



Pipelines and pools: Meeting the demand for early childhood teachers in Illinois

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Executive Summary

In 2004, the Illinois Education Research Council received a grant from the National Institute for Early Education Research at Rutgers University to examine whether the supply of qualified early childhood teachers would be adequate to meet a potentially growing demand if the state was able to increase access to preschool. Since that time, with leadership from the Governor's Office, Illinois' plan for *Preschool For All* initiative has crystallized. By 2006, 75,000 at-risk 3- and 4-year olds were being served by a program that has added 19,000 children over the past three years. The FY 2007 budget includes the first \$45 million of a \$135 million three-year plan to add another 32,000 children to the state Early Childhood Block Grant (ECBG) program under *Preschool For All*. The plan is to then reach all interested 3- and 4-year olds with additional funding in years four and five (FY 2010-2011). Through this expansion, non-school entities as well as schools are able to access new funds to deliver high-quality early childhood programs if they employ early childhood (Type 04) certified teachers (who by definition also hold BA degrees).

Illinois is potentially well-placed to meet an immediate increase in demand for qualified early childhood teachers because it has had a specific state certification (Type 04, formerly Type 02) for instruction of birth to Grade 3 for many years. The usual place to look for a supply of teachers is the new-certificant pipeline, and we begin our analysis there. But because of Illinois' history of certifying early childhood teachers, we also wanted to know whether there was a reserve pool of teachers who would also be available to fill the growing number of teaching jobs. There is a general sense among early childhood professionals that teachers prefer a school

environment rather than a child care center setting, so we decided to ask qualified individuals directly whether they are willing to work in early childhood centers, and what incentives, if any, might be needed to make this sector of the teacher labor market more attractive to them. We surveyed 4,000 individuals who held Illinois Type 04 teacher certification, but were not working in the Illinois public schools in 2002-2003, the year we began to plan the study. With the results from these two supply sources in hand—the pipeline of new teachers and the pool of previously certified teachers—we were able to assess the extent to which Illinois might be able to meet the increased demand for Type 04 teachers as *Preschool For All* is implemented.

The New-Teacher Pipeline is Leaky but Robust.

Using data from the national Integrated Postsecondary Data Analysis System (IPEDS), we found that over the eight-year period from 1998-2005, Illinois colleges awarded an annual average of 467 bachelor's and about 153 master's degrees in early childhood education, for a yearly average of 620 awards. While there are some fluctuations from year to year, the overall trend was quite stable.

Interestingly, we found more than 2,600 students per year are reported to be enrolled in early childhood programs in Illinois' institutions of higher education, with more than half of them (about 1,400) in Chicago institutions. We learned, however, that some higher education institutions include in their program statistics students who are enrolled at their institutions, and have expressed an interest in a particular academic program (in this

case early childhood teacher preparation programs), but may not have actually been admitted to such a program. Admission to teacher preparation programs across the state has become more stringent, and now includes a requirement to pass the state's Basic Skills test. With this knowledge in mind, we concluded that while the pipeline from enrollment to program completion appears to be quite leaky, much of the leakage may actually be occurring between "interest" and program enrollment. We encourage institutions of higher education to look carefully at what barriers may be preventing students from making progress from "interest" status to enrollment to graduation. Some may be appropriate while others need to be removed.

We found that data on early childhood education programs are not congruent with data on the numbers of Type 04 teachers newly certified in Illinois each year. The total number of new Type 04 certificants in Illinois has been higher—about 765 annually, and increased to almost 900 in 2004, and to over 1,000 in 2005. If this trend continues, it bodes well for meeting the increasing need for these teachers. It also suggests that additional research is needed to identify where these new certificants are coming from.

There is a Ready and Potentially Willing Reserve Pool of Qualified Teachers.

We identified a potential reserve pool of 5,400 qualified teachers who were not working in the Illinois public schools in 2002-2003. We randomly selected 4,000 individuals to complete the survey and obtained a representative 46% response rate. After we removed from the analysis individuals who told us they were retired (14%) or already working in an early childhood center (10%), we found that 83% of the remaining Type 04 certified teachers (3,402) would consider working in an early childhood center setting under certain conditions. Overwhelmingly, when asked to identify their top three incentives, salaries trumped everything else. While this does not come as new news, our study provides compelling evidence that it is salaries that make it hard to recruit certified teachers to some early childhood centers, not the setting. About half (45%) would work for less than \$40,000 on a full-time, full-year basis. Another 29% wanted \$40,000-\$49,999. We also found that most of the Reserve Pool not only had prior experience in education

(with almost half having had experience in an early childhood center) but that, contrary to popular belief, they have not left the field of education or even the early education arena.

The Supply of Certified Early Childhood Teachers in Illinois Can Meet Increasing Demand if Salaries Become Competitive with Other Teaching Opportunities.

We used three service-level models—32,000 additional children in years one to three, 23,000 additional children in years four and five to reach additional interested 3- and 4-year olds in Illinois, and the impact of adding Head Start programs to the analysis—to assess the extent to which the pipeline and pool of Type 04 certified teachers can meet projected increases in demand due to program expansion.

We found that through a combination of recruitment from the currently qualified Reserve Pool of individuals, most of whom expressed a willingness to consider working in an early childhood center environment if salaries reflected their professional training, and the current production pipeline of new certificants, Illinois will be able to meet the demand for additional early childhood teachers if *Preschool For All* adds about 10,000 3- and 4-year olds per year.

- Reserve Pool members are willing to work in early childhood centers and provide a ready source of qualified teachers under certain conditions;
- Illinois early childhood programs need to offer certified teachers salaries that recognize their professional training and education;
- The Illinois State Board of Education's certificant database may provide a source of recruitment of Type 04 certificants; and
- Chicago will be more reliant on the pipeline than other regions. Chicago institutions of higher education that offer early childhood teacher preparation programs need to examine who is in the pipeline and why more of their students are not progressing from "interest" to program enrollee to graduate.

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Introduction

Research has demonstrated the importance of preschool education on children's learning and development (Gormley et al., 2005; Schweinhart et al., 2005; Barnett, 1998; Karoly et al., 1998). In addition, research has shown that the quality of early childhood education for children is highly dependent on the educational qualifications of their teachers, with the most effective teachers having specialized college-level training in early education (Barnett, 2003; Whitebook et al., 1990).

In Illinois, additional state funding during a time of unprecedented budget shortfall demonstrated the state's commitment to expanding access to high-quality early education. By fiscal year 2006, Governor Rod Blagojevich had fulfilled his pledge for an additional \$90 million over three years to expand the state's Pre-K programs. An additional 19,000 children are now being served, for a total of 75,000 children. Through this expansion, non-school entities as well as schools are able to access new funds to deliver high-quality early childhood programs if they employ Type 04 certified teachers (who by definition also hold BA degrees). The Governor's office is now continuing its commitment to *Preschool For All*, with a plan to seek \$45 million additional funding per year for FY 2007-2009. The plan is to seek additional funding in subsequent years to fully implement *Preschool For All* (Office of the Governor, 2006). In May 2006, the state legislature included \$45 million additional funding in the FY 2007 budget (Illinois 94th General Assembly, 2006a).

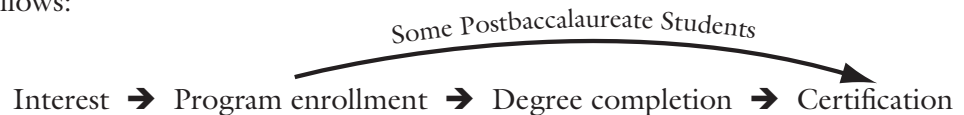
Given the critical role that teachers play in providing high-quality early learning experiences and in producing school readiness outcomes for children, concerns are mounting regarding whether Illinois' workforce can provide enough qualified early childhood teachers. Will Illinois have enough certified teachers to meet increased demand? If not, what policies may be needed to ensure an adequate supply?

In March 2004, the National Institute for Early Education Research (NIEER) awarded the Illinois Education Research Council (IERC) a grant to study the adequacy of the supply of qualified teachers in preschool programs (in both school and non-school settings) in Illinois. Our first step in this study was to examine existing early childcare data and research reports specifically for Illinois. Our review revealed that considerable work has been accomplished in recent years that can provide a foundation for assessing the current and future demand for preschool education in Illinois. (See Appendix A for a copy of the Executive Summary of that report.) That review also revealed that the findings on the number and characteristics of teachers in various early care and education settings are scattered, but useful for an overall view of provider education qualifications. We provided recommendations to improve data collection on the preschool workforce (see page 29 of this report). However, none of the studies we reviewed gave consideration to the reserve pool of Early Childhood (Type 04) certificants as a potential supply of qualified educators. Unlike some other states, Illinois has had an early childhood teacher certification for many years (originally called Type 02, and since 1989 called Type 04).

Based on our analysis of the landscape of the existing data and research projects, we decided not to replicate or fine-tune the good information that was currently available through another survey of community center directors and teachers that is undertaken by the Illinois Department of Human Services biennially (Ramsburg et al., 2004). Instead, we focused our study on attempting to find good data on the production pipeline of newly minted Type 04 certificants, and also to learn more about the “Reserve Pool” of already-qualified individuals who were not currently working in the Illinois public schools, but who might be available to teach at the preschool level in early childhood centers. Specifically, we examined the currently qualified pool of early childhood education teachers through a survey of a random sample of Illinois Early Childhood Education certificants. Findings from this survey will help Illinois understand whether and where those individuals are participating in early childhood education beyond the Illinois public schools, and under what circumstances they might choose to teach in an Illinois early childhood center. We use these results, together with those from an analysis of the pipeline leading to newly qualified teachers from Illinois institutions of higher education, to provide an overall assessment of the adequacy of the supply of qualified teachers for Illinois preschool programs under three demand phases: 1) Phase 1 serving 32,000 new at-risk children; 2) Phase 2 bringing service to all interested 3- and 4-year olds; and, 3) including Head Start children. In a separate report we provide extensive analysis of the results of our Reserve Pool survey (Klostermann et al., 2006).

The Pipeline of New Early Childhood Certified Teachers

The traditional place to look for additional teachers is from institutions of higher education that are minting new teachers. So we begin our analysis of the supply of early childhood certified teachers by looking at what the evidence tells us about trends in the production of newly certified Type 04 teachers. We can think of this analysis as an examination of a pipeline of students in higher education as follows:



Trends in Higher Education Enrollment and Degrees Awarded

In Illinois, institutions of higher education are responsible for providing degree programs that lead to bachelor’s or master’s degrees in education, and they also recommend candidates who satisfactorily complete approved teacher preparation programs for state teacher certification. In most, but not all cases, the degree program is the same as the teacher-certification program, so we can get a sense of the pipeline for students who are in training to become teachers by looking at program enrollments. To examine trends in higher education enrollments and degrees awarded in early childhood programs we obtained IPEDS data from the Illinois Board of Higher Education, a federally required reporting system with data submitted by each institution of higher education in the state. Table 1 summarizes those data for Academic Years 1998 to 2005. Institutional data are provided in Appendix B.

Table 1. Enrollments and Degrees Conferred in Early Childhood Education Programs in Illinois Institutions of Higher Education

	1998	1999	2000	2001	2002	2003	2004	2005	Avg
Bachelor's enrollments	2,333	2,265	2,289	2,249	2,436	2,058	2,075	2,282	2,248
Bachelor's degrees	449	464	453	494	471	510	456	440	467
Master's enrollments	492	398	353	369	440	480	459	443	429
Masters' degrees	166	138	197	136	133	135	143	179	153
Total enrollments	2,825	2,663	2,642	2,618	2,876	2,538	2,534	2,725	2,678
Total degrees	615	602	650	630	604	645	599	619	620

Source: Integrated Postsecondary Education Data System (IPEDS) (2006).

On the average, about 467 bachelor's degrees and 153 master's degrees are awarded annually by Illinois institutions of higher education, for a total of 620 awards. Four-year institutions report more than 2,600 enrollees in early childhood education programs each year. We learned that some of these enrollees are actually students who have only declared an "interest" in early childhood education, but have not actually been admitted to programs. In fact, as we show later that the leakage in the pipeline may be most severe as students move from the "interest" to program-admission stage, which may be related not only to changing interest or discontinuation of enrollment, but also to admissions criteria in place for teacher preparation programs, including the need to pass the state Basic Skills test. One barrier was removed in May 2006 when the state legislature passed SB2202 (Illinois 94th General Assembly, 2006b) that allows working early childhood practitioners to continue to be paid and receive credit for student teaching at their place of employment. The new law also allows students to complete the student teaching portion of their practical experience in any of the preschool (ages 3-5) or K-3 grades covered by the Type 04 early childhood education certificate.

The leakage in the pipeline may be most severe as students move from the "interest" to program-admission stage.

Trends in Certification

Higher education program completion usually results in graduates obtaining initial state teacher certification. Table 2 shows that the number of new certificates awarded to early childhood teachers has been increasing, reaching more than 1,000 in the 2005 school year. Comparing Tables 1 and 2 shows that degrees conferred in Illinois early childhood programs account for only a portion of new Type 04 certifications issued annually. Furthermore, degrees awarded do not show the same increase in 2004 and 2005 that we see in the number of Type 04 certifications awarded. This complicates our task of examining the pipeline of new certificants provided that their student teaching experience meets the requirements of their teacher preparation program. It also suggests that additional research is needed to identify where these new certificants are coming from.

The number of new certificates awarded to early childhood teachers has been increasing, reaching more than 1,000 in the 2005 school year.

Table 2. New Early Childhood Certificates Issued

Type	2001	2002	2003	2004	2005
04 Early Childhood	773	785	766	887	1,042
05 Provisional Early Childhood	5	14	13	15	129

Source: ISBE,(2004, 2005a).

The Regional Distribution of the Higher Education/Certificant Pipeline

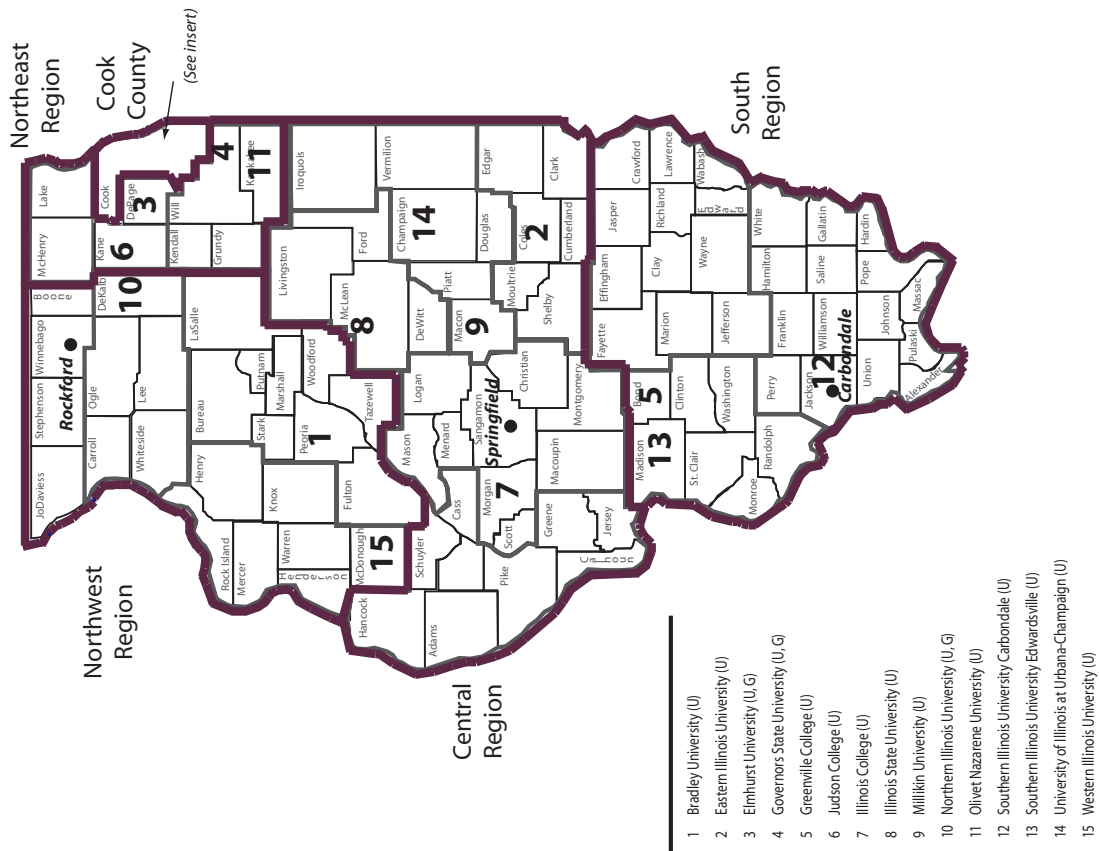
In this study, we are interested in understanding the relationship between an expected increase in the demand for certified early childhood teachers, and estimates of supply. But since Illinois is such a large state geographically, it is important to examine the potential supply pipeline by region. So we have used the 17 Illinois Network of Child Care Resource and Referral Agencies (INCCRRA) service delivery areas (SDAs), plus the city of Chicago. To facilitate comparison across geographic areas, we collapsed the 17 SDAs into six Illinois regions. Figures 1 and 2 show the location of institutions of higher education in these regions.

In Table 3, we provide average statistics for each Illinois institution of higher education from IPEDS data (see Appendix B for year-by-year numbers from 1998 to 2005). We show average enrollment and degrees for 2001-2003, and for 1998-2005. We also include data that we obtained directly from two Deans of Education (Chicago State University and Northeastern Illinois University) that demonstrate how these institutions include “interested” candidates in their IPEDS reporting. It is likely that this difference in reporting exists at other institutions as well and suggests that the “leakage” in the preparation pipeline may well occur before admission into programs.

Since IPEDS degrees reported in early childhood programs represent only a portion of Type 04 initial certificant, we tried to find where Type 04 certificant had trained. To do this we used the state Teacher Certification Information System (TCIS), an extract of which we had up to 2003 through a shared data agreement with the Illinois State Board of Education. We used the last institution attended as a proxy for where these new certificant had trained for certification. For the years 2001 to 2003, we found 1,887 individuals in our file, or about 630 each year—about 145 short of the 775 annual average reported by ISBE (2005a) for those same three years. We found an average 540 individuals had an Illinois higher education institution as their most recent institution, and another 90 (14%), on the average, were from an out-of-state institution. In Table 3, we show the three-year Illinois institutional averages (2001-2003) for the most recent institution of Type 04 initial certificant. When we compare the results from IPEDS data with the results from the TCIS information, there is a good match for some institutions, while for others it appears that some graduates do not proceed to become certified (this may be especially the case for master’s level students), while others appear to become certified without completing an early childhood degree program. (At some institutions of higher education, postbaccalaureate students can complete a certification program that is not a degree program.) Overall, however, there is enough consistency in these results for us to use them to help us compare the changing demand for certified teachers with this source of supply. In the modeling that we lay out later in this report, we use the average of the three average statistics shown in Table 3 to represent the pipeline of new certificant by region—awards from 2001-2003, most recent institution of Type 04 initial certificant in 2001-2003, and awards from 1998-2005. In this way, we hope to minimize the fluctuations in institutional reporting from year to year, although we do not overcome the under-identification of actual new Type 04 certificant in comparison to aggregate ISBE numbers.

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Figure 1. 4-Year Institutions with Undergraduate and/or Graduate Programs in Early Childhood Education



Program Source: IPEDS, 2006.

Figure 2. Chicago Area 4-year Institutions with Undergraduate and/or Graduate Programs in Early Childhood Education

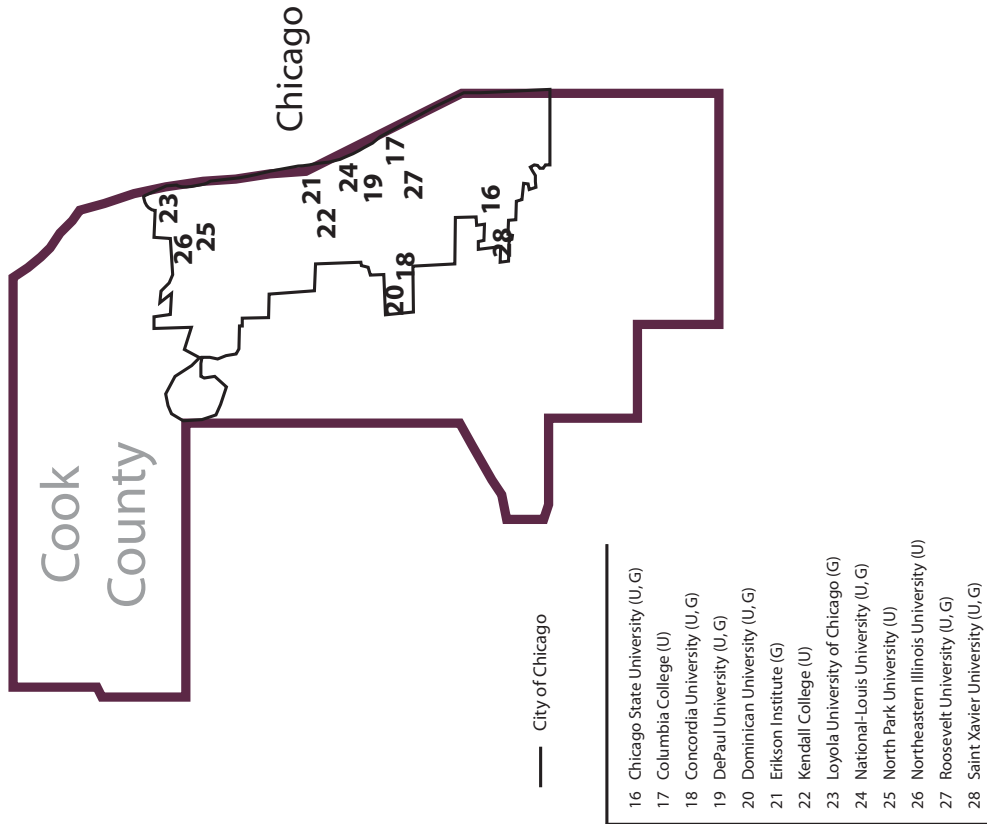


Table 3. Enrollments, Degrees Conferred and Last Institution of Type 04 Initial Certificants

Institution Name	Average 2001-2003			Average 1998-2005	
	IPEDS Enrollment	IPEDS Degrees Conferred	Last Institution Type 04	IPEDS Enrollment	IPEDS Degrees Conferred
CITY OF CHICAGO					
Bachelor's Programs					
Chicago State University	215	19	20	219	16
<i>CSU (3 years' data)</i>	<i>(28)</i>	<i>(15)</i>			
Northeastern Illinois University	330	38	40	322	32
<i>NEIU (4 years' data)</i>	<i>(150)</i>	<i>(40)</i>			
Columbia College Chicago	77	7	7	73	6
Concordia University	64	11	14	62	10
DePaul University	71	13	19	67	16
Dominican University	4	0	14	New reporting	
Kendall College	65	9	5	57	7
National-Louis University	107	26	42	107	25
North Park University	11	2	3	9	2
Roosevelt University	94	17	25	87	19
St. Xavier University	59	17	22	67	17
Master's Programs					
Chicago State University (2000 onwards)	9	1	Included above	7	3
<i>U Illinois at Chicago (Ed Psych program)</i>			5		
Concordia University	17	10	Included above	23	9
DePaul University (2001 onwards)	28	0	Included above	29	1 in 05
Dominican University	35	17	Included above	34	15
Erikson Institute (2000 onwards)	30	3	—	36	6
Loyola University of Chicago	1	12	6	No data after 2002	
National-Louis University	144	44	Included above	131	60
Roosevelt University	48	14	Included above	47	16
St. Xavier University (1999 onwards)	14	2	Included above	14	5
Total, Chicago	1,423	262	222	1,391	265

Source: IPEDS, Illinois Board of Higher Education (2006). CSU and NEIU numbers in italics are from institutional education deans. IPEDS data may include students who are “interested,” not only as we show at these two institutions but possibly also in programs across the state. Type 04 information extracted by the Illinois Education Research Council from the Teacher Certification Information System (TCIS).

 Public Universities

Other regions shown on next page.

Table 3. Enrollments, Degrees Conferred and Last Institution of Type 04 Initial Certificants (*continued*)

Institution Name	Average 2001-2003			Average 1998-2005	
	IPEDS Enrollment	IPEDS Degrees Conferred	Last Institution Type 04	IPEDS Enrollment	IPEDS Degrees Conferred
NORTHEAST					
Bachelor's Programs					
Governors State University	71	17	24	71	12
Elmhurst College	44	9	19	46	13
Judson College	14	2	1	12	2
Olivet Nazarene University	28	5	1	33	7
Master's Programs					
Governors State University	59	19	Included above	61	17
Elmhurst College	15	7	Included above	15	6
Total, Northeast	231	59	45	238	57
NORTHWEST					
Bachelor's programs					
Northern Illinois University	136	29	40	128	31
Western Illinois University	44	24	28	80	22
Bradley University	55	12	10	53	13
Master's Programs					
Northern Illinois University	30	6	Included above	34	8
Total, Northwest	265	71	78	295	74
CENTRAL					
Bachelor's programs					
Eastern Illinois University	115	34	34	141	32
Illinois State University	319	75	60	288	74
U of I at Urbana/Champaign	56	25	24	56	24
Illinois College	21	7	8	25	7
Millikin University	New reporting				
Total, Central	511	141	126	510	137
SOUTH					
Bachelor's programs					
S I U - Carbondale	157	51	32	164	46
S I U - Edwardsville	73	36	32	69	31
Greenville College	16	5	5	21	5
Total, South	246	92	69	254	82
Total, All Institutions*	2,676	625	540	2,688	615

Source: IPEDS and TCIS.

 Public Universities

* Institutions with incomplete data are excluded.

Before we leave this discussion of the pipeline of new Type 04 certificants, it is worth making several observations about the distribution of programs. In Chicago, most early childhood programs are located at private institutions and these institutions award 78% of degrees in early childhood in the city. Financial aid becomes even more critical when access is largely through the private sector. It is also useful to note that most master's level early childhood education programs are at private institutions in Chicago—with implications not only for financial accessibility, but also for geographic access across the state. As *Preschool For All* is implemented throughout the state, additional master's level programs may be needed in other areas of the state to strengthen the career paths and practice of early childhood teachers statewide.

The Reserve Pool of Qualified Certificants

Unlike some other states, Illinois has had an early childhood teaching certificate for many years. So, as the state increases access to preschool programs, Illinois has another potential supply of qualified educators—a “reserve pool” of early childhood certified teachers who are not currently working in the schools. In this section, we describe the results of our survey of a random sample of Illinois Early Childhood Education certificants. We describe what these qualified early childhood teachers are currently doing, and under what circumstances they might choose to teach in an Illinois early childhood center.¹

Survey of Qualified Early Childhood Teachers

Under a shared data agreement with the Illinois State Board of Education, we used data from the Teacher Certification Information System (TCIS) and the Teacher Service Record (TSR) in this study. We identified 5,402 individuals who received their Illinois Early Childhood certificate from 1989 through 2003 who were not working in the Illinois public schools in the academic year 2002-2003.² This group represents the potential reserve pool that is qualified and potentially available to teach in an Illinois early childhood center.

We drew a random sample of 4,000 (approximately 75%) individuals from this potential reserve pool. We were able to find usable addresses for more than 90% of the 4,000 people in the sample. We contacted individuals via the United States mail in early January 2005 to inform them that they had been selected to participate in the survey. The survey was administered between February 2005 and May 2005 using a website tool, followed by a mailing of the paper survey after one follow-up reminder. A second reminder was mailed two weeks after the paper survey mailing. We contracted with Data and Decision Analysis, Inc., an experienced web research organization, to create the web version of the survey and assist with survey administration and data collection. To increase response rates, eighty \$50 gift certificates to a national-chain retail store were awarded to a randomly selected group of those who returned a completed survey by the survey deadline date.

¹ We focus specifically on early childhood centers because they are the most likely settings for expansion of the state's early childhood block grant program, and with the understanding that they are more difficult to staff than public school settings. Thus, it is probable that individuals willing to consider working in early childhood centers would also be willing to consider working in public schools.

² Individuals who received their Type 02 early childhood certificate prior to 1989 and did not transition to a Type 04 were excluded from the survey.

Usable surveys were returned from 1,664 individuals for a 46% response rate. Of these, 799 (48%) individuals responded via the web, and another 865 (52%) responded via the paper survey. We examined the survey response patterns and determined that they were similar to the population on two key characteristics (age, geographic location). Thus, we can reasonably generalize the results from our sample to the population of 5,402 potential reserve pool individuals. Throughout this report, we provide results that are weighted to the population (weighting=3.25) in order to reflect the total estimated numbers of individuals in each analytic group. When drawing comparisons, we used a 95 percent level of statistical significance. We exclude from tables cells that contained fewer than five actual (or 17 weighted) respondents. Follow-up telephone interviews were conducted with 40 respondents working in Illinois public schools and 15 working in Illinois early childhood centers to understand further the advantages of working in these settings. We provide a complete analysis of the characteristics and occupational experiences of respondents in a separate report (Klostermann et al., 2006).

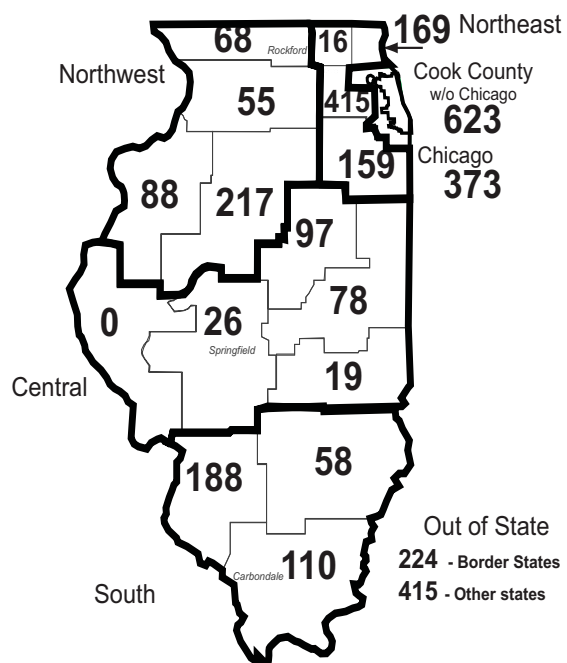
83% of those available indicated a willingness to consider working in an Illinois early childhood center under certain conditions.

After separating out retirees and individuals currently working in an Illinois early childhood center, those who remained were theoretically available to teach in an Illinois early childhood center. They were divided into two groups based on the individual's response to the question, "Would you ever consider employment in an early childhood center in Illinois working with children ages 3-5?" The **Reserve Pool** consisted of individuals who indicated that they would consider employment in an Illinois early childhood center by responding they are or plan to be actively looking for a full- or part-time position in an Illinois early childhood center, or that they would consider employment in an Illinois early childhood center under the right conditions. There were 3,402 respondents in this group who are qualified and willing to consider working in Illinois early childhood centers. This represents 83% of those who are potentially available to work in an Illinois early childhood center.

Geographic Distribution of Reserve Pool

Figure 3 shows where the Reserve Pool was living when they responded to the survey, mapped by the 17 Illinois Network of Child Care Resource and Referral Agencies (INCCRRA) service delivery areas (SDAs). We group them into seven regions (including Chicago and out of state). The distribution of the Reserve Pool generally reflects the state's population, with high concentrations in the north-central and northeastern portions of the state and fewer individuals in the southern and west-central regions. However, since Chicago represents almost one quarter of the state's population yet only 14% of the in-state reserve pool, the Reserve Pool in Chicago is proportionally smaller. Though many (639) respondents reside outside of Illinois, we remind the reader that these individuals indicated they would be willing to return to Illinois to work in an early childhood center under the right conditions. Later in this report, we compare the Reserve Pool to regional projections of 3- and 4-year olds to assess the potential demand/supply match for certified early childhood teachers.

Figure 3. Distribution of the Reserve Pool by 17 INCCRRA Service Delivery Areas



Demographic Characteristics of the Reserve Pool

Chicago Reserve Pool members differ from those in other regions—they are older, more likely to be black, less likely to currently be married, and less likely to have children under six years of age.

Table 4 shows demographic characteristics of the Reserve Pool. The majority (60%) are 40 years of age or younger, suggesting a pool of potential employees who may be available to remain in the field for an extended period of time. Over 90% are white, which compares to 84% of all teachers in the Illinois public schools (ISBE, 2005b). Three-fourths (75%) are married and four out of ten Reserve Pool certificants have children under the age of six.

Table 4 also provides comparisons of demographic characteristics by geographic regions. We see that Chicago Reserve Pool members differ from those in other regions—they are older, more likely to be black (22%), less likely to currently be married (53%), and less likely to have children under six years of age (27%). No differences in age, race/ethnicity, marital status, and young children at home were found between Reserve Pool members in other Illinois regions (combined) versus those living out of state. In some locales, there will be a need for teachers with Spanish-speaking skills. We did not ask respondents whether they spoke Spanish, but it is likely that some may need opportunities to gain basic Spanish language skills and cultural awareness training to communicate with Latino/Hispanic students and families.

Table 4. Demographic Characteristics of the Reserve Pool

Demographic Characteristics	Reserve Pool		Chicago	Cook County (minus Chicago)	NE (minus Cook County)	NW	Central	South	Out of State
	N	%	%	%	%	%	%	%	%
	3,402	100.0	11.0 (N=373)	18.3 (N=623)	22.3 (N=760)	12.6 (N=428)	6.5 (N=221)	10.5 (N=357)	18.8 (N=639)
Age									
33 yrs and younger	1,061	31.4	33.5	22.8	30.8	37.4	34.4	39.2	30.0
34-40 yrs old	980	29.0	15.0	31.3	36.3	28.2	34.4	22.7	28.4
41-54 yrs old	945	28.0	24.0	32.2	22.6	26.8	28.4	30.0	31.9
55 yrs and older	393	11.6	27.5	13.7	10.3	7.5	—	8.1	9.7
Race/Ethnicity									
White	3,045	92.5	67.0	90.8	97.8	98.4	97.0	99.1	93.2
Black	149	4.5	22.0	4.3	—	—	—	—	4.7
Latino/Hispanic	55	1.7	8.3	2.7	—	—	—	—	—
Asian/Pacific Islander	39	1.2	—	—	—	—	—	—	—
American Indian	—	—	—	—	—	—	—	—	—
Marital Status									
Married	2,499	75.0	53.3	72.6	82.3	74.8	80.6	78.5	76.7
Widowed or Divorced	312	9.4	18.7	11.1	5.6	9.1	—	8.4	10.9
Never Married	523	15.7	28.0	16.3	12.1	16.0	19.4	13.1	12.4
Children under 6 yrs old	1,412	41.9	27.0	36.8	53.9	45.5	45.6	40.9	37.8

— N too small to report.

Why Are Certified Type 04 Teachers Not Working in an Illinois Early Childhood Center?

We asked respondents to identify the reason that best described why they were not currently working in an Illinois early childhood center. Reserve Pool members cited “choose to be a full-time parent” most often (27%). Living outside of Illinois and the need for a better salary were each identified by 11% of the Reserve Pool. Nearly one in ten (9%) believe there are no early childhood jobs available to them. Another 12% prefer another educational setting and 3% prefer a job outside of education, despite the fact that they indicated a willingness to consider employment in an Illinois early childhood center under the right conditions.

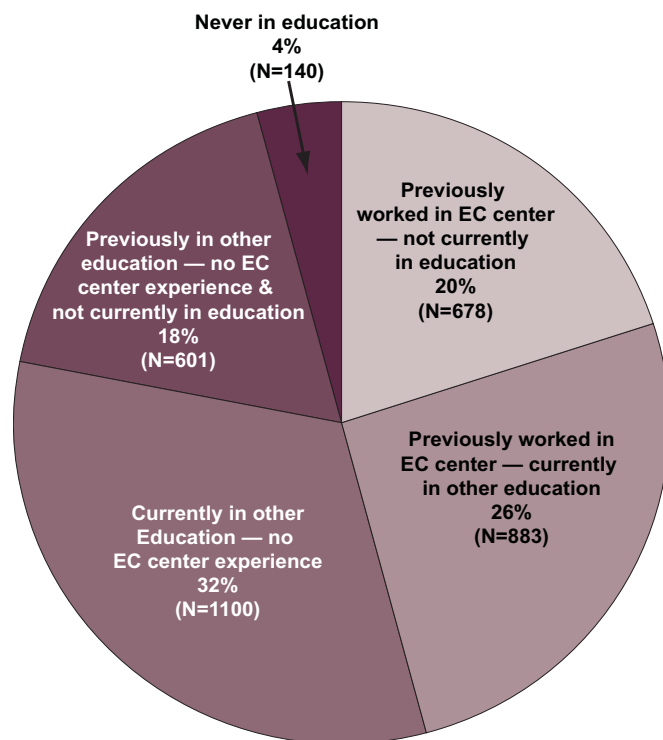
Nearly one in ten (9%) believe there are no early childhood jobs available to them.

Reserve Pool’s Work Experience in Education

We were surprised to discover that almost half (46%) of Reserve Pool members had experience working in an early childhood center (in addition to the estimated 558 certified teachers who reported that they were currently working in an early childhood center) (Figure 4). Furthermore, over half (32% + 26% = 58%) of the Reserve Pool members were currently working in education-related jobs.

Almost half (46%) of Reserve Pool members had experience working in an early childhood center.

Figure 4. Reserve Pool Members’ Experience in an Education Setting



Note: Those currently working in an early childhood center are excluded from the Reserve Pool.

We also found that over 600 members of the Reserve Pool were working in an Illinois public school in 2005 (they joined or returned after the 2002-2003 year and thus were not excluded from the survey population). These data support the view that those certified to teach early childhood education have not left the field of education or the early education arena. Not only are these individuals experienced and qualified for these positions, they have expressed willingness to consider working in early childhood centers.³ Tapping into the Reserve Pool would quickly increase the number of certified teachers working in early childhood centers.

³ In the companion report, *The Illinois early childhood teacher reserve pool study* (Klostermann et al., 2006), we provide results of follow-up interviews with 40 current IPS teachers who were members of the Reserve Pool.

What Incentives Would Help Attract Type 04 Certificants to Work in an Illinois Early Childhood Center?

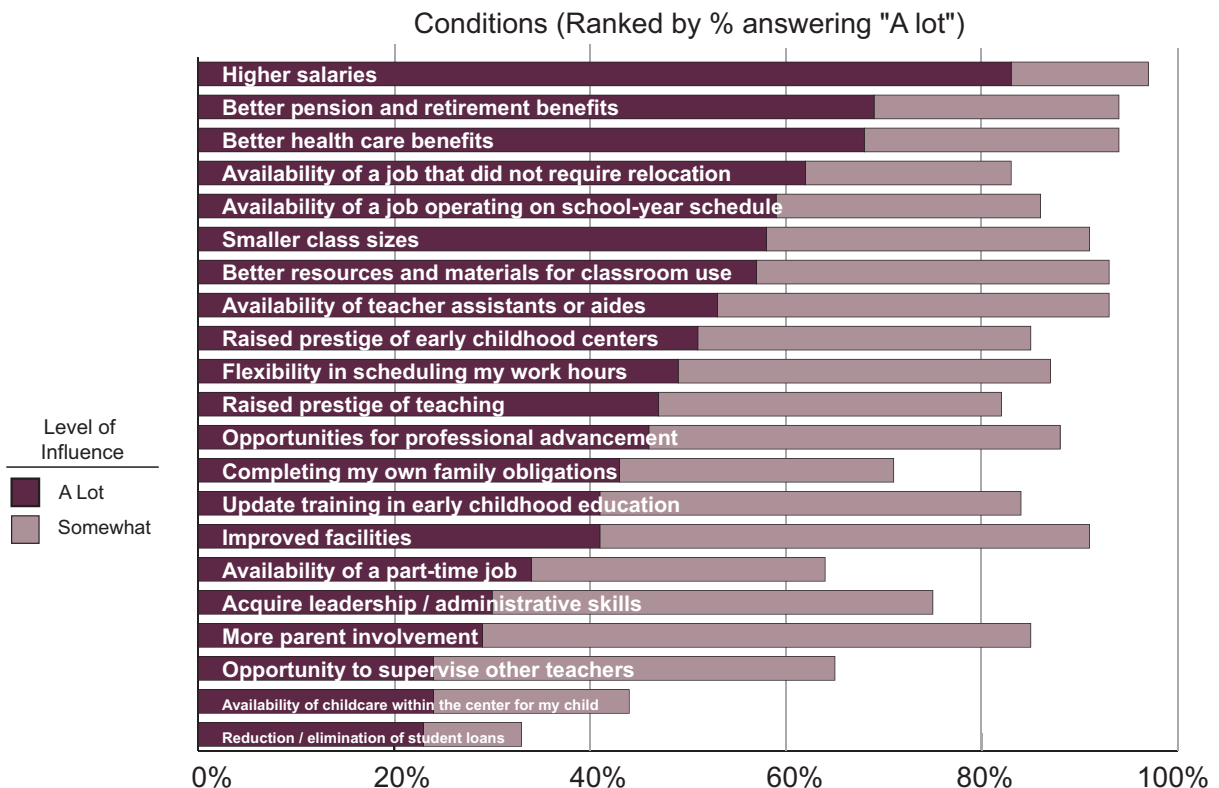
Individuals in the labor market make occupational choices based on the relative benefits and costs, including pecuniary and non-pecuniary factors, of alternative occupations. A major section of our survey asked those who would consider employment in an Illinois early childhood center (the Reserve Pool) to indicate to what degree different conditions would influence their decision. Respondents rated 21 different conditions on the level of influence (either no influence, somewhat, or a lot) each would have on their decision to consider working in an Illinois early childhood center with children ages 3-5.

Many conditions would positively influence the Reserve Pool's decisions to work in an Illinois early childhood center. Items relating to compensation top the list.

Nearly 20% indicated they would be willing to move for an early childhood job.

Figure 5 shows the percentage of respondents reporting whether each condition would influence them "a lot" or "somewhat." The items are listed in decreasing order by the percent reporting the condition would influence them "a lot." As seen in the figure, many conditions would positively influence the Reserve Pool's decisions to work in an Illinois early childhood center. Items relating to compensation (i.e., salaries, pensions and retirement benefits, health care) top the list. Improving working conditions (i.e., school-year schedule, class size, classroom resources, improved facilities, and availability of assistants) would also influence the potential workforce. No relocation was of high importance to over 60% of the Reserve Pool; however, nearly 20% indicated that "no relocation" would not influence them, or put another way, they would relocate. Reduction or elimination of student loans, a popular policy strategy to attract teachers, would influence only a small proportion of the Reserve Pool to work in an Illinois early childhood center.

Figure 5. Reserve Pool Members' Ratings of Employment Conditions Influencing Their Decision to Work in an Illinois Early Childhood Center



Top Three Choices. Given limited budgets, choices must be made concerning where to target resources that would make the greatest impact on recruiting and retaining qualified teachers. So we asked respondents to choose three conditions that would have the largest influence on their decision. Table 5 presents the top vote-getters when respondents were asked to choose the three most influential prerequisites for them to consider teaching in an early childhood center. Higher salaries trump all other incentives with 72% choosing salary within their top three conditions. There is a significant drop off for the other incentives with less than 25% of respondents selecting any other condition in their top three picks. What we learn from these results is that while many incentives may influence Reserve Pool members’ decisions (as seen in Figure 5), higher salaries would be the most significant incentive to attract Type 04 certified teachers to work in early childhood centers.

Higher salaries trump all other incentives with 72% of the Reserve Pool choosing salary within their top three conditions.

Table 5. Reserve Pool’s Ratings of Top Three Choices

Conditions	% Placing Condition in Top Three
Higher salaries	72%
Availability of a job operating on school-year schedule	23%
Better health care benefits	22%
Flexibility in scheduling my work hours	21%
Completing my own family obligations	20%
Better pension and retirement benefits	19%
Smaller class sizes	18%
Better resources and materials for classroom use	14%
Availability of a part-time job	11%
All other conditions	<10%

Expected Length of Employment in an Early Childhood Center

We were also interested in how long respondents would expect to work in an Illinois early childhood center. Most of the Reserve Pool said they would stay employed for an extended time period (Table 6). Overall, nearly half (48%) are interested in staying employed four to ten years and another 34% would expect to stay more than ten years. Length of anticipated employment varies with age—those 55 years and older are more interested in working four to ten years (67%), which would probably coincide with their retirement.

Most of the Reserve Pool said they would stay employed for an extended time period.

Table 6. Reserve Pool Expected Length of Employment by Age

	Less than 1 year	1-3 years	4-10 years	More than 10 years	Total
Overall Distribution	< 1%	18.4%	47.6%	33.8%	100%
AGE					
33 yrs and younger	—	22.6%	39.5%	37.6%	100%
34-40 yrs old	—	16.4%	48.1%	35.2%	100%
41-54 yrs old	—	11.4%	49.3%	39.3%	100%
55 yrs and older	—	25.9%	67.0%	7.1%	100%

— N too small to report.

Minimum Salary Requirements

Almost half (45%) of the Reserve Pool said they required less than \$40,000 to take a full-year position.

Given the priority the Reserve Pool placed on higher salaries in their decision to consider a job in an Illinois early childhood center, we examined their salary requirements by age, region, job position of interest, and 2004 salary (see Table 7). Almost half (45%) of the Reserve Pool said they required less than \$40,000 to take a full-year position. Another 29% wanted \$40,000-\$49,999. Younger Reserve Pool members (younger than 34 years of age) expect lower salaries than the other age groups with the majority (52%) wanting \$30,000-\$39,999. Individuals from the Chicago, Cook County, Northeast and out-of-state regions require higher salaries compared to those in the Northwest, Central, and South regions. For those Reserve Pool members who said they were only interested in a teacher position, 52% required annual minimum salaries less than \$40,000. Those interested in only the education coordinator and director positions expected higher annual salaries.

Table 7. Reserve Pool’s Annual Salary (Full-Year, Full-Time) Requirements by Age Group, Region and Position

	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$59,999	\$60,000 - \$69,999	\$70,000+	N
Overall Distribution	7.2%	37.9%	29.4%	14.3%	7.4%	3.7%	3,243
Age Group							
33 yrs or younger	10.5%	52.4%	24.8%	7.9%	2.5%	1.9%	1,022
34-40 yrs old	7.9%	39.0%	27.9%	14.8%	7.2%	3.1%	942
41-54 yrs old	2.9%	27.6%	35.6%	19.3%	9.8%	4.7%	893
55+ yrs and older	7.1%	21.4%	28.6%	19.6%	15.2%	8.0%	363
Region							
Chicago	4.6%	19.4%	38.0%	13.0%	16.7%	8.3%	351
Cook County	1.1%	31.7%	38.9%	20.0%	5.0%	3.3%	584
Northeast	6.6%	37.0%	32.6%	14.5%	5.3%	4.0%	737
Northwest	14.2%	52.8%	21.3%	7.9%	—	—	412
Central	18.2%	43.9%	24.2%	12.1%	—	—	214
South	13.2%	53.8%	20.8%	—	—	—	344
Out of State	3.2%	34.6%	23.8%	20.0%	13.5%	4.9%	601
Position							
Teacher Only	8.0%	43.9%	29.6%	11.6%	5.0%	1.9%	1,175
Educ. Coor Only	—	17.4%	41.3%	15.2%	13.0%	—	149
Director Only	—	—	—	33.3%	18.3%	24.2%	107
Total	5.5	38.3	27.2	16.9	7.9	4.1	—

— N too small to report.

We compared the 2004 salary for school-year employees to their minimum salary requirements (Table 8). Their requirements are very similar to the total Reserve Pool. The lower their current salary, the more likely they are to want to move up a salary bracket. Remember that the school-year employees would be moving to a full-year employment schedule. Full-year 2004 employees show a similar pattern.

Table 8. Reserve Pool’s Annual Salary (Full-Year, Full-Time) Requirements by 2004 Salary

	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$59,999	\$60,000 - \$69,999	\$70,000+	N
Overall Distribution	7.2%	37.9%	29.4%	14.3%	7.4%	3.7%	3,243
2004 Salary for School-year Employees							
<\$20,000	21.6%	62.2%	13.5%	—	—	—	120
\$20-29,999	7.7%	56.9%	26.2%	7.7%	—	—	224
\$30-39,999	—	45.3%	34.0%	15.1%	—	—	344
\$40-49,999	—	—	45.5%	36.4%	13.6%	—	143
\$50-59,999	—	—	—	56.3%	—	—	52
\$60-69,999	—	—	—	—	81.8%	—	36
\$70,000 or more	—	—	—	—	—	—	6
Total for School-Year	5.5%	38.3%	27.2%	16.9%	7.9%	4.1%	
2004 Salary for Full-year Employees							
<\$20,000	38.9%	33.3%	—	—	—	—	58
\$20-29,999	15.4%	63.5%	13.5%	—	—	—	169
\$30-39,999	—	38.9%	40.7%	13.0%	—	—	175
\$40-49,999	—	—	72.0%	—	—	—	81
\$50-59,999	—	—	—	—	—	—	32
\$60-69,999	—	—	—	—	—	—	29
\$70,000 or more	—	—	—	—	—	60.0%	30
Total for Full-Year	8.7%	34.2%	32.1%	9.8%	9.2%	6.0%	

— N too small to report.

In conclusion, the Reserve Pool provides a supply of qualified, experienced, and interested early childhood teachers for the anticipated *Preschool For All* initiative. Based on our survey results, about 3,400 individuals certified to teach early childhood would be willing to work in an Illinois early childhood center under certain conditions. While many incentives would influence their decision, higher salaries is the most significant incentive to attract them to an Illinois early childhood center. Tapping into this supply would quickly increase the number of certified teachers working in early childhood centers. ISBE’s certificant database may provide a source of recruitment of Type 04 certificants.

Comparing Supply to Demand for Certified Early Childhood Teachers in Illinois

Led by Governor Blagojevich, Illinois is embarking on a path to *Preschool for All*. The FY 2007 state budget, approved in May 2006, contains an additional \$45 million for the Early Childhood Block Grant (ECBG). This increase in funding follows an addition of \$90 million that had been added over the past three years. The ECBG program currently supports about 75,000 students, with a total budget of \$273,254,500 in FY 2006 (ISBE, 2006). In FY 2005, 41% (30,500) of participants were served through the Chicago Public Schools, which receives 37% of the final appropriation through the Chicago Block Grant (ISBE, 2006).

We use three service-level models to assess the extent to which the pipeline and pool of Type 04 teachers can meet projected increases in demand due to program expansion:

Phase 1: The Governor’s three-year plan to serve an additional 32,000 at-risk 3- and 4-year olds (Office of the Governor, 2006).

Phase 2: Extends service to all remaining interested 3-year olds in years four and five (Office of the Governor, 2006). In practice, this is expected to be 50% of all 3-year olds and 60% of all 4-year olds participating (Golin et al., 2003) for an additional 23,000 children served. We exclude from this calculation any estimate of additional certified teachers needed to bring Head Start programs into compliance with state teacher-qualification requirements.

Head Start: Children currently enrolled in Head Start programs who also would benefit from being taught by a Type 04 certified teacher. It is estimated that about two-thirds of programs lack an early childhood baccalaureate-educated teacher (Head Start PIR, 2004). So we estimate that at least two-thirds of Head Start 3- and 4-year olds, or about 25,000 children, could be added to the demand equation for certified teachers.

Regional Distribution of Illinois’ 3- and 4-Year Olds

We begin by examining the number and distribution of 3- and 4-year olds projected for 2007 (Table 9). We show the projected number of 3- and 4-year olds by region

Table 9. Estimated Distribution of Illinois’ 3- and 4-year olds, 2007 by Region

Region	Distribution of 3- and 4-year olds by Region in 2000	Estimated Number of 3-year olds, 2007	Estimated Number of 4-year olds, 2007	Total Estimated 3- and 4-year olds 2007	50% of 3- and 60% of 4-year olds, 2007
City of Chicago	24.4%	41,539	41,981	83,521	45,958
Cook County <i>minus City</i>	19.6%	33,381	33,736	67,117	36,932
Northeast <i>minus Cook County</i>	26.7%	45,539	46,023	91,562	50,383
Northwest	11.2%	19,072	19,275	38,347	21,101
Central	9.6%	16,386	16,560	32,946	18,129
South	8.5%	14,526	14,681	29,207	16,071
Total State	100%	170,443	172,256	342,699	188,575

Source: Census 2000 (2001) and U.S. Census Bureau (2000).

using U.S. Census Bureau 2007 projections by age, and the 2000 actual distribution. There are an estimated 188,575 children in this age group in Illinois.

Phase 1: 32,000 more enrollments over three years

In February 2006, Governor Blagojevich unveiled a plan to give every 3- and 4-year old in Illinois access to preschool. He plans to request \$45 million in each of the next three fiscal years to give a total of 32,000 more children the opportunity to attend preschool (Office of the Governor, 2006). The first \$45 million was included in the FY 2007 state budget. State-supported programs may be based in schools, early childhood centers, community agencies, or family childcare homes, and require the presence of one Type 04 certified teacher for every 20 children for a half-day program. So, for planning purposes, one Type 04 certified teacher will serve 40 children over a full day. In addition, since Chicago Public Schools receives 37% of funding, we assumed for modeling purposes that 37% of the increase in the number of children served would be in Chicago. The remaining 63% of growth was distributed proportionally among the other regions according to their share of the 3- and 4-year olds. In practice, some centers may already have staff that are qualified under state requirements, and would not need to add additional certified teachers.

Most regions would be able to meet much of Phase 1 demand from the Reserve Pools in their regions, if they provide competitive salaries to attract qualified teachers.

We first calculate the proportion of the Reserve Pool that would be needed to meet increased demand over the period if there were no additional individuals entering from the certification pipeline. Table 10 shows the results for enrollment growth of 32,000 children, or 10,667 per year for three years. In Phase 1, most regions would be able to meet this increased demand from the Reserve Pools in their regions, if they provide competitive salaries to attract certified teachers (see “Deficit or Surplus” column in Table 10). In addition, their regional institutions of higher education would continue to graduate a supply of new Type 04 certificants.

Table 10. Phase 1: Projected Number of Type 04 Certified Teachers Needed for 32,000 Additional Children Served by State Early Childhood Block Grant Program Over 3 Years

Region	Additional Children Served Over 3 years		Number of Additional Type 04 Teachers Needed (# Children /40)	Number Estimated in Reserve Pool as of 2005	Proportion of Reserve Pool Needed to Meet New Demand	Number by Recruiting 25% of Local Reserve Pool	Deficit or Surplus with 25% of Local Reserve Pool		Expected Number of New Certificants Per Year	Proportion of New Certificants Needed Over 3 Years
	N	%					Over 3 Years	Per Year		
City of Chicago	11,840	37%	296	373	79%	93	-203	-68	250	27%
Cook County <i>minus City</i>	5,227	16%	131	623	21%	156	25	8	0	
Northeast Region <i>minus Cook County</i>	7,120	22%	178	760	23%	190	12	4	54	
Northwest Region	2,987	9%	75	428	17%	107	32	11	74	
Central Region	2,560	8%	64	221	29%	55	-9	-3	135	2%
South Region	2,267	7%	57	357	16%	89	33	11	81	
Total, Illinois	32,000	100%	800	2,763	29%	690	-110	-37	593	6%
Region Unknown									92	<i>None used in model</i>
Border States				224					90	
Other States				415						
Total, All Locales	32,000			3,402					775	

Institutions of higher education in Chicago should strive to help current students prepare for admission to, and complete their programs, and find jobs in early childhood education.

We emphasize that without providing competitive salaries in early childhood centers for certified teachers, recruitment and retention in those settings will remain difficult.

Chicago, on the other hand, would need to recruit nearly all the Reserve Pool members in its region to meet increased demand—which is not likely to happen. It could also, of course, seek to attract candidates from other regions or states. We show how many they might expect to recruit if they were able to attract 25% of the local Chicago Reserve Pool to Chicago early childhood programs.⁴ There would be a deficit of about 203 people, or 68 per year. This is the number that would be needed from the newly certified pipeline. We know that teacher labor markets are quite local, so we use the Chicago pipeline. About one quarter of the current new supply of about 250 per year (750 over three years) would be needed over the three years of Phase 1 implementation. Chicago universities enroll more than 1,400 students a year who are interested in or enrolled in early childhood education programs. We showed earlier that the pipeline for new certificants may be especially leaky at the transition from “interest” to enrollee. Institutions of higher education in Chicago should strive to help current students prepare for admission to, and complete their programs, and find jobs in early childhood education. Legislation that passed in May 2006 (Illinois 94th General Assembly, 2006b), allows working early childhood practitioners to continue to be paid and receive credit for student teaching at their place of employment. This could help increase the flow through the preparation pipeline. But we also emphasize that without providing competitive salaries in early childhood centers for certified teachers, recruitment and retention in those settings will remain difficult.

Phase 2: Serving all interested 3- and 4-year olds

In this model, we use a planning assumption that if preschool is available universally, in practice about 50% of 3-year olds would be enrolled, as would 60% of 4-year olds (Golin et al., 2003).⁵ Before we estimate the number of additional Type 04 teachers that would be needed to serve this level of participation, we need to estimate the number of additional students to be served, since we know that some already are participating in state- (and federally) supported programs. Table 11 shows that about 23,000 additional children would be served in Phase 2.

⁴ We chose to use 25% of the Reserve Pool for modeling purposes because that proportion seemed not too conservative, and not too optimistic. About 25% of the Reserve Pool told us that they expected to be working in early childhood education by 2010. We know that some of these entrants will be replacing leavers (who then become part of the Reserve Pool), although we have no way of modeling that aspect of the early education teacher labor market directly. Of course, potential teachers can also be recruited from other regions (and states) since about 20% indicated a willingness to relocate. We did not attempt to model this additional potential source of qualified teachers across regional boundaries.

⁵ Under the plan approved by the legislature, service will eventually be extended to all interested 3-year and 4-year olds but prioritized to first serve at-risk 3- and 4-year olds, then to children based on family income (Illinois 94th General Assembly, 2006a). SB1497 says that “such funds shall be distributed to achieve a goal of “Preschool for All Children” for the benefit of all children whose families choose to participate in the program. Based on available appropriations, newly funded programs shall be selected through a process giving first priority to qualified programs serving primarily at-risk children and second priority to qualified programs serving primarily children with a family income of less than 4 times the poverty guidelines updated periodically in the Federal Register by the U.S. Department of Health and Human Services under the authority of 42 U.S.C. 9902(2). For purposes of this paragraph (4.5), at-risk children are those who because of their home and community environment are subject to such language, cultural, economic and like disadvantages to cause them to have been determined as a result of screening procedures to be at risk of academic failure. Such screening procedures shall be based on criteria established by the State Board of Education.”

Table 11. Estimate of Additional Children to be Served with 50%/60% Participation

	Children per Year
50% of 3-year olds + 60% of 4-year olds in Illinois	188,575
Already served by Early Childhood Block Grant	-75,000
3- and 4-year olds served by Head Start (2002-03)	-38,900
3- and 4-year olds served by Federal IDEA program	-19,660
Already added in Phase 1	-32,000
Total additional projected need	23,015

Sources: ISBE, 2006; Head Start PIR, 2004; Barnett et al., 2005.

In the next table (Table 12) we display the projected number of Type 04 teachers needed to support such an increase in ECBG enrollment. For Phase 2 we again assume that 37% of the increase in enrollment occurs in Chicago. With the implementation of Phase 2, about 50,850 Chicago preschoolers would be enrolled—about 60% of the estimated 83,521 3- and 4-year olds in the city in 2007. And this excludes the 17,770 3- and 4-year olds already enrolled in Chicago Head Start programs and others served through Federal Individuals with Disabilities Education Act (IDEA) funds for special education (Head Start Program Information Report, 2004; Barnett et al., 2005). We again pro-rate the remaining growth among the other regions according to their share of 3- and 4-year olds and make the conservative assumption that the current cadre of Type 04 certified teachers working in early childhood centers are already assigned to serve current state-supported ECBG participants. In practice, some centers may already have staff that are qualified under state requirements, and would not need to add additional certified teachers.

The Reserve Pool and pipelines can service the 23,000 children estimated to be included in the two-year Phase 2 period.

We can see from Table 12 that the Reserve Pool and pipelines can service the 23,000 children estimated to be included in the two-year period. Again, it would help if higher education institutions in the Chicago area move more of their students

Table 12. Phase 2: Extending Service to “All” in Years 4 and 5 (50% of 3-year olds and 60% of 4-year olds) Over 2 Years

Region	Additional Children Served Over 2 Years		Number of Additional Type 04 Teachers Needed (# Children /40)	Number Estimated in Reserve Pool as of 2005 minus Phase 1	Proportion of Reserve Pool Needed to Meet New Demand	Number by Recruiting an Additional 25% of Local Reserve Pool	Deficit or Surplus with 25% of Local Reserve Pool		Expected Number of New Certificants Per Year	Proportion of New Certificants Needed Over 2 Years
	N	%					Over 2 Years	Per Year		
City of Chicago	8,510	37%	212	280	76%	70	-143	-72	250	29%
Cook County <i>minus City</i>	3,757	16%	94	467	20%	117	23	12	0	
Northeast <i>minus Cook County and City</i>	5,118	22%	128	570	22%	143	15	8	54	
Northwest	2,147	9%	54	321	17%	80	27	14	74	
Central	1,840	8%	46	166	28%	41	-5	-3	135	2%
South	1,629	7%	41	268	15%	67	26	13	81	
Total, Illinois	23,000	100%	575	2,072	28%	518	-57	-29	593	5%
Region Unknown									92	None used in model
Border States				224					90	
Other States				415						
Total, All Locales				2,711					775	

Competitive salaries will be essential even for graduates of “grow your own” programs since newly certified teachers will have more choices than they had when they were non-baccalaureates.

Institutions of higher education will also need to provide teachers who hold other certifications—especially those already working in an early childhood setting—with streamlined paths to add on an early childhood credential.

from the “interest” stage to program admitees to graduates/certificants. Regions beyond Chicago would continue to be able to draw on their Reserve Pools and new certificants to meet their growing enrollment needs. Again, competitive salaries for certified teachers will continue to be a necessary condition to attract teachers to the locales where they are especially needed when they have other employment options. We note that this will be essential even for graduates of “grow your own” programs since newly certified teachers will have more choices than they had when they were non-baccalaureates.

Head Start Programs

In 2005 there were almost 39,000 Illinois 3- and 4-year olds enrolled in federally funded Head Start programs. About 46% of these children are in Chicago (Head Start PIR, 2004). Some children are in Head Start programs with teachers that meet the federal requirements, but not the new state requirement of early childhood certification. According to the latest Head Start Program Information Report (2004) only about 31% of their teachers have a bachelors degree or above in Early Childhood or a related field. This could translate to approximately 27,000 children who may be in Head Start programs that lack a certified early childhood teacher. If this is the case, we estimate that an additional 675 certified early childhood teachers may be needed to fill this gap, with almost half of that need being in Chicago. We have shown earlier that the local Chicago Reserve Pool provides a proportionally smaller supply of Type 04 certified teachers than in other regions, so these qualified teachers would have to come from the newly certified pipeline, teachers currently holding other certifications, or from outside the city. This additional analysis highlights the importance of improving the pipeline from “interest” to admission to graduation in early childhood programs in Chicago institutions of higher education and to raising salaries to attract qualified teachers. Institutions of higher education will also need to provide teachers who hold other certifications—especially those already working in an early childhood setting—with streamlined paths to add on an early childhood credential.

Summary and Conclusions

We have shown that the Reserve Pool of already-qualified Type 04 certificants provides a strong foundation for the expansion of state-supported preschool programs. Even at the Phase I growth levels (32,000 statewide), however, the city of Chicago will need to draw additional newly minted early childhood teachers from its higher education institutions. Other regions will generally be well-supplied by their Reserve Pools of teachers. In all situations, however, it is essential that early childhood centers planning to hire the needed Type 04 certified teachers recognize the importance of offering salaries, and to a lesser extent benefits, that reflect certified teachers’ professional education and training. Otherwise, they will experience difficulties in hiring, and especially in retaining, qualified teachers. Our study of the Reserve Pool showed that qualified teachers would be willing to remain in an early childhood center setting—that is, salary is more important than setting.

Our analysis shows that it will continue to be possible to extend *Preschool For All* to all other interested 3- and 4-year olds in years four and five of the plan. We estimate that 23,000 more children would seek opportunities to be served if the expected 50% of 3-year olds and 60% of four-year olds participated. Under this pace of implementation, it would be helpful for institutions of higher education in

the Chicago area to produce a more efficient pipeline of students who move from an “interest” status, to program enrollees to graduates. We showed that there are as many as 1,400 students per year currently enrolled in Chicago institutions of higher education who are reported as early childhood students— although we also learned that many of these students are not formally admitted to early childhood preparation programs. Perhaps some of these students are current early childhood practitioners who are going to college to become certified, but do not manage to complete a program. Between 225 and 265 new certificants emerge from Chicago institutions annually. We recommend that institutions of higher education, especially those in the Chicago area where the need for more early childhood teachers will be highest (in part, because of its proportionally smaller Reserve Pool), establish a collaborative effort to examine the characteristics of students in the pipeline, and to identify the continuing barriers that result in students’ lack of progress through the college pipeline. One of the potential barriers has just been removed with more flexible alternatives for student teaching experiences, but others are likely to continue to exist—including the need to pass the state Basic Skills test before program admission, and the fact that many Chicago preparation opportunities are at more expensive private institutions of higher education.

Finally, we examined the additional demand for qualified early childhood teachers when federally funded Head Start programs are included in the equation. If current estimates that only one third of these programs’ teachers hold early childhood degrees is accurate, then the additional 27,000 children in these programs who would need teachers with increased qualifications would exacerbate the difficulty of providing a supply of qualified teachers in the short term (i.e., within five years).

In summary, we find that through a combination of recruitment from the currently qualified Reserve Pool of individuals, most of whom expressed a willingness to consider working in an early childhood center environment under certain conditions, and the current production pipeline of new certificants, Illinois will be able to meet the demand for additional early childhood teachers if *Preschool For All* adds about 10,000 3- and 4-year olds per year.

- Reserve Pool members are willing to work in early childhood centers and provide a ready source of qualified teachers under certain conditions;
- Illinois early childhood centers need to offer certified teachers salaries that recognize their professional training and education;
- ISBE’s certificant database may provide a source of recruitment of Type 04 certificants; and
- Chicago will be more reliant on the production pipeline than other regions. Chicago institutions of higher education that offer early childhood teacher preparation programs need to examine who is in the pipeline, and why more of their students are not progressing from “interest” to program enrollee to graduate.

References

- Barnett, W.S. (2003). *Better teachers, better preschools. Preschool Policy Matters, 2*. New Brunswick, NJ: National Institute for Early Education Research.
- Barnett, W.S. (1998). Long-term effects on cognitive development and school success. In W.S. Barnett & S.S. Boocock (Eds.). *Early care and education for children in poverty* (pp 11-44). Albany, NY: State University of New York Press.
- Barnett, W. S., Hustedt, J. T., Robin, K. B., & Schulman, K. L. (2005). *The state of preschool: 2005 state preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research. Retrieved on May 9, 2006 from <http://www.nieer.org/yearbook/pdf/yearbook.pdf#page=68>
- Census 2000 summary file [Illinois]. (2001). Prepared by the U.S. Census Bureau.
- Golin, S. C., Mitchell, A. W., & Wallen, M. (2003). *The cost of universal access to quality preschools in Illinois: A report to Governor George H. Ryan's task force on universal access to preschool*. Washington, DC: Institute for Women's Policy Research.
- Gormley, W.T., Gayer, T., Philips, D. & Dawson, B. (2005). The effects of universal pre-k on cognitive development. *Developmental Psychology, 41*(6), 872-884.
- Head Start Program Information Report (2002-2003 PIR) [Data file]. (2004). Washington, DC: Department of Health & Human Services.
- Illinois 94th General Assembly. (2006a). Grants for preschool educational programs. SB1497 amends 105 ILCS 5/2-3.71. Sent to Governor's office on June 2, 2006 for signature. <Http://ilga.gov/legislation/ilcs/ilcs.asp>
- Illinois 94th General Assembly. (2006b). Early childhood certificate. SB2202 amends 105 ILCS 5/21-2.1. Sent to Governor's office on June 1, 2006 for signature. <Http://ilga.gov/legislation/ilcs/ilcs.asp>
- Illinois State Board of Education. (2004, December). *Educator supply and demand in Illinois: 2004 annual report*. Springfield, IL: Author. Retrieved from http://www.isbe.net/research/pdfs/ed_supply_demand04.pdf
- Illinois State Board of Education. (2005a, December). *Educator supply and demand in Illinois: 2005 annual report*. Springfield, IL: Author. Retrieved from http://www.isbe.net/research/pdfs/supply_demand_05.pdf
- Illinois State Board of Education. (2005b). Illinois state report card. Springfield, IL: Author. Retrieved from <http://webprod1.isbe.net/ereportcard/publicsite/getSearchCriteria.aspx>
- Illinois State Board of Education. (2006, February). *Proposed budget – fiscal year 2007* (p. 31). Retrieved April 3, 2006 from http://www.isbe.state.il.us/budget/FY07/proposed_budget_FY07.pdf
- Integrated Postsecondary Education Data System [Data file]. (2006). Springfield, IL: Illinois Board of Higher Education.

- Karoly, L.A., Greenwood, P.W., Everingham, S.S., Hoube, J., Kilburn, M.R., & Rydell, C.P. (1998). *Investing in our children: What we know and don't know about the costs and benefits of early childhood interventions*. Santa Monica, CA: RAND.
- Klostermann, B.K., White, B.F., & Presley, J.B. (2006). *The Illinois early childhood teacher reserve pool study (IERC 2006-4)*. Edwardsville, IL: Illinois Education Research Council.
- Office of the Governor. (2006, February 12). *Gov. Blagojevich unveils landmark plan to give every 3 and 4 year-old in Illinois access to preschool*. Press Release. Retrieved on May 2, 2006 from www.illinois.gov/PressReleases/PrintPressRelease.cfm?RecNum=4660
- Ramsburg, D., Montanelli, D., & Rouge, E. (2004, April). *Illinois salary and staffing survey of licensed child care facilities: FY 2003*. Department of Human and Community Development, University of Illinois at Urbana-Champaign for the Department of Human Services.
- Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Nores, M. (2005). *Lifetime effects: The High/Score Perry Preschool study through age 40* (Monographs of the High/Score Educational Research Foundation, 14). Ypsilanti, MI: High/School Educational Research Foundation.
- U.S. Census Bureau. (2000, November 2). *State population projections: 2006 to 2010*.
- Whitebook, M., Howes, C., & Phillips, D. (1990). *Who cares? Childcare teachers and the quality of care in America: Final report of the National Child Care Staffing Study*. Oakland, CA: Child Care Employee Project.

Appendix A: Assessment of Illinois Early Care and Education Data and Research Reports: Executive Summary

In March 2004, the National Institute for Early Education Research (NIEER) awarded the Illinois Education Research Council (IERC) a grant to study the adequacy of the supply of qualified teachers in preschool programs (in both school and non-school settings) in Illinois. This first interim report presents the results of our analysis of existing data and research reports, initial analysis results examining the pre-kindergarten (Pre-K) workforce in Illinois public schools, and our next steps based on the findings of the data audit and initial Pre-K workforce analysis.

Illinois possesses a wealth of early childhood data and existing research, each with its own strengths and weaknesses. However, the absence of a coordinated effort to collect and utilize this information has led to overlap in some instances, and data gaps in others. A comprehensive registry of early care and education programs provides a strong foundation. But other data are collected in a decentralized fashion to meet the needs of specific agency mandates and may not be available electronically. The Illinois State Board of Education (ISBE) Pre-K program (both in schools and centers) and Head Start collect data on students served in those programs. Educational qualifications for family childcare providers and teachers in ISBE Pre-K (both school and center settings) are available. In addition, aggregate teacher data are available from Head Start, but do not include information on staff with qualifications other than early childhood. Lastly, the ongoing Department of Human Services Salary and Staffing Survey provides another good source of information on the early education workforce in Illinois, but there are certain limitations, such as generalizability and the concern about the accuracy of directors' reporting, that may call for constraint in interpretation.

Our review of recent research reports and special projects revealed that considerable work has been accomplished in the past three years that can provide a foundation for assessing the current and future demand for preschool education in Illinois. The findings on the number and characteristics of teachers in various early care and education settings are less solid. However, they are still useful in examining provider education qualifications. The IERC will draw on these studies as we develop our analyses of the supply and demand for preschool teachers. Finally, we note that none of the studies we reviewed gave consideration to the reserve pool of Early Childhood (Type 04) certificants as a potential supply of highly qualified educators, if requirements and salaries are increased.

To address how data collection might be improved to more closely monitor the current and changing characteristics of the preschool workforce, we provide the following suggestions:

1. Enhance the current administration of the Salary and Staffing Survey by increasing response rates and undertaking a verification study of non-responders. This approach provides an immediate opportunity to improve the collection of workforce data at modest additional expense.
2. Design a “common core of data” to be collected from all licensed family and center providers. Developing a set of common data definitions to be used across surveys would be useful. This approach might enable responders to provide one set of data that could be used for various reporting needs. But a universal collection effort is ambitious and, with 12,000 licensed providers, costly. And without full compliance, the data may still not be representative of the population of providers.
3. Coordinate and expand the collection of individual-level teacher data through an on-line data-collection process. The Teacher Service Record system could provide an initial model for expansion to ISBE Pre-K programs in non-school settings. As experience is gained, the costs and benefits could be assessed before considering an expanded system that included other providers.

Results from our initial analysis examining the pre-kindergarten (Pre-K) workforce in Illinois public schools revealed potentially 8,000 to 10,000¹ individuals who may represent a “reserve pool” of highly qualified teachers who might be available to teach at the preschool level if conditions were right. Some will already be employed in preschool settings outside of the Illinois public schools, while others might consider becoming or returning to preschool teaching under the right conditions (such as competitive salaries).

Based on our analysis of the landscape of the existing data and research projects, we have decided not to replicate or fine-tune the good information that is currently available through another survey of center directors and teachers as initially proposed. We plan to examine the currently “highly qualified” pool of early education teachers through a random sample survey of Early Childhood Education certificants. This will help Illinois understand whether and where those individuals are participating within and beyond the Illinois public schools, and under what circumstances others might choose to return to the field.

¹ In our Reserve Pool study (Klostermann et al., 2006), we focus specifically on early childhood centers because they are the most likely settings for expansion of the state’s early childhood block grant program, and with the understanding that they are more difficult to staff than public school settings. Thus, it is probable that individuals willing to consider working in early childhood centers would also be willing to consider working in public schools.

Appendix B: Enrollments and Degrees Conferred in Early Childhood Education by Institution

Enrollments and Degrees Conferred in Early Childhood Education by Illinois Institution of Higher Education

Institution	Program Description	Number of Students Enrolled										Number of Degrees Granted									
		1998	1999	2000	2001	2002	2003	2004	2005	1998	1999	2000	2001	2002	2003	2004	2005				
Chicago State University	B.S.Ed. in Early Childhood Education	233	223	209	211	219	214	220	224	16	10	17	24	18	16	16	11				
Northeastern Illinois University	B.A. in Early Childhood Education	295	324	312	342	332	317	335	322	27	28	24	25	48	42	28	32				
Columbia College Chicago(6 years' data)	B.A. in Early Childhood Education			79	72	82	78	60	65			3	4	11	5	5	7				
Concordia University	B.A. in Pre-Elementary Education	63	64	59	65	66	61	56	62	10	8	3	11	15	8	16	8				
DePaul University *	B.A. in Early Childhood Education	64	64	68	68	72	73	63	62	19	18	20	14	14	12	22	12				
Dominican University (2 years' data)	B.A. in Early Childhood Education					11	11	22	24												
Kendall College	B.A. in Early Childhood Education/Certification	35	6	36	59	100	37	66	115	9	3	5	10	6	10	7	8				
National-Louis University	B.A. in Early Childhood Education	182	157	149	156	164	2	27	19	24	32	28	30	24	24	18	22				
North Park University	B.A. in Early Childhood Education	3	6	8	13	9	11	12	7	—	2	—	2	3	2	3	2				
Roosevelt University	B.A.E. in Early Childhood Education	98	93	74	75	99	109	81	67	20	25	20	15	22	15	19	16				
St. Xavier University	B.S. in Early Childhood Education	57	56	68	N/A	82	96	91	87	16	22	17	21	16	13	17	15				
Chicago State University (2000 onwards)	M.A.T. in Early Childhood Education			1	4	10	12	8	9						2	6	2				
Concordia University	M.A. in Early Childhood Education	42	34	27	23	17	10	14	19	14	11	7	14	8	8	5	2				
DePaul University (2001 onwards)	M.Ed. Or M.A. in Early Childhood Education				28	28	29	34	26								1				
Dominican University	M.S. in Education	29	37	38	30	28	48	35	26	10	13	3	18	16	16	10	31				
Erikson Institute (2000 onwards)	M.S. in Early Childhood Education			19	25	31	33	56	53			11		2	6	12	7				
Loyola University of Chicago	M.A. and M.Ed. in Early Childhood Development	122	56	15	2					25	24	29	22	14							
National-Louis University	M.A.T. M.Ed. and M.S.Ed. in Early Childhood Education	143	122	95	106	154	172	139	120	90	52	87	26	50	55	52	68				
Roosevelt University	M.A. in Early Childhood Education	33	32	37	41	54	50	56	69	24	14	13	14	14	15	13	24				
St. Xavier University (1999 onwards)	M.A. in Early Childhood Education		2	7	10	16	16	12	10			2	7			7	9				
Total, Chicago		1,399	1,276	1,301	1,330	1,563	1,379	1,387	1,386	304	262	289	257	281	249	256	277				

Source: IBHE/IPEDS data. Some enrollment numbers may include "interested" students who have not actually been admitted to a program.

NORTHEAST																	
Governors State University	B.A. in Early Childhood Education	50	59	68	75	70	68	88	89	1	13	11	15	16	20	9	12
Elmhurst College	B.A. and B.S. in Early Childhood Education	55	45	33	39	39	53	53	51	17	13	21	9	11	6	16	11
Judson College	B.A. in Early Childhood Education	3	6	11	12	13	16	17	15	2	2	3	1	3	3	3	2
Olivet Nazarene University	B.A. and B.S. in Early Childhood Education	47	41	38	30	27	28	24	26	11	5	14	9	3	3	4	5
Governors State University	M.A. in Early Childhood Education	86	78	78	65	56	55	44	27	1	21	24	21	19	17	17	14
Elmhurst College	M.Ed. In Early Childhood Special Education	12	18	13	13	17	16	17	16			11	8	5	8	6	10
Total, Northeast		241	229	228	221	205	220	226	208	32	54	70	57	50	49	49	44
NORTHWEST																	
Northern Illinois University	B.S. in Early Childhood Studies	149	161	164	161	175	72	63	78	28	39	25	27	30	29	40	29
Western Illinois University	B.S. in Early Childhood Education	133	146	96	58	44	30	35	100	21	24	32	24	21	28	18	10
Bradley University	B.A. and B.S. in Early Childhood Education	52	48	51	47	64	55	54	51	21	17	10	9	15	11	12	10
Northern Illinois University	M.S.Ed. in Early Childhood Education	25	19	23	22	29	39	44	68	2	3	10	6	5	8	15	11
Total, Northwest		334	355	311	266	283	157	152	229	70	80	67	60	66	68	70	49
CENTRAL																	
Eastern Illinois University	B.S.Ed. In Early Childhood Education	182	145	153	121	115	108	133	174	46	25	33	41	28	34	17	32
Illinois State University	B.S. and B.S.Ed. in Early Childhood Education	276	275	281	319	343	296	255	258	62	66	67	65	63	97	94	78
U of I - Urbana/Champaign	B.S. in Early Childhood Education	52	49	50	53	56	60	66	58	15	24	20	26	19	29	21	34
Illinois College	B.S. in Early Childhood Education	40	38	21	19	20	23	21	18	4	4	14	9	7	6	7	7
Millikin University (1 years' data)	B.A. in Early Childhood Education								33								
Total, Central		550	507	505	512	534	487	475	541	127	119	134	141	117	166	139	151
SOUTH																	
S I U - Carbondale	B.S. in Early Childhood Education	186	175	167	164	156	151	142	171	49	50	39	59	41	54	36	38
S I U - Edwardsville	B.S. in Early Childhood Education	54	59	73	76	71	73	73	73	26	29	24	33	37	38	25	35
Greenville College	B.S. in Early Childhood Education	24	25	21	14	18	16	18	33	5	5	6	9	2	5	3	4
Total, South		264	259	261	254	245	240	233	277	80	84	69	101	80	97	64	77

Source: IBHE/IPEDS data. Some enrollment numbers may include "interested" students who have not actually been admitted to a program.

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