilitate credit for prior learning and transfer of credits.

Articulation Agreements. Articulation agreements are an essential component of a Career Lattice, and are designed to facilitate transfer of credits from community colleges to four-year colleges and universities. One specific articulation agreement, The Massachusetts Early Childhood Transfer Compact, effective Fall term 2004, is designed to facilitate the transfer of credit from community colleges to public four-year institutions that prepare graduates for the Early Childhood Teacher (Prek-2nd grade) licensure in the public schools.² While all public IHEs have signed the Transfer Compact, not all of the ECE programs in these institutions are covered by the Compact.

The IHE survey asked programs if their institution participated in the Transfer Compact; these surveys were completed in the same academic year as the Compact went in to effect. Eighty-three percent (83%) of Associates-level programs in public IHEs and 86% of Bachelors-level programs in public IHEs reported that their institutions participate in the Massachusetts Board of Higher Education Early Childhood Transfer Compact (see Table 2.1).

In addition to the Early Childhood Transfer Compact, some programs have articulation agreements

¹ In *Making a Career of It*, Morgan and colleagues (1993) outlined five elements of a professional development system, based on their review of best practices around the country. Others have provided similar reviews and recommendations – e.g., *Strategies for Children's Quality Early Educators are Essential: Investing in the Early Childhood Workforce* (2004) and National Child Care Information Center, Child Care Bureau, *Elements of a Professional Development System for Early Care and Education: A Simplified Framework* (accessed 9/29/05).

² The Board of Higher Education is committed to expanding this Compact to non-licensure baccalaureate programs related to early childhood education (*Massachusetts Board Of Higher Education Early Childhood Education Compact*).

with other institutions (degree-granting and training programs) that affect students in their program. All public IHE Associates-level ECE programs, and more than half of public IHE Bachelors-level ECE programs, reported that they have articulation agreements with other institutions that affect students in their program. In addition, two-thirds of private IHE Associates-level ECE programs, and about half of Bachelors-level OST programs and ECE programs in private IHEs, have such articulation agreements.

However, most programs reported that problems with the transfer of credits and articulation are at least somewhat an issue, particularly at the Associates level and in public IHEs.

Credit for Prior Learning. The *Report of the Early Education and Care Advisory Committee* recommended that the Department of Early Education and Care (Recommendation WF4):

Develop a statewide system for granting credit for prior learning that is built upon the core competencies and allows students to translate their knowledge and skills into college-level coursework.

Public IHEs are more likely than private IHEs to award credit for prior experience or prior learning, such as CDAs, among ECE programs. Associates level programs are more likely to award credit than are Bachelors' level programs.

Table 2.1 Articulation Agreements and Credit for Prior Learning

Proportion of Programs Reporting

Certificate or Degree:	Associates			Bachelors		
	Public ECE	Private ECE	OST	Public ECE	Private ECE	OST
Public/Private IHE:						
Number of Programs Responding	18	9	9	7	26	11
Institution participates in Early Childhood Transfer Compact	83%	n/a	n/a	86%	n/a	n/a
Have articulation agreements with other institutions that affect students in this program	100%	67%	38%	57%	46%	53%
Report any problems with transfer of credits and articulation	90%	77%	50%	75%	46%	45%
Award credit for prior experience	67%	22%	63%	71%	12%	27%
Award credit for prior learning (CDA, non-college training)	83%	44%	63%	29%	19%	20%

2.2 ACCESS TO PROFESSIONAL DEVELOPMENT OPPORTUNITIES

As the *Report of the Early Education and Care Advisory Committee* noted, the majority of the current early education and care workforce are adult learners, many of whom have been out of formal schooling for several years and all of whom are currently employed; IHE programs serving will need to continue to respond to the needs of adult learners. The current early education and care workforce is also diverse, with many members of the workforce speaking a language other than English and requiring specific supports. Recognizing these and other issues, the *Report of the Early Education and Care Advisory Committee* recommended that the Department of Early Education and Care (Recommendation WF6):

Facilitate access to higher education and on-going professional development opportunities for all sectors of the early education and care workforce. In particular, accommodate for:

- the limited financial resources of the workforce;
- the need for career counseling;
- the need for general academic and literacy support;
- language barriers found in a diverse workforce;

- the unique needs of adult learners; and
- scheduling and location difficulties.

In this section of the report, we summarize the findings of the IHE Capacity Survey on current efforts to facilitate access to professional development; see Appendix B for detailed tables on challenges.¹

Adult Learners. While most students preparing for Prek-2 licensure (over 90%) or OST careers (82%) are traditional-aged students (ages 18-22), more than half of students enrolled in programs preparing students for ECE careers other than Prek-2 licensure are adult learner (60% of public IHE students and 71% of private IHE students).

Adult learners are likely to be employed, either part-time or full-time, while in school and/or to have other commitments, including families. These responsibilities constrain the school schedules of adult learners; alternative schedules and locations can increase the accessibility of higher education for adult learners. The *Report of the Early Education and Care Advisory Committee* recommended specific accommodations to support continued enrollment of adult learners, including evening and weekend courses, and courses delivered off-site or on-line.

Table 2.2 Challenges Faced by Adult Learners:
Proportion of Programs Reporting a Large Challenge in These Areas, by ECE (including Prek-2 licensure programs) and OST Fields [1]

Certificate or Degree:	Certificate & Associates			Bachelors			Masters	
	Public ECE	Private ECE	OST	Public ECE	Private ECE	OST	Public ECE	Private ECE
Public/Private IHE:								
Number of Programs	35	16	9	8	28	11	12	9
Students' competing family-related responsibilities	77%	31%	56%	25%	14%	36%	67%	22%
Students' competing work-related responsibilities	83%	31%	56%	13%	25%	55%	50%	33%
Difficulty attracting & retaining faculty willing to work in non-traditional ways [2]	6%	6%	0	25%	18%	0	25%	22%

[1] Programs that prepare students to work in the ECE field, include programs that prepare for Prek-2 licensure as well as programs that prepare for EEC licensure and other careers with children 0-5 years. Programs that prepare students to work in the OST field include programs that prepare for school-age programs and youth work. We did not have sufficient data from the Masters-level OST programs to include those programs in this table.

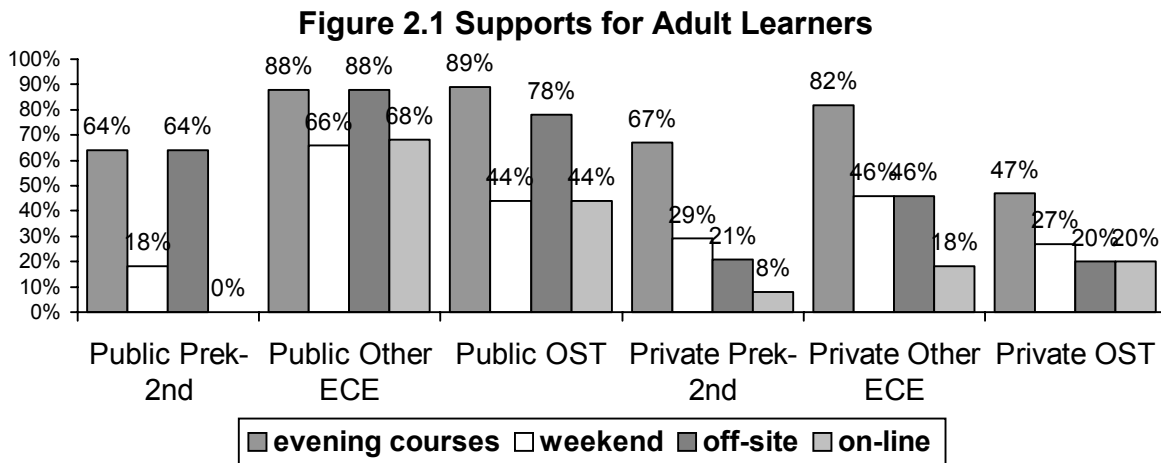
[2] e.g., teaching in the evenings, on weekends, or off-site)

¹ Data on student and program characteristics are organized by career and sector – public prek-2, public other ECE, etc. – because characteristics vary across these categories. Data on challenges are grouped at the level of sector (public vs. private) and degree awarded, because challenges vary across these categories.

The IHE survey asked whether students face challenges from competing family- or work-related responses, and whether programs have difficulty recruiting faculty to teach evenings and weekends, or off-site. Students competing responsibilities are a significant problem for more than three quarters of community college (public IHE Certificate and Associates) ECE programs and half of community college OST programs, and two-thirds of public IHE ECE Masters programs.

An important, but smaller proportion, of other programs also report that this is an issue. While most community colleges report less difficulty recruiting faculty to teach in non-traditional ways, about one-quarter of Bachelors and Masters-level ECE programs report that this is a significant challenge.

Most programs report offering evening courses (See Figure 2.1), with about two-thirds of programs preparing students for Prek-2 licensure offering evening courses, half of private IHEs OST programs and more than 80% of other programs offering evening courses. Weekend courses are more often available in public IHE programs whose students are preparing for ECE careers other than Prek-2 licensure, and in public OST programs rather than private OST programs.



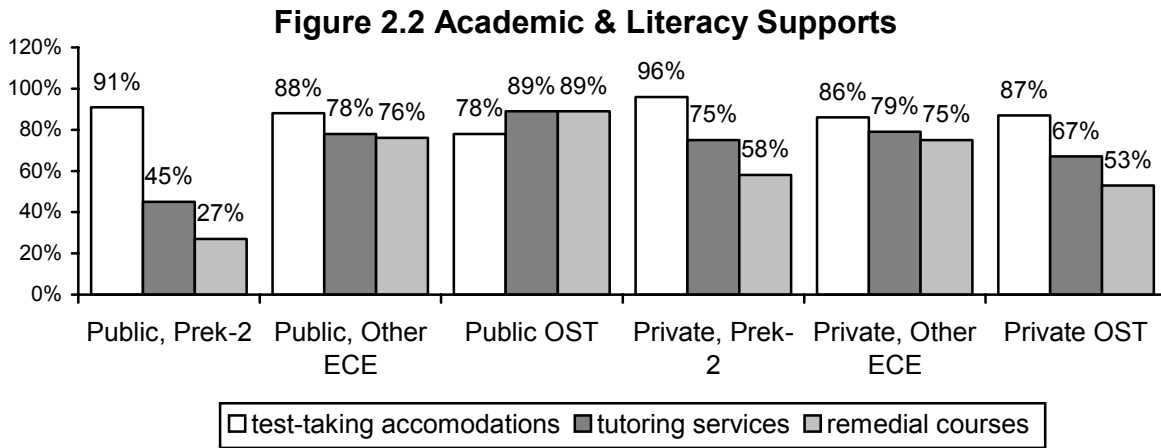
The majority of public IHE programs offer courses off-site, at locations other than the main campus; private IHE programs are less likely to do so. While many schools are exploring distance learning options, few programs currently offer on-line courses for credit, with the exception of public IHE programs preparing students for ECE careers other than Prek-2 licensure; two-thirds of these programs offer on-line courses for credit.

Table 2.3 Academic Challenges Faced by Students:
Proportion of Programs Reporting a Large Challenge in These Areas

Certificate or Degree:	Certificate & Associates			Bachelors			Masters	
	Public ECE	Private ECE	OST	Public ECE	Private ECE	OST	Public ECE	Private ECE
Number of Programs	35	16	9	8	28	11	12	9
Lack of student motivation	20%	25%	0%	13%	11%	9%	0%	0%
Students' lack of academic preparation or skill	69%	56%	33%	13%	29%	27%	8%	11%
Lack of needed remedial courses for students	0%	6%	0%	13%	0%	0%	0%	0%

Academic and Literacy Supports. The majority of ECE Certificate and Associates programs, in both public and private IHEs, report that students' lack of academic preparation or skill is a

significant challenge. One third of OST Certificate and Associates programs and more than a quarter of private IHE ECE Bachelors programs, but only one in eight of the public IHE ECE Bachelors' programs, report that lack of preparation is a problem (see Table 2.3).



The majority of programs offer test-taking accommodations, tutoring and remedial courses to their students (see Figure 2.2). However, public OST programs and public and private programs preparing students for ECE careers other than Prek-2 licensure are more likely to offer these supports than are public programs preparing students for Prek-2 licensure. In fact, only 45% of public IHE programs preparing students for Prek-2 licensure offer tutoring, and only 25% of such programs offer remedial courses. However, across all programs, most do not offer remedial courses for credit (data not shown).

Diversity Support. The current enrollments of Massachusetts IHEs reflect much of the diversity of the current ECE workforce. However, students of color are more likely to be enrolled in programs preparing them for OST or ECE careers other than Prek-2 licensure. Programs also report that 20% of their students speak English as a second language – programs preparing students for ECE careers other than Prek-2 licensure or for OST careers, particularly in private IHEs, are more likely to enroll students who speak English as a second language than are programs preparing students for Prek-2 licensure.

Table 2.4 Race/Ethnicity and Language of Enrolled Students

	Public Public Prek-2	Public Other ECE	Public Public OST	Private Private Prek-2	Private Other ECE	Private Private OST
Race/Ethnicity of Students						
- N programs reporting	14	31	7	28	33	10
Proportion of students who are:						
White	92%	76%	59%	83%	47%	69%
Black	2%	6%	16%	7%	16%	17%
Hispanic	4%	11%	14%	4%	23%	7%
Asian	1%	3%	4%	1%	10%	4%
Other	1%	4%	0%	5%	4%	0%
English as a second language						
- N programs reporting	6	14	5	9	16	8
Proportion of students who speak English as a second language:	4%	13%	13%	3%	36%	17%

Public IHE ECE programs are more likely than private IHE ECE programs and OST programs to report considerable difficulty responding to the needs of their non-English speaking students, and attracting and retaining an ethnically- and linguistically-diverse faculty. However, one-third of Bachelors-level ECE programs in private IHEs report attracting and retaining a diverse faculty is a significant challenge; one-third of Bachelors-level OST programs report that attracting and retaining linguistically diverse faculty is difficult.

Private IHE programs are more likely to offer courses for credit in languages other than English – one-quarter of private IHE ECE programs and one-fifth of private IHE OST programs do so, compared to 11% of public IHE ECE programs, and none of the public IHE OST programs.

Table 2.5 Challenges Faced by Programs in Responding to Diversity:

Proportion of Programs Reporting a Large Challenge in These Areas

Certificate or Degree:	Certificate & Associates			Bachelors			Masters	
	Public ECE	Private ECE	OST	Public ECE	Private ECE	OST	Public ECE	Private ECE
Public/Private IHE:								
Number of Programs	35	16	9	8	28	11	12	9
Difficulty responding to the needs of non-English speakers	29%	0%	11%	25%	7%	9%	25%	0%
Difficulty attracting and retaining ethnically diverse faculty	49%	13%	0%	63%	36%	18%	83%	11%
Difficulty attracting and retaining linguistically diverse faculty	49%	13%	11%	75%	32%	36%	83%	22%

2.3 CORE COMPETENCIES AND CURRENT COURSEWORK

The Early Education and Care Advisory Committee recommended that the Department of EEC “Identify system-wide core competencies – the knowledge and skills needed to provide quality education and care to children (birth through school-age) – that reflect current research and best practices and can align with national, industry and higher-education standards.” (*Recommendation WF2*) . The Report of the Massachusetts Early Education and Care Council recommended that the Department of EEC:

Develop core competencies that are integrated into coordinated professional credentialing, licensing and training processes for early education and care staff (public school and child care center-based staff).

Training, whether preservice or inservice, should be based on core competencies. Core competencies are a set of essential knowledge and observable skills that individuals should know and be able to demonstrate in order to provide quality services to young children and their families. Early education and care core competencies are key to ensuring that coursework and/or professional credentials are linked to a specific body of knowledge. - *The Report of the Massachusetts Early Education and Care Council*, page 11.

Core Competencies can be tied to career ladders or lattices, with particular knowledge and skills specified from entry level to advanced levels of academic preparation and experience. Several states that have developed core competencies for the early education and care workforce have used the career ladder approach, specifying knowledge and skills at each level.¹

¹ See *Kansas and Missouri Core Competencies for Early Care and Education Professionals; Core Body of Knowledge for Best Practices*, by The Iowa Early Care & Education Professional Development Project; New Jersey’s *Core Knowledge and Competency*

Core competencies may be used by IHEs to link coursework and professional credentials to agreed-upon professional standards. Core competencies may also be used to coordinate course content to facilitate transfer and articulation agreements. While core competencies are relevant across all levels of professional credentialing, the coursework and other requirements linked to the core competencies will vary with the credential.

Massachusetts has developed the *Early Childhood Program Standards for 3 and 4 Year-Olds* and the *Guidelines for Preschool Learning Experiences*

Based on the MA Curriculum Frameworks, approved by the Board of Education in Spring 2003, which are positive steps toward establishing core competencies for the early care and education workforce. In the absence of formal core competencies for Massachusetts, we have reviewed the existing Massachusetts standards and guidelines, the National Association for the Education of Young Children (NAEYC) standards for programs that prepare early childhood professionals, the CDA Competency Standards of the Council for Early Childhood Professional Recognition, as well as model initiatives from other states¹. For OST core competencies we relied on Competency Framework established by Achieve Boston and the Massachusetts School-Age Coalition. We identified several commonly-cited

competency areas; we use this framework in our discussion of current coursework offerings at Massachusetts IHEs. While the Core Competencies that are being developed for the state of Massachusetts may well differ from this framework, our hope is that this discussion of current coursework will facilitate the process of *integrating core competencies into coordinated professional credentialing and training processes for early education and care staff*, as recommended by the Massachusetts Early Education and Care Council.

Training, whether preservice or inservice, should be based on core competencies. Core competencies are a set of essential knowledge and observable skills that individuals should know and be able to demonstrate in order to provide quality services to young children and their families. Early education and care core competencies are key to ensuring that coursework and/or professional credentials are linked to a specific body of knowledge. - *The Report of the Massachusetts Early Education and Care Council*

Core Competencies in ECE

As part of the IHE survey, we asked programs to indicate which of a list of topics were covered either as required courses, or as one or more classes in a required course. These courses are grouped into nine Core Competencies: Child Development; Health, Safety and Nutrition; Curriculum; Relationships; Families and Communities; Cultural Competence; Program Management; Observation and Assessment; and Professionalism. Appendix Table B2.1 lists the course topics in the IHE survey associated with each of these core competencies.

We describe below each of these core competencies as applicable to early care and education for infants, toddlers and preschoolers, and report the results of the IHE survey on required coursework in these areas (see Table 2.6). For detailed tables of required coursework, see Appendix B, Table B2.1.

There is strong consensus on the importance of *required courses* in four of the Core Competencies – Child Development; Relationships; Program Management and Observation and Assessment – these four areas are described first. Associates-level programs (most of which are located in community colleges) are more likely to require full courses in the Child Development and Relationships competency areas than are Bachelors or Masters-level programs. Bachelors- and Masters-level programs are more likely than Associates or Certificate programs to require a full

Areas: *Professional Standards for Adults Working with Young Children Birth through Age Eight and In Out-of-School-Time Programs*; and *Connecticut Charts a Course Core Areas of Knowledge and Career Ladder*

¹ Including the Illinois Articulation Initiative, West Virginia Core Knowledge and Core Competencies for ECE Professionals and Delaware First Competencies for Center-Based Practitioners.

course in the Program Management competency area. These differences are consistent with the career expectations for their students, and may also reflect the involvement of community colleges in initiatives such as Advancing the Field.

Table 2.6 Required Classes and Courses, by ECE Certificate and Degree:
Percent of programs requiring a class or a course in specific competency areas

	Certificates	Associates	Bachelors Prek-2	Bachelors- Other	Masters- Prek-2	Masters- Other
Child Development						
Class	90%	83%	88%	90%	92%	89%
Course	90%	93%	92%	90%	92%	67%
Curriculum						
Class	81%	76%	46%	40%	42%	44%
Course	62%	86%	88%	80%	100%	78%
Relationships						
Class	86%	93%	85%	90%	100%	89%
Course	57%	69%	69%	80%	50%	78%
Program Management						
Class	81%	93%	85%	70%	92%	89%
Course	43%	55%	50%	70%	67%	67%
Observation & Assessment						
Class	62%	41%	54%	60%	50%	33%
Course	43%	59%	46%	40%	50%	56%
Health, Safety and Nutrition						
Class	57%	52%	77%	50%	83%	67%
Course	38%	45%	23%	40%	17%	11%
Families and Community						
Class	57%	45%	81%	50%	83%	44%
Course	38%	52%	19%	40%	17%	33%
Cultural Competence						
Class	76%	90%	85%	100%	92%	78%
Course	33%	31%	35%	40%	42%	33%
Professionalism						
Class	90%	83%	88%	90%	92%	89%
Course	29%	55%	12%	10%	0%	33%

Child Development. The Child Development Core Competency requires that ECE professionals understand children’s development, including developmental theory, the latest research on development and variations in development, and the factors related to children’s development, and be able to translate this understanding into practice. For example, the NAEYC standards state:

Well-prepared early childhood professionals understand what young children are like; understand what influences their development; and use this understanding to create great environments where all children can thrive. This standard emphasizes knowledge of the range of influences on child development—including cultural contexts, economic conditions, health status, and learning styles—and an ability to apply knowledge to improve social interactions, assessment, instruction, and more.

There is strong consensus across programs and degrees that one or more courses in child development are necessary. Within this Core Competency area, more than one quarter of the programs require at least one course in the education and care of infants and toddlers.

Curriculum. The Massachusetts *Early Childhood Program Standards* defines curriculum as “everything staff do with children” and states that:

A well-balanced curriculum supports the development of all children socially, emotionally, physically, and intellectually. The curriculum should be designed for active involvement by children in the learning process, recognizing that young children learn through play, active manipulation of the environment, concrete experiences, and communicating with peers and adults. The curriculum should provide a variety of activities and materials to encourage behaviors appropriate to each child’s age, background, stage of development, and individual needs, including adaptations for children with disabilities.

The Massachusetts EEC *Guidelines for Preschool Learning Experiences* “provide ideas for learning experiences that preschool staff can use to design a multitude of foundational learning experiences for young children” and “structures learning through play and meaningful activities in a developmental sequence.” These learning activities are described in six curriculum areas: Guiding Learning in English Language Arts, Guiding Learning in Mathematics, Guiding Learning in Science and Technology/Engineering, Guiding Learning in History and Social Science, Guiding Learning in Health Education, and Guiding Learning in the Arts. The *Guidelines* state that, “The mark of a superior teacher is the ability to select materials and interact with children in ways that help them learn through their own play and these planned activities.”

To meet these Program Standards and Early Learning Guidelines, professionals need core knowledge and competencies in curriculum. The West Virginia *Core Knowledge and Core Competencies for Early Care and Education Professionals* describes this core knowledge and competencies:

Effective early care and education professionals know and understand how to design, implement, and evaluate environments and experiences that use developmentally appropriate approaches to learning. Early educators purposefully guide young children’s learning and development through integration of all domains of development and content areas. Early care and education professionals know how to develop effective curriculum by building on each child’s interests, needs, and abilities.

There is strong consensus across programs and degrees that one or more curriculum courses are necessary, with at least ¾ of programs at the Associates, Bachelors and Masters-level requiring at least one course. More than half of Certificate programs require at least one course on curriculum and four out of five programs require at least one class session in a required course.

Relationships. As the Massachusetts EEC *Program Standards* state: “Positive interactions both between staff and children and among children provide a strong foundation for children’s social, emotional, and language development. A positive and nurturing climate is established when staff make time to talk individually with children during the course of a day and interact respectfully with all children; when children have opportunities to play and explore together, and when children are guided in positive peer interactions and behavior management strategies.”

Programs at all degree levels are more likely to require a class within a required course than to require a complete course in the Relationships Core Competency area.

Program Management. To provide an environment that supports young children’s growth and development, professionals responsible for program management must understand the importance of interactions among staff and between staff and program leaders, effective management of both financial and human resources, the relevant regulations, standards and policies, and how to organize a quality environment for children within the framework of available resources and existing standards. For example, the West Virginia *Core Knowledge and Core Competencies For Early Care and Education Professionals* states that ECE professionals require competencies in professional interactions, leadership, organizational management, financial management, human resources management, regulations, policies and quality standards and program philosophy and evaluation.

Bachelors programs preparing graduates for Prek-2 licensure, as well as Certificate and Associates programs, are more likely to require a class within a required course than a full course on program management. However, 70% of Bachelors programs preparing graduates for employment in other ECE settings, as well as two-thirds of Masters programs, require a full course in program management.

Observation and Assessment. The Massachusetts EEC *Program Standards* state that: “The purpose of assessment is to help teachers plan appropriate activities for each child. Assessment should be ongoing, systematic, extracted from natural play activities, and cumulative.” The NAEYC standards state that:

Well-prepared early childhood professionals understand the purposes of assessment; use effective assessment strategies; and use assessment responsibly to positively influence children’s development and learning. Good assessment practices measure what is developmentally and educationally significant in order to guide decisions about curriculum and instruction.

Between 40% and 60% of programs at each degree level require at least one course on observation and assessment of young children.

Health, Safety and Nutrition. Core Competencies that address Health, Safety and Nutrition include knowledge and behaviors that support young children’s physical health, gross and fine motor development, safety in the physical environment, and proper nutrition to support children’s growth and development. For example, the Massachusetts EEC *Program Standards* include: “The program will be operated in a manner that enhances the health and safety of children, protects them from abuse and neglect, and educates staff, children and families concerning health and safety practices” and “Children are provided with experiences that promote adequate nutrition and good eating habits. Food and beverages are stored, prepared, and served in a manner that ensures that it is free from spoilage and safe for human consumption.” In addition, the Massachusetts EEC *Guidelines for Preschool Learning Experiences* recommend that “At the preschool level, there should be strong emphasis on both gross and fine motor development activities. Developing the large muscles will give support to the small muscles in the hands and fingers. Outdoor play should be an integral part of the daily curriculum, all year and in all seasons,

and should be viewed as an opportunity for learning. Activities that promote sound physical development help children develop both skills and confidence in using their bodies and the equipment they play with.”

Our IHE survey asked about only one topic in the Health, Safety and Nutrition competency area – physical health and motor development. ***The majority of programs preparing graduates for Prek-2 licensure include at least one class in a required course on this topic (see Table 2.1.3). Among community college programs and Bachelors-level programs preparing graduates for ECE careers other than Prek-2 licensure, two in five programs require a full course in physical health and motor development, and half require at least one class in a required course.***

Families and Community. The Families and Community Core Competency recognizes the role of families in children’s development and the importance of connections to community. For example, the NAEYC standards state:

Well-prepared early childhood professionals understand and value children’s families and communities; create respectful, reciprocal relationships; and involve all families in their children’s development and learning. This standard emphasizes that respectful relationships with all families—whatever their structure, language, ethnicity, and child’s ability or disability—are the foundation of early childhood education.

Four out of five programs preparing their graduates for Prek-2 licensure require at least one class within a required course on working with families. Programs preparing their graduates to work in other ECE fields are more likely to require a full course in working with families than are programs preparing their graduates for Prek-2 licensure.

Cultural Competence. Cultural Competence requires an understanding of cultural differences and of inclusion principles and techniques, including: anti-bias and culturally-relevant programming; multicultural activities; and an understanding of diverse family structures (including step-families, same-sex parents, adoptive families and extended families). It also includes outreach to diverse communities and inclusion of children, families and staff from diverse backgrounds (*Achieve Boston’s Competency Framework*).

Cultural competence is important in our diverse society. At least three-quarters of IHE programs at each degree level require one or more class sessions on working with children and families from diverse ethnic or cultural backgrounds and/or working with bilingual children or children learning English as a second language. In addition, at least one-third of programs at each degree level require a full course.

Professionalism. The NAEYC standards state that:

Well-prepared early childhood professionals identify themselves with the early childhood profession; use ethical, professional standards; demonstrate self-motivated, ongoing learning; collaborate; think reflectively and critically; and advocate for children, families, and the profession. Early childhood professionals provide one of the most important services to society; they must understand and cultivate their role as professionals doing critical work.

Almost all programs require at least one class session within a required course on professionalism. Over half of Associates programs, and one-third of Masters programs preparing their graduates for employment in other ECE fields, require a full course on topics in professionalism, such as confidentiality, ethics, and codes of conduct.

Practicum Requirements. Most programs preparing graduates for careers in ECE include a practicum as part of the requirements for graduation. Practica – supervised experience working with children in early education and care settings – provide students the opportunity to put their classroom learning into practice and to receive feedback on their competencies from their supervisor. However, for adult learners who are already employed, traditional practicum requirements may conflict with work schedules. Some have argued for the option of receiving credit at the student’s place of employment. While this has some positive aspects, it raises issues around the quality of the place of employment as a practicum placement, and of the on-site supervision and mentoring.

Recognizing both the importance of the practicum requirement and the difficulties adult learners face, The Early Education and Care Advisory Committee observed:

“Field experiences and practica must be able to be accomplished or partially accomplished in people’s place of employment. The early education and care workforce cannot financially afford to take a leave from their job to fulfill every current practica requirement. Opportunities to document evidence of attainment of core competencies will be crucial in this area. The use and integration of lab schools and/or campus early education and care programs should be considered in determining required field experiences. The lab schools serve an important role in preservice coursework and may or may not be appropriate as practica placements for early education and care providers who are employed in other settings. Additionally, vocational technical high schools should be included when looking at programs.” (Page 39 of the EECAC Report)

Table 2.7 ECE Practicum Requirements, by Public/Private IHE and Degree- Percent of programs

	Public Associates	Private Associates	Public Bachelors	Private Bachelors
N Programs Responding	20	9	8	28
Practicum Required	90%	89%	88%	86%
Students can use current work site	70%	44%	25%	54%
Lack of quality ECE practicum sites	37%	0%	0%	7%
Practicum in:				
Infants/Toddlers	45%	33%	13%	14%
Preschool-age ¹	85%	89%	88%	71%
School-age	25%	11%	63%	54%
Children with special needs	35%	44%	88%	64%
Children who are bilingual or learning English as a second language	30%	22%	63%	18%
Families	45%	56%	88%	36%

¹ Some programs allow students to satisfy the preschool-age practicum requirement in a kindergarten classroom.

Almost all Associates- and Bachelors-level programs require a practicum (see Table 2.1.3); the majority (70%) of community colleges (Public Associates) allow students to use their current work site to satisfy the practicum requirement. About half of Bachelors-level programs, in public and private IHEs also allow this. However, one-third of community colleges report considerable difficulty finding quality ECE practicum sites.

The majority of programs require a practicum that provides experience with preschool-aged (3-5 years) children. A significant proportion of programs require practica with other age groups, with children with special needs, or with children who are bilingual or learning English as a second language.

Core Competencies in OST

One-third of OST programs awarding Certificates or Associates degrees, and more than one in six OST programs awarding Bachelors degrees, report significant concerns about the lack of professional requirements in the field. The development of core competencies, as part of a career lattice that addressed the range of roles within OST and progression from entry level to advanced professional levels, would address this concern.

As part of the IHE survey, we asked programs to indicate which of a list of topics were covered either as required courses, or as one or more classes in a required course. These courses are grouped into nine core competencies: Child & Youth Development; Health, Safety, and Nutrition; Building Caring Relationships; Environment; Cultural Competence; Families, Schools & Community; Curriculum; Professionalism; and Program Management.

We describe below each of the core competencies as applicable to the out-of-school-time (OST) workforce, including school-age programs and youth work. Table 2.8 reports the results of the IHE survey on required coursework in these areas from 23 programs preparing the OST workforce. For detailed tables of required coursework, see Appendix B, Table B2.2.¹

Child & Youth Development. The *Competency Framework* recommends that OST professionals “understand comprehensive child and youth development, including developmental stages, children and youth with special needs, competencies, and positive youth outcomes.”

Competencies in child and youth development are clearly central to OST professional development; almost every program requires a course in the child and youth development area.

Health, Safety and Nutrition. The *Competency Framework* recommends that OST professionals develop knowledge and skills in health, safety and nutrition, including understanding how to maintain personal health and safety, wellness and exercise, nutrition, prevention information, crisis intervention, CPR and First Aid. It also includes knowledge and skills in worker safety and in risk prevention – HIV/AIDS, teen pregnancy, abuse, drugs and alcohol.

In this area, most programs require a class session in a required course; half of the programs at the Certificate, Associates and Masters level require at least one full course in health, safety and nutrition.

¹ The OST Core Competencies are based on *Achieve Boston's Competency Framework*, which have been modified to align with the ECE core competencies used to discuss the results of the ECE IHE survey.

Table 2.8 Number of OST Programs Requiring Coursework in Core Competency Areas, by Certificate or Degree Level

Core Competency	Required: ¹	Certificate	Associate	Bachelors	Masters
Number of Programs Responding		8	2	11	2
Child & Youth Development	Class	8	2	10	2
	Course	7	2	10	2
Health, Safety, and Nutrition	Class	7	2	9	1
	Course	4	1	4	1
Curriculum	Class	5	2	10	2
	Course	6	2	7	1
Environment	Class	5	1	5	2
	Course	2	1	3	0
Building Caring Relationships	Class	6	1	9	1
	Course	5	2	5	1
Families, Schools & Community	Class	6	1	10	2
	Course	5	2	8	1
Cultural Competence	Class	7	2	11	1
	Course	2	2	4	1
Program Management	Class	8	2	7	1
	Course	6	2	8	2
Professionalism	Class	5	1	7	1
	Course	2	1	4	0

¹ IHEs were asked if the program required a class session within a required course (“class”), or if they required a complete course (“course”) in any of a list of topics. The numbers in this table represent the number of programs that required any course in the specified competency area.

Curriculum. The *Competency Framework* emphasizes the importance of “a well-balanced structure where activities promote life skills and enhance the physical, cognitive, social, and emotional development of all children and youth, including those with special needs.” The *Competency Framework* recommends knowledge and skills in developmentally-appropriate and balanced programming; science, literacy, games, art, math, and multicultural activities; team building and group dynamics; community service/service learning; physical fitness; encouraging youth participation; activity planning – webbing, themes, structuring activities, project-based learning; community resources; critical thinking and work-based learning.

The majority of programs at the Certificate and Associates level require at least one course in curriculum development and implementation. Almost two-thirds of Bachelors programs and half of Masters’ programs also require a course in this area; almost all programs at this level require at least a class session in a required course.

Environment. The *Competency Framework* recognizes that “A carefully planned learning environment fosters children and youth’s involvement and development in all areas. Such an environment includes physical and human qualities that together promote self-esteem, social interaction, and community values, and address physical and mental boundaries while promoting cultural awareness and inclusion. The *Competency Framework* recommends that OST

professionals develop knowledge and skills in space design – facilities, décor; age-appropriate materials/supplies, furniture, equipment; print-rich environment – using the environment to promote literacy; and working in shared space – unique challenges and strategies.

Most of the programs do not require a course in this area, but the majority of programs, particularly at the Certificate level, require at least one class session in a required course in learning environments.

Building Caring Relationships. The *Competency Framework* recommends that OST professionals develop knowledge and skills in establishing strong relationships, establishing trust, communication skills, positive guidance techniques, peace-making activities and conflict resolution and mediation.

All programs at the Associates level require at least one course in relationship building. Programs at the Certificate and Bachelors level are more likely to require a class within a required course than to require a complete course in this area.

Families, Schools & Community. The *Competency Framework* recognizes that coordination and information sharing among schools, families, and after-school providers/youth workers helps to create a supportive learning environment for children and youth. The *Competency Framework* recommends that OST professionals develop the knowledge and skills to create and sustain relationships with families, teachers, and other school personnel, which are essential to enhancing the quality of after-school and youth services.

The majority of OST programs require a course in the competency area of Families, Schools & Community.

Cultural Competence. Cultural Competence requires an understanding of cultural differences and of inclusion principles and techniques, including: anti-bias and culturally-relevant programming; multicultural activities; and an understanding of diverse family structures (including step-families, same-sex parents, adoptive families and extended families). It also includes outreach to diverse communities and inclusion of children, families and staff from diverse backgrounds (*Competency Framework*).

While the two Associates-level programs require a full course in this area, most programs require only one or more class sessions on working with children and families from diverse ethnic or cultural backgrounds and/or working with bilingual children or children learning English as a second language, as part of a required course.

Program Management. The *Competency Framework* recommends that OST professionals develop knowledge and skills in policies and procedures; supervision of staff; fiscal management; teambuilding; program planning, development, implementation, and evaluation.

Almost all of the programs require one or more courses in the competency area of Program Management.

Professionalism. The *Competency Framework* defines Professionalism as :Understanding one’s role in the organization, professional boundaries, and professional advancement.” OST professionals need knowledge of, and skills in, core competencies, self-awareness, career development, ethics, boundaries, and professional development portfolios.

More than half of the programs require at least one class session within a required course on professionalism. Fewer than one-third of programs require a full course on topics in professionalism, such as confidentiality, ethics, and codes of conduct.

Practicum Requirements. Most OST programs (87%) include a practicum as part of the requirements for graduation. Almost all programs (83%) allow students to use their current work site to satisfy the practicum requirement. Some programs require a practicum that provides experience with school-aged children or youth work, with children with special needs, or with children who are bilingual or learning English as a second language.

Table 2.9 Practicum Requirements, by Public/Private IHE and OST Degree:
Percent of programs

	Public	Private
N Programs Responding	9	14
Practicum Required	100%	79%
Students can use current work site	100%	71%
Practicum in:		
School-age	22%	50%
Youth work	44%	42%
Children with special needs	44%	14%
Children who are bilingual or learning English as a second language	11%	7%

2.4 RECOGNITION AND REWARD SYSTEMS

A key component of all comprehensive systems with career ladders is the recognition of advancement through increased rewards – primarily increased compensation as individuals move up the ladder. As in most other fields, salary and benefits are a significant consideration when early childhood educators are preparing for and planning their careers. Unfortunately, as several reports have shown, educators in some sectors of the field receive pay that is low compared to their counterparts in public schools and other sectors. According to a 2003 report published by the Center for the Study of Child Care Employment (Whitebook & Sakai, 2003), “the low wages that characterize child care employment have been identified as the strongest predictor of instability among teaching staff.”¹

¹ Among the most replicated policy initiatives related to professional development and compensation is North Carolina’s TEACH. North Carolina’s Teacher Education And Compensation Helps (TEACH) Early Childhood Project was launched in 1990, and has since been replicated in 21 other states. The TEACH initiative is attractive as a policy because it addresses the needs of the individual and the field by linking scholarships, educational attainment, increased compensation, and a commitment by the participant to remain in the field for a minimum amount of time (retention).

Table 2.10 Compensation and Employment Opportunities:
Proportion of Programs Reporting a Large Challenge in These Areas

Certificate or Degree:	Certificate & Associates			Bachelors			Masters	
	Public ECE	Private ECE	OST	Public ECE	Private ECE	OST	Public ECE	Private ECE
Public/Private IHE:								
Number of Programs	35	16	9	8	28	11	12	9
Difficulty attracting & keeping students due to poor working conditions or wages in the field	51%	25%	11%	63%	25%	27%	33%	44%
Insufficient enrollment to support courses offered	17%	13%	33%	13%	21%	18%	33%	11%
Difficulties faced by graduates finding jobs in the field	14%	6%	0%	13%	4%	0%	25%	11%

The current compensation and related working conditions have a direct impact on the ability of IHEs to recruit and retain students for careers in early education and care. Half of public IHE ECE programs at the Certificate and Associates level, and almost two-thirds at the Bachelors level, report difficulty attracting and keeping students due to poor working conditions or low wages in the ECE field; from 13% to 33% of ECE programs report significant concerns about insufficient enrollment to support the courses offered. One-third of OST programs at the Certificate or Associates level report similar concerns about enrollments. At the other end of the pipeline, one in eight of public IHE ECE programs, and one-quarter at the Masters level, report that the difficulties faced by graduates finding jobs in the field are a significant challenge.

2.5 ADEQUATE FUNDING

A fourth key element of a professional development system is adequate funding – adequate funding to support students enrolled in IHEs and community-based non-credit training programs, and adequate funding to support IHEs.

Financial Support for Students. Tuition and fees in 2003-2004 averaged \$6,801 at the University of Massachusetts, \$4,590 at Massachusetts state colleges and \$3,265 at Massachusetts community colleges.¹ Tuition and fees at private 4-year IHEs offering ECE programs averaged \$21,891 for 2003-2004.²

Students attending private IHEs are more likely to receive financial aid than are students attending public IHEs (Among public IHEs, 47% of ECE students and 57% of OST students, compared to 66% of ECE students and 75% of OST students at private IHEs), perhaps reflecting the higher tuitions and expenses of many private IHEs.

However, even with lower in-state tuitions at public IHEs, 80% of public IHE Certificate- and Associates-level programs, 50% of public Bachelors-level programs, and 67% of public OST programs report that lack of financial support or scholarships for students is a significant challenge. By comparison, 44% of private IHE Certificate- and Associates-level programs, 21% of private Bachelors-level programs, and 15% of private OST programs report that lack of financial support or scholarships for students is a significant challenge.

Financial Support for IHEs. ECE and OST programs in Massachusetts IHEs require funding beyond that provided by student tuitions to provide the programming needed to prepare an EEC

¹ Massachusetts Board of Higher Education, *Tuition and Fees Trend Table – 1988-2004*, Accessed 9/22/05 at http://www.mass.edu/p_p/home.asp?id=3&iid=3.11

² Data calculated from The Integrated Postsecondary Education Data System (IPEDS), of the National Center for Education Statistics, U.S. Department of Education. Accessed 9/22/05 at <http://nces.ed.gov/ipeds/>

workforce with the core competencies needed to ensure that all children receive quality early education and care. Adequate funding enables programs to hire sufficient numbers of qualified faculty, the backbone of IHE programs.

Table 2.11 Faculty Challenges:
Proportion of Programs Reporting a Large Challenge in These Areas

Certificate or Degree:	Certificate & Associates			Bachelors			Masters	
	Public ECE	Private ECE	OST	Public ECE	Private ECE	OST	Public ECE	Private ECE
Public/Private IHE:								
Number of Programs	35	16	9	8	28	11	12	9
Lack of faculty in the department with expertise in the field	3%	13%	0%	13%	11%	36%	42%	22%
Lack of full-time faculty in program	40%	50%	22%	25%	25%	18%	58%	22%
Poor faculty working conditions and wages	31%	6%	0%	38%	14%	0%	58%	11%

While most programs, with the exception of public IHE Masters programs, report that faculty expertise in ECE or OST is not a major challenge, many programs report that programs have too few full-time faculty and that working conditions and wages are inadequate. Approximately half of Certificate and Associates ECE Programs, as well as public IHE Masters-level ECE programs, report that the lack of full-time faculty in the program is a significant challenge. One-third to one-half of public IHE ECE programs at all levels report that poor faculty working conditions and wages are a significant challenge as well.

2.6 SYSTEMIC PLANNING

The final element of a professional development system is systemic planning, which ensures that all the other elements work together. As in any system, improving one part of the system – such as regulations to raise the quality of the workforce by raising education standards – may create a crisis in another part of the system – as when there is insufficient capacity in education and training to prepare the workforce to meet the new regulations and lack of funding to support salaries for the EEC workforce that will attract and maintain a qualified workforce.

The Commonwealth is committed to “the development and implementation of a workforce development system designed to support the education, training and compensation of the early education and care workforce, including all center, family child care, infant, toddler, preschool and school-age providers.” (Chapter 205 of the Acts of 2004, Section 3(a)). Such a workforce development system is essential if we are to ensure that all of our children receive the quality of early education and care that has been demonstrated to support healthy development and school readiness.

III. RECOMMENDATIONS

Massachusetts has set ambitious goals for itself to raise the quality of early education and care, ensuring that all children enter school ready to learn, and that children's out-of-school-time is spent in activities that support their continuing learning and growth. The early education and care workforce is central to these efforts. Based on the results of the IHE Capacity Survey and the other research briefs of the Massachusetts Capacity Study, we endorse the following recommendations:

CAPACITY OF MASSACHUSETTS IHEs TO PREPARE THE EARLY EDUCATION AND CARE WORKFORCE

1. Expand the Capacity of Massachusetts IHEs and Establish Realistic Timetables for Implementation of Higher Workforce Standards.

One of the charges to the Department of EEC is to develop "a statewide, high-quality, voluntary, universally accessible preschool program" – professional development is essential to this effort. To meet the goal of preparing at least one teacher per classroom of 3-to-5 year old children, we have estimated that it would take a minimum of seven years for one teacher per classroom (centers, Head Starts and public preschools) to graduate with an Associates degree in ECE, and a minimum of 19 years for one teacher per classroom to graduate with a Bachelors degree in ECE.

However, EEC has been charged with overseeing "the development and implementation of a workforce development system designed to support the education, training and compensation of the early education and care workforce, including all center, family child care, infant, toddler, preschool and school-age providers (Chapter 205 of the Acts of 2004).

Including family child care providers requires additional IHE capacity, as well as a comprehensive system that integrates community-based non-credit training programs and IHE preparation, and allows providers a longer window in which to meet standards, because family child care providers, as a group, have less education than classroom teachers. We also noted that CDAs, and credit for prior learning including CDAs, are an important part of the career lattice for family child care providers (as well as the Head Start workforce).

Finally, considering infant and toddler providers and school-age providers in the professional development system presents additional challenges – there are fewer programs that focus specifically on preparing the infant/toddler workforce or the out-of-school-time workforce, and the current capacity is not sufficient to prepare the current workforce.

We recommend that EEC work with IHEs to establish a timetable for implementation of higher workforce standards, in conjunction with the expansion of IHE capacity to prepare the early education and care workforce, consistent with the educational needs of the workforce and the resources of Massachusetts IHEs.

2. Expand Articulation Agreements Among Public And Private IHEs And Community-Based Training Programs.

A necessary component of a career lattice is articulation at all levels of training and education. The Massachusetts Early Childhood Transfer Compact is designed to facilitate the transfer of credit from community colleges to public four-year institutions that prepare graduates for the Early Childhood Teacher (Prek-2nd grade) licensure in the public schools. We found that, while all public IHEs have signed the Early Childhood Compact, not all of the ECE programs in every institution are covered by the current Compact, which is specific to programs preparing graduates for public school licensure.

The Board of Higher Education is committed to expanding this Compact to non-licensure baccalaureate programs related to early childhood education. We encourage the Board to implement these plans.

In addition to the Early Childhood Transfer Compact, some programs have articulation

agreements with other institutions offering both degree-granting and training programs. We recommend that Massachusetts build on these efforts to create articulation agreements among public and private IHEs, as well as between community-based training programs and IHEs, and across sectors (Prek-2nd licensure as well as other EEC careers; ECE as well as OST careers).

3. Align Program Requirements With Core Competencies.

Core competencies - the knowledge and skills needed to provide quality early education and care - form the basis of a career lattice. When institutions of higher education and community-based training opportunities work from an agreed-upon set of core competencies, to which coursework and degree requirements are aligned, members of the workforce are able to progress through the career lattice with sequential learning opportunities that support the continuing development of knowledge and skills.

The current required coursework in both ECE and OST programs in Massachusetts IHEs reflects consensus on several core competencies. Among IHE ECE programs, there is clear consensus that required coursework should address core competencies in child development and curriculum – and strong agreement on core competencies in building caring relationships, program management and observation and assessment. Currently, only one-quarter or fewer of IHE ECE programs require courses in the core competencies of working with families and community, cultural competence, professionalism and health, safety and nutrition.

Among IHE OST programs, there is clear consensus that required coursework should address core competencies in child and youth development, program management, activities or curriculum, and working with families, schools and community – and strong agreement on core competencies in building caring relationships and health, safety, and nutrition. Currently, about one-third or fewer of IHE OST programs require courses in the core competencies of cultural competence, professionalism, and the physical environment of programs. We recommend that EEC work with IHEs and community training programs to align course requirements to agreed-upon core competencies.

DEVELOPING A COMPREHENSIVE PROFESSIONAL DEVELOPMENT SYSTEM

4. Develop a career lattice that allows for multiple points of entry, opportunities to move within the field and across settings, programs and age groups (birth through school-age), and opportunities to progress from entry level to advanced professional levels.

Massachusetts is committed to an early education and care delivery system that serves children from birth through school-age and in a variety of settings, including EEC-licensed early childhood centers, public school prekindergarten classrooms, Head Start and Early Head Start programs, family child care homes, DOE-supported 21st Century Community Learning Centers and After-School and Out-of-School Time programs and EEC-licensed after school programs. Reflecting the diverse needs of children and the diversity of settings, the current workforce consists of family child care providers, teachers, assistant teachers, paraprofessionals and aides working in classrooms, as well as program administrators, staff in Resource and Referral agencies, early intervention programs, home visitors, health and mental health services, etc. The current workforce is diverse in terms of race and ethnicity and in education and training.

A career lattice would allow Massachusetts to maintain the diversity of its service delivery system as well as the diversity of its workforce, while raising the qualifications of all sectors of the workforce.

5. Recognize and reward professional advancement with compensation and reimbursement tied to progress along the career lattice.

As in most other fields, salary and benefits are a significant consideration when early childhood educators are preparing for and planning their careers. Unfortunately, as several reports have shown, educators in some sectors of the field receive pay that is low compared to their

counterparts in public schools and other sectors; low wages contribute to the high rates of turnover in the EEC field.

The current low-levels of compensation and related working conditions also have a direct impact on the ability of IHEs to recruit and retain students for careers in early education and care. The majority of IHE programs in early childhood education report difficulty attracting and keeping students due to poor working conditions or low wages. Appropriate reimbursement would allow Massachusetts to attract and retain qualified professionals in early education and care.

6. Implement core competencies, birth to school-age, with age-appropriate indicators of each competency, for all roles within the early education and care field in all sectors.

Core competencies – the knowledge and skills needed to provide quality early education and care – are essential to the development of a comprehensive system of professional development. Massachusetts has an opportunity to build on existing efforts to utilize fully core competencies that are based on current research on child and youth development and that reflect the experience of key stakeholders in the field, including providers, resource and referral agencies and institutions of higher education.

7. Ensure entry to the professional development system by providing adequate funding for students (scholarships, financial aid), addressing issues related to practicum for currently-employed students, and providing adequate supports to adult learners.

The current workforce faces specific barriers to continuing their education, which were articulated in the *Report of the Early Education and Care Advisory Committee*. We found that more than half of students currently enrolled in programs preparing them for ECE careers other than Prek-2 licensure are adult learners, over the age of 22. These adult learners, who are likely to also be employed and/or have family responsibilities, and have been out of school for a few years, benefit from course schedules (evening and weekends) that reflect their circumstances, distance learning options, and academic and literacy supports.

Most programs preparing graduates for careers in ECE include a practicum as part of the requirements for graduation. Practica – supervised experience working with children in early education and care settings – provide students the opportunity to put their classroom learning into practice and to receive feedback on their competencies from their supervisor. However, for adult learners who are already employed, traditional practicum requirements may conflict with work schedules, necessitating flexible options that provide supervised experience in high quality settings while addressing the circumstances of adult learners.

For many students, given the rising costs of higher education, scholarships and financial aid are essential if they are to enter the professional development system. More than half of the public IHE programs report that lack of financial support or scholarships for their students is a problem. While students attending private IHE programs are more likely to receive financial aid than their peers in public IHE programs, one-quarter of private IHE programs still report that lack of financial aid is a problem.

8. Ensure the continuing diversity of the workforce. Provide greater opportunities for ethnically- and linguistically-diverse early education and care professionals, and address IHE concerns about the difficulties of recruiting and retaining ethnically- and linguistically-diverse faculty.

The current EEC workforce is racially and ethnically diverse, reflecting the race/ethnic characteristics of the children they serve. The current enrollment in IHE programs preparing students for careers in early childhood, other than Prek-2 licensure, or careers in OST, are equally diverse. However, one-quarter of public IHEs report difficulty responding to the needs of non-English speakers. In addition, more than 80% of students in IHE programs preparing students for Prek-2 licensure are White, raising concerns about the race/ethnic diversity of the future workforce in public school-based EEC programs.

9. Engage in systemic planning, coordinating changes in licensing regulations with increased capacity of IHEs and improved compensation and working conditions to recruit and maintain qualified early education and care professionals.

A comprehensive system of professional development must simultaneously address the inter-related goals of raising the qualifications of the EEC workforce, increasing the capacity of institutions of higher education to prepare students to meet these qualifications, and improving the compensation and working conditions needed to recruit and maintain this increasingly qualified workforce.

10. To facilitate this systemic planning, expand the EEC Professional Child Care Qualifications Registry to document the professional development (degrees awarded, courses taken, etc.) of the workforce to allow for ongoing assessment of the professional development needs of the workforce.

A professional development registry, which ECE and OST practitioners can access and update with their education and work history as they move through the career lattice, will facilitate systemic planning by providing information about workforce characteristics and career paths which will facilitate the planning and priority setting of policymakers and planners in EEC, higher education, resource and referral agencies and of other stakeholders.

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Appendix A: Survey Methods and Response Rates

Identifying Programs

We identified and reviewed 105 institutions of higher education operating in Massachusetts, using Department of Education lists as well as several online resources, including isleuth.com and the websites of individual IHEs. Within each of the 105 institutions, we identified Early Education and Care programs defined as those programs focused specifically on preparing students for employment in early education and care occupations (both ECE and OST), such as teacher, assistant teacher, provider, group leader, assistant group leader, program coordinator, director, administrator, resource and referral specialist, policy analyst, or researcher. We excluded programs whose sole focus was on preparing graduates for employment in elementary or higher levels of education, or in other child-related occupations, such as clinical work with children. We relied on the programs' own descriptions of their mission and/or the career options for graduates.

Of the 105 institutions of higher education (IHEs) operating in Massachusetts we identified 155 programs at 60 IHEs. Twelve programs were found to no longer exist or to have been incorrectly identified. Therefore, we surveyed 143 programs at 59 IHEs.

Survey Development

The IHE Survey was developed in cooperation with the Capacity Study Advisory Board and Achieve Boston. We developed versions of the survey for ECE programs and OST programs.

The ECE Survey. The ECE survey instrument used in this study were based on a survey developed by The National Center for Early Development and Learning (NCEDL), Frank Porter Graham Child Development Center of the University of North Carolina at Chapel Hill. NCEDL conducted a national Survey of Early Childhood Teacher Preparation Programs in Post Secondary Institutions, and created the Directory of Early Childhood Teacher Preparation Institutions. The NCEDL survey is available online at http://www.fpg.unc.edu/~ncedl/PDFs/IHE-teacher_prep_survey.pdf.

The NCEDL Survey of Early Childhood Teacher Preparation Programs was completed by Department chairs; each Department was asked to complete one survey for all programs within that department. While some departments had only one program, we found that many departments in Massachusetts IHEs had multiple programs. Therefore, we adapted the survey to be completed about individual programs.

We also created multiple versions of the survey so that each degree option was given its own survey to complete and allowed for multiple programs at the same degree levels to respond individually. For example, the Capacity Study asked departments that offered two Associates-level programs – for example, an *A.S. ECE Career Option*, and an *A.A. ECE Transfer Option* – to complete separate surveys for each program.

While we began with the NCEDL Survey, we adapted it for the Massachusetts context and added questions of interest to the Advisory Board. Specifically, we used all of the same NCEDL questions regarding early care and education coursework, and program challenges. We added additional questions about challenges faced by IHEs in Massachusetts; 40% of the questions on challenges in our IHE Survey were written specifically for Massachusetts. We also added a section of detailed questions on student supports.

The OST Survey. This same survey format was used in the survey of OST higher education programs. However, content was modified with input from Achieve Boston and the Higher

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Education Roundtable, hosted by the Program in Afterschool Education Research, to better reflect the OST field, needs, and interests.

Survey Methods

In the spring of 2005, the surveys were mailed to contact people at every program in the state with a cover letter explaining the purpose of the survey. We followed up with phone calls to programs. After the end of the spring term, members of the Advisory Board also contacted specific programs to encourage participation.

Response Rates of ECE programs. We surveyed 143 programs at 59 IHEs; 104 programs responded, for an initial response rate of 72.7%.

In addition, we received student enrollment and graduation data (but not completed surveys) from 13 programs at six IHEs. Also, through cooperation with The National Center for Early Development and Learning (NCEDL), Frank Porter Graham Child Development Center of the University of North Carolina at Chapel Hill, we were able to supplement our data set with data from 15 programs at seven IHEs that participated in NCEDL's Survey of Early Childhood Teacher Preparation Programs in Post Secondary Institutions.

Through all of these efforts, 92% of ECE higher education programs (132 programs) at 59 colleges participated in this study.

Response Rates of OST programs. We identified 26 programs at 14 IHEs; two programs were found to no longer exist or to have been incorrectly identified. Therefore, we surveyed 24 programs at 13 schools. All of the 24 programs returned their surveys, for a response rate of 100%.

Appendix B. Tables

Section I. Current Capacity of Massachusetts IHEs

Table B1.1 Number of Programs, Children Served and Teachers/Providers Serving 3-5 Year-olds

	Centers	Public Preschool	Head Start	FCC
Number of Programs	2,305 (1)	466 (3)	163 (4)	7,369 (6)
Number of Children	91,232 (2)	22,533 (3)	12,969 (5)	29,476 (7)
Number of Teachers/Providers	4,562 (8)	1,339 (4)	981 (5)	7,369 (6)

- 1 OCCS Research & Reports: Number of OCCS Licensed Programs (as of May 1, 2003). Accessed at <http://www.qualitychildcare.org/pdf/LicensedProgramCount.pdf> January 19, 2005.
- 2 Calculated from Capacity of Programs included in OCCS Regional Provider Lists. Accessed at http://www.qualitychildcare.org/childcare_region_list.asp January 19, 2005. This number therefore represents the full-time equivalent capacity.
- 3 2003-04 Enrollment By Grade Report. Accessed at <http://profiles.doe.mass.edu/enrollmentbygrade.aspx> January 19, 2005.
- 4 *The Report of the Early Education and Care Advisory Committee*, December 15, 2004.
- 5 Massachusetts Head Start PIR 2002-03. Xtria. November 29, 2004. *Head Start Program Information Report for the 2002-2003 Program Year Summary Report- State Level: Massachusetts*.
- 6 *CCR&R FCC Data Report 2004*.
- 7 *Massachusetts Capacity Study Research Brief: Characteristics of the Current Early Education and Care Workforce Serving 3-5 Year-olds* (2005).
- 8 Estimated using the following assumptions, based on EEC regulations: maximum 20 children per preschool group/classroom; minimum one EEC-licensed teacher per group/classroom. While EEC regulations require ratios of 1 qualified adult for every 10 preschool-age children, only one adult is required to be licensed as a Teacher (the second adult can be an Assistant Teacher). Calculations: 91,232 children (see note 2 above) divided by 20 children per group = 4,562 groups/classrooms and 4,562 EEC-licensed teachers. This is a conservative estimate; there are arguably classrooms with more than one EEC-licensed teacher. However, for the purposes of this report, a conservative estimate is preferred. Note that, based only on the IHE Capacity Survey reports of EEC licensing rates of graduates, it is probable that there are many more individuals who are EEC-licensed; however, we do not currently know where, or if, these licensed teachers are currently employed.

Table B1.2 Careers After Graduation: Estimated Percent of Graduates

	Certificate	Associates	Bachelors: Prek-2	Bachelors: Other ECE	Masters: Prek-2	Masters: Other
Public IHEs (N Graduates)	78	392	97	3	23	14
Become certified by EEC	36 %	100%	*	[1]	2%	8%
Teach or work with children ages 0-5	29 %	94%	15%	[1]	10%	8%
– in a center-based program						
– as a family child care provider	6%	13%	3 %	[1]	4%	0
– in a public preschool	2%	7%	2%	[1]	13%	19%
Teach or work in a kindergarten or elementary setting	2%	13%	38%	[1]	71%	38%
Go on to an Associate's or Bachelor's ECE program	47%	60%		[1]		
Work in an administrative capacity in the field	0	11%	11%	[1]	8%	4%
Teach at high school, college or university level in the field	0	*	1%	[1]	3%	0

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Table B1.2 Careers After Graduation: Estimated Percent of Graduates

	Certificate	Associates	Bachelors: Prek-2	Bachelors: Other ECE	Masters: Prek-2	Masters: Other
Research or policy in ECE	0	1%	3%	[1]	2%	0
Go on to a position or education in another field	4%	3%	10%	[1]	*	0
Private IHEs (N Graduates)	119	125	140	61	37	179
Become certified by EEC	98 %	80%	32%	75%	16%	12%
Teach or work with children ages 0-5	85 %	80%	25%	51%	15%	11%
– in a center-based program						
– as a family child care provider	16%	13%	4%	2%	4%	0
– in a public preschool	1%	15%	26%	7%	43%	4%
Teach or work in a kindergarten or elementary setting	*	6%	49%	20%	56%	14%
Go on to an Associate's or Bachelor's ECE program	77%	36%	11%	*	0	0
Work in an administrative capacity in the field	4%	4%	2%	4%	3%	13%
Teach at high school, college or university level in the field	*	0	1%	7%	0	4%
Research or policy in ECE	*	0	1%	5%	0	15%
Go on to a position or education in another field	1%	3%	6%	5%	6%	9%

* less than 1%

[1] No data available.

Note: Percentages sum to more than 100% due to multiple placements (e.g. multiple jobs, continuing education and working, etc.)

Table B1.3 Number of Teachers with/without CDAs and ECE Degrees, by Region

	Region 1 West	Region 2 Central	Region 3 Northeast	Region 4 MetroWest	Region 5 Southeast	Region 6 Boston
Number of Teachers (1)	521	436	909	1319	860	516
Current Education Level (2)						
CDA	0	44	18	0	0	21
Associates in any field	234	0	209	92	327	108
Bachelors in ECE or related field	73	78	182	660	129	139
Number without:						
Number without CDA or degree in ECE	214	314	500	567	404	248
Number without Associates, Bachelors or Masters in ECE	214	358	518	567	404	269
Number without Bachelors or Masters in ECE	448	358	727	659	731	377

1 See Table B1.1 for sources of data and calculations.

2 Estimated based on educational levels reported in *Massachusetts Capacity Study Research Brief: Characteristics of the Current Early Education and Care Workforce Serving 3-5 Year-olds* (2005).

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Table B1.4 Number of Programs, Children and Teachers/Providers for Infants & Toddlers

	Centers	Early Head Start	FCC (5)
Number of Infant & Toddler Programs	2,305 (1)	12 (3)	7,369
Number of Infants & Toddlers	18,759 (2)	1,111 (3)	14,738
Number of Teachers/Providers	2,282 (4)	116 (3)	7,369

1 OCCS Research & Reports: Number of OCCS Licensed Programs (as of May 1, 2003).

Accessed at <http://www.qualitychildcare.org/pdf/LicensedProgramCount.pdf> January 19, 2005.

2 Calculated from OCCS Regional Provider Lists. Accessed at

http://www.qualitychildcare.org/childcare_region_list.asp January 19, 2005.

3 Massachusetts Early Head Start PIR 2003-04

4 Calculated from OCCS Regional Provider Lists. Accessed at

http://www.qualitychildcare.org/childcare_region_list.asp January 19, 2005. Calculations based on EEC

regulations: maximum nine toddlers and/or six infants per group/classroom; minimum one EEC-licensed teacher per

group/classroom. While EEC regulations require ratios of 1 qualified adult for every nine toddlers and/or six infants,

only one adult is required to be licensed as a Teacher (the second adult can be an Assistant Teacher). Estimated 900

Infant teachers and 1,382 Toddler teachers.

5 Source: *Workforce Characteristics of Infant and Toddler Caregivers in Centers, Family Child Care Homes and Early Head Start Programs: A Massachusetts Capacity Study Research Brief.*

Table B1.5 Careers After Graduation: Graduates of OST Bachelors Programs

Go on to a paid position in....	Number of Graduates ¹	Percentage of All Graduates
After-school Programs	12	10%
Youth Work	35	29%
Administrative Capacity in the OST Field	6	5%
Research or Policy capacity in the OST field	7	6%
Continue education for a AA, or BA degree in OST	3	2%
Teaching Kindergarten or Elementary School	30	25%
Teaching position in secondary education (high school or college level)	4	3%
Continued Education for a BA in elementary or secondary education	2	2%
Residential Treatment	13	11%
Other non-OST Field	9	7%
Total	121	100%

Section II. Developing a Comprehensive Professional Development System

Tables B2.1 and B2.2 list the number of ECE and OST programs, respectively, requiring specific classes or courses associated with each of the core competencies described in the report.²

Tables B2.3 and B2.4 list the number of ECE and OST programs, respectively, reporting specific challenges.

¹ 9 programs reporting

² Some courses can be considered in more than one competency area; we have assigned them to the most appropriate area for ease of analysis. The IHE survey did not include the same number of courses in all areas.

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Table B2.1 ECE Required Coursework by Certificate or Degree Awarded (N programs requiring class or course)

	Certificate		Associates		Bachelors PreK-2		Bachelors Other ECE		Masters PreK-2		Masters Other ECE	
	class	Course	class	Course	class	Course	class	Course	class	Course	class	Course
Required class or course:	22		29		26		10		12		9	
Number of programs responding:												
Child Development												
Education and care of infants and toddlers	7	11	13	13	16	1	4	3	7	0	5	1
Education and care of preschool children	3	16	2	27	9	17	3	7	5	4	3	4
Education and care of school-aged children (5-14)	13	2	15	5	6	17	1	7	4	6	1	5
Adolescent development	8	2	12	2	13	2	4	0	4	0	2	0
Education and care of young children with special needs	11	10	5	23	6	20	3	6	2	10	2	5
Working with mixed-age groups	16	2	22	3	18	2	7	0	8	0	5	1
Health, Safety & Nutrition												
Physical health and motor development of young children	12	8	13	15	20	6	5	4	10	2	6	1
Curriculum												
Literacy and literacy strategies	14	6	15	13	4	22	1	8	1	11	1	7
Numeracy and math for young children	16	4	15	12	4	22	2	6	2	9	1	6
Appropriate learning environments and activities for young children	8	13	9	19	12	14	3	6	6	6	3	6
Relationships												
Social and emotional development of young children	14	8	13	15	10	15	3	7	7	5	3	6
Classroom or behavioral management of young children	10	11	13	16	15	11	6	4	9	3	4	5
Collaborating with professionals in other disciplines	12	4	20	4	20	2	7	1	11	1	6	1
Families & Community												
Working with families	11	8	19	9	21	5	5	4	10	2	4	3

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Table B2.1 ECE Required Coursework by Certificate or Degree Awarded (N programs requiring class or course)											
	Certificate		Associates		Bachelors		Bachelors		Masters		
Required class or course:	class	Course	class	Course	class	Course	class	Course	class	Course	
Cultural Competence											
Working with children and families from diverse ethnic and cultural backgrounds	13	7	20	8	17	9	7	3	7	5	2
Working with bilingual children or children learning English as a second language	14	3	23	3	20	4	7	1	11	1	2
Program Management											
Early childhood program administration	6	9	7	14	4	8	1	5	5	3	3
Adult learning and development	10	5	11	5	11	1	2	1	5	0	0
Leadership and advocacy	13	5	22	4	16	2	5	2	10	2	1
Research and evaluation methods	14	3	22	2	17	7	5	3	2	7	5
Assessment & Observation											
Assessment/observation of young children	11	9	14	15	14	12	6	4	6	6	5
Professionalism											
Professionalism (e.g. confidentiality, ethics, and codes of conduct)	16	6	23	6	23	3	7	1	12	0	3
DOE Early Childhood Program Standards for 3 and 4 year olds	13	5	18	6	16	6	6	2	8	2	1

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TableB2.2 OST Required Coursework by Certificate or Degree Awarded (N programs requiring class or course)

	Certificate	Associates	Bachelors	Masters
Number of programs responding:	8	2	11	2
Required class or course:	class	course	class	course
Child and Youth Development				
Physical, cognitive, emotional & social development – ages & stages	1	0	2	0
Adolescent development	3	0	2	0
Working with children/youth with special needs	6	2	0	3
Assessment & observation of children/youth	5	2	0	4
Risk Factors (physical & mental health, HIV/AIDS, teen pregnancy, abuse, drugs, alcohol)	6	0	2	3
Resiliency & protective factors	6	1	2	1
Working with mixed-age groups	5	2	0	2
Building Caring Relationships/ Behavior Guidance				
Communication skills, effective listening, building trust & relationships	5	0	2	7
Positive behavior techniques	5	0	2	6
Group dynamics & Team building	4	1	1	6
Conflict resolution & mediation, peace making activities	4	1	1	6
Environment				
Facilities, age appropriate materials/ supplies, furniture, equipment, décor	3	2	0	3
Working in shared spaces – challenges & strategies	4	1	0	5
Cultural Competence				
Working with diverse ethnic & cultural populations	5	2	1	7
Working with children/ youth learning English as a second language	5	0	1	5
Multi-culturally relevant and anti-biased activities	4	2	1	9
Gay, lesbian, bi-sexual, and transgender issues	6	0	1	8
Families, Schools, and Communities				
Working with families	5	3	0	2
Partnering with schools	4	2	1	5
Aligning program activities with public school standards	2	2	0	5
Using community resources in programming	4	2	1	9
Activities/Curriculum				
Developmentally-appropriate & balanced programming	2	5	0	6
Activity planning – webbing, themes, project based learning	1	5	0	5

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Table B2.2 OST Required Coursework by Certificate or Degree Awarded (N programs requiring class or course)

	Certificate		Associates		Bachelors		Masters	
	class	course	class	course	class	course	class	course
Number of programs responding:		8		2		11		2
Required class or course:								
School-to-work activities	3	2	0	1	2	1	1	0
Community service/ service learning activities	3	4	1	1	3	5	1	0
Youth empowerment	3	4	1	1	6	3	1	0
Peer leadership building	1	4	0	1	4	3	1	0
Professionalism								
Boundaries, confidentiality, codes of conduct	5	2	1	1	7	4	1	0
Program Management								
Program administration	4	0	0	1	4	4	0	1
Staff recruitment/ retention, supervision & professional development	4	0	0	1	5	2	1	0
Leadership & advocacy	5	2	1	1	4	5	1	1
Research & evaluation methods	4	1	2	0	0	8	1	1

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Table B.2.3 Challenges Faced by ECE Programs, by Certificate or Degree Awarded

Level of Challenge	Public Certificate and Associates		Private Certificate and Associates		Public Bachelors		Private Bachelors		Public Masters		Private Masters	
	Somewhat	large	Somewhat	large	Somewhat	large	Somewhat	large	Somewhat	large	Somewhat	large
Number of Programs Responding	35		16		8		28		12		9	
A. Student issues:												
Students' competing family-related responsibilities	7	27	10	5	5	2	9	4	3	8	5	2
Students' competing work-related responsibilities	4	29	8	5	5	1	14	7	5	6	4	3
Students' personal or family crises	6	24	8	7	6	0	16	4	6	0	6	0
Lack of student motivation	21	7	9	4	2	1	14	3	0	0	0	0
Students' lack of academic preparation or skill	10	24	6	9	6	1	11	8	6	1	4	1
Lack of financial support or scholarships	6	28	9	7	4	4	17	6	7	3	4	3
Students' lack of family support	19	11	11	1	3	0	12	4	5	0	5	1
B. Faculty Issues:												
Lack of faculty in the department with expertise in ECE	8	1	6	2	6	1	7	3	5	5	1	2
Lack of full-time faculty in program	14	14	5	8	5	2	4	7	3	7	1	2
Poor faculty working conditions and wages	11	11	7	1	2	3	6	4	3	7	1	1
Difficulty attracting and retaining ethnically diverse faculty	6	17	10	2	0	5	10	10	1	10	5	1
Difficulty attracting and retaining linguistically diverse faculty	7	17	10	2	0	6	12	9	1	10	5	2
Difficulty attracting and retaining faculty willing to work in non-traditional ways (e.g., teaching in the evenings, on weekends, or off-site)	16	2	8	1	2	2	11	5	4	3	5	2
C. Program Issues												
Lack of career advising for students	10	2	6	0	2	0	5	0	3	0	4	0

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Table B.2.3 Challenges Faced by ECE Programs, by Certificate or Degree Awarded

Level of Challenge	Public Certificate and Associates		Private Certificate and Associates		Public Bachelors		Private Bachelors		Public Masters		Private Masters	
	Somewhat	large	Somewhat	large	Somewhat	large	Somewhat	large	Somewhat	large	Somewhat	large
Lack of needed remedial courses for students	11	0	4	1	1	1	8	0	0	0	0	0
Difficulty providing training in certain content areas.	4	6	3	0	1	0	6	3	1	0	3	0
Difficulty responding to the needs of non-English speakers	10	10	8	0	2	2	17	2	1	3	6	0
Difficulty responding to needs of adult and “non-traditional” students	17	6	7	0	2	0	11	1	0	0	0	0
Inability to serve the number of students who want to enroll	5	1	2	0	2	0	7	1	4	0	2	0
Insufficient enrollment to support courses offered	10	6	9	2	0	1	11	6	5	4	4	1
Bachelor’s program’s ONLY: Difficulty responding to MTEL	n/a	n/a	n/a	n/a	3	3	5	8	n/a	n/a	n/a	n/a
D. Institutional Issues:												
Problems with transfer of credits and articulation	19	11	10	0	6	0	11	2	1	0	0	1
Lack of support from your college/university for early childhood teacher preparation	18	1	6	0	4	0	10	1	6	0	2	0
Program loses money for the school	10	0	9	0	1	0	9	2	0	3	1	2
Difficulty collaborating with other departments within your institution	13	0	6	0	1	0	8	0	5	0	1	0
E. Community Issues:												
Lack of quality ECE practicum sites	13	13	9	0	4	1	8	2	3	2	4	0
Difficulty attracting & keeping students due to poor working conditions or 1wages in the ECE field	10	18	8	4	3	5	13	7	1	4	4	4
Difficulties faced by graduates finding jobs in the field	15	5	9	1	4	1	13	1	4	3	4	1

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Table B.2.4 Challenges Faced by OST Programs, by Certificate or Degree Awarded

Level of Challenge	Certificate		Associates		Bachelors		Masters	
	Somewhat large	large	Somewhat large	large	Somewhat large	large	Somewhat large	large
Number of Programs Responding	7		2		11		2	
Student issues:								
Students' competing family-related responsibilities (e.g. lack of child care)	3	4	1	1	3	4	1	0
Students' competing work-related responsibilities	2	4	1	1	3	6	1	1
Students' personal or family crises	5	2	1	1	4	4	1	0
Lack of student motivation	5	0	2	0	4	1	0	0
Students' lack of academic preparation or skill	4	2	1	1	3	3	1	0
Lack of financial support or scholarships	4	4	0	2	6	2	1	0
Students' lack of family support	6	1	1	1	3	2	1	0
Students' interest in other career options	2	1	0	0	6	0	0	0
Faculty Issues:								
Lack of faculty in the department with expertise in out-of-school time or youth work	3	0	1	0	3	4	2	0
Lack of full-time faculty in program	2	2	1	0	5	2	0	1
Lack of a program coordinator	2	0	0	0	2	0	1	0
Poor faculty working conditions and wages	4	0	0	0	5	0	1	0
Difficulty attracting and retaining ethnically diverse faculty	4	0	1	0	4	2	0	0
Difficulty attracting and retaining linguistically diverse faculty	4	0	0	1	4	4	0	0
Difficulty attracting and retaining faculty willing to work in non-traditional ways	3	0	0	0	5	0	1	0
Program Issues								
Lack of career advising for students	1	0	0	0	2	0	2	0
Lack of needed remedial courses for students	4	0	0	0	3	0	1	0
Difficulty providing training in certain content areas.	1	0	1	0	2	2	0	0
Difficulty responding to the needs of non-English speakers	1	1	1	0	5	1	1	0
Difficulty responding to needs of adult and "non-traditional" students	2	0	0	0	3	0	0	0
Inability to serve the number of students who want to enroll	1	0	0	0	2	0	0	0
Insufficient enrollment to support courses offered	2	3	1	0	4	2	1	0
Bachelor's program's ONLY: Difficulty responding to MTEL					1	3		

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Table B.2.4 Challenges Faced by OST Programs, by Certificate or Degree Awarded

Level of Challenge	Certificate		Associates		Bachelors		Masters	
	Somewhat	large	Somewhat	large	Somewhat	large	Somewhat	large
Institutional Issues:								
Problems with transfer of credits and articulation	1	1	0	1	5	0	1	0
Lack of support from your college/university for school-age or youth workforce preparation	1	0	1	0	5	1	0	0
Program loses money for the school	0	0	0	0	6	1	1	0
Lack of support for core faculty for the program	1	0	0	0	5	1	1	0
Difficulty collaborating with other departments within your institution	1	0	0	0	2	0	1	0
Community Issues:								
Lack of quality school-age or youth work practicum sites	2	0	1	0	6	0	1	0
Difficulty attracting & keeping students due to poor working conditions or 1wages in the field of school-age and/or youth work	2	1	1	0	6	3	1	0
Difficulties faced by graduates finding jobs in the field	3	0	1	0	8	0	1	0
Lack of professional requirements in the field	1	2	0	1	7	2	1	0