Examining the Chicago Early Childhood Teacher Pipeline

Brenda K. Klostermann

Executive Summary

Continued calls for increasing investments in Early Childhood Education abound. Nobel Prize-winning economist at the University of Chicago, James Heckman, recently told business leaders at the St. Louis Federal Reserve, "The money spent on Early Childhood Education far outpaces investments in high school and college" (Cambria, 2009). President Barack Obama's Early Learning Challenge Fund would provide funds to states to help them improve preschool and Early Education programs for at-risk children (Paulson, 2009). One aspect of the Early Learning Challenge Fund includes "an evidence-based system of professional development to prepare an effective and well-qualified workforce of early educators" (U.S. Department of Education, 2009). Thus, the need to examine the higher education pipeline of Early Childhood teachers is critical to the overall goal of improving Early Childhood Education.

CURRENT STUDY

In this study, we examined the higher education pipeline of Early Childhood teachers in Chicago in order to make recommendations for strategies to increase the number of qualified Early Childhood teachers. Previous IERC research examining the supply of and demand for Early Childhood teachers in Illinois (Presley, Klostermann, & White, 2006) found that the city of Chicago will need to rely more heavily on the new certificant pipeline because the reserve pool of already qualified Early Childhood teachers is much less robust in that region. Further analysis revealed that there are large leakages in this higher education pipeline—especially from the "interest" to the "program enrollment" stages of institutional enrollment. This study focused on these leakage issues using a two-pronged approach:

1) a detailed analysis of enrollment and one-year persistence data of ten Chicago institutions; and 2) a survey with Early Childhood Education students, from the ten participating institutions, examining barriers preventing them from progressing in their program.

METHODOLOGY

An Advisory Group of Education Deans, Early Childhood Education program faculty, and institutional researchers from ten Chicago higher education institutions provided guidance and assistance for this study. The ten Chicago institutions included: Chicago State University, Columbia College Chicago, DePaul University, Dominican University, Erikson Institute, Northeastern Illinois University, National-Louis University, Roosevelt University, St. Xavier University, and University of Illinois at Chicago. We worked with these institutions to conduct a detailed analysis of their enrollment and one-year persistence data of Early Childhood Education (ECE) students to more accurately describe the pipeline in terms of characteristics of these students and factors that influence their progression through the pipeline.

We also examined what conditions hinder students' progress through the education pipeline by surveying students in Fall 2008 about challenges and barriers they faced, supports they received to overcome them, conditions of the program designs themselves that prevent completion, and students' personal circumstances that impede their progress. We oversampled and surveyed all students (n=207) classified with a 2007 enrollment status of Pre-candidate (interested, but not officially enrolled in the ECE program); Enrolled in the institution

but not in the ECE program; or Not enrolled in the institution because these individuals were the students of primary interest for this study. We randomly selected one-half of the students (n=299) with a 2007 enrollment status of Candidate (officially enrolled in the ECE program) and Graduated from the institution between Fall 2006 and Fall 2007. We used both a web survey and a paper follow-up survey, obtaining a 23% response rate. Due to a lower than desired response rate and issues with students' misperception about their 2007 enrollment status, the survey responses were not weighted based on the sampling design. Therefore, the survey results presented in this report relate only to the students who responded to the survey. We examined the survey response patterns and determined they were similar to the population of ECE students for gender, race, program level, and full-time status. Consequently, we believe the survey results are informative in terms of learning more about students' persistence in Early Childhood Education programs and identifying areas to focus on to address these issues.

PROFILE OF EARLY CHILDHOOD EDUCATION STUDENTS

Using the enrollment and one-year persistence data provided by the ten participating Chicago institutions, there are approximately 1,300 students in the pipeline for Early Childhood Education teachers in Fall 2006 (991 in undergraduate programs; 317 in graduate programs). The students are predominantly female and represent a mix of racial/ethnic groups—primarily white, black, and Hispanic. Undergraduate programs have a slightly higher percentage of Hispanic students than graduate programs. Undergraduate students are older than traditional age students, with an average age of 27.7 (median age is 24, compared to state median age of 21.1). The average age for graduate students is 32.7, with a median age of 29 that matches the state median age. A large percentage of undergraduate students are enrolled part-time (43%) and one-third (31%) of students at the Bachelor's level are lower division students. When students are separated by candidacy status, we find that the majority (65%) of undergraduate students are Pre-candidates (interested, but not officially enrolled in the ECE program). On the other hand, the vast majority (89%) of graduate students are Candidates (officially enrolled in the ECE program). Regardless of degree level, Candidates are more likely to progress to their next step (graduation) and less likely to leak to another major or leak out of the institution by Fall 2007. Early Childhood Education programs at these ten institutions vary considerably in terms of number

of students enrolled, demographic and enrollment characteristics, and percent of students identified as Pre-candidates and Candidates.

RESULTS AND RECOMMENDATIONS

The Chicago Early Childhood Education pipeline for undergraduate students is slow moving due to the large percentage of Pre-candidates, many of whom are enrolled in eight or fewer semester hours.

Pre-candidates have many risk factors impeding their progress, including racial minority, older age, lower incomes, and part-time enrollment status. Pre-candidates face financial challenges and difficulty completing prerequisites, including the Illinois Basic Skills Test. Many have other responsibilities (e.g., work and childcare) that do not allow them to attend full-time. **Policies directed at reducing the financial burden (e.g., scholarships, loan forgiveness for community service, subsidies for books, need-based grants, and subsidies for internet access) and decreasing work/class time conflict (e.g., free childcare services, flexible schedules, online or condensed courses, and trading intern hours at institution's childcare for childcare services) would likely increase the number of full-time students, thus accelerating the production of Early Childhood Education graduates eligible for certification.** At the graduate level, the pipeline of ECE teachers is slow due to the number of students attending part-time for financial reasons. Most graduate students fund themselves without receiving financial aid or support. Anticipated increased requirements for Early Childhood teachers to obtain an English as a Second Language (ESL) credential by 2014 will put additional strain on the pipeline of qualified ECE teachers. **Providing funding opportunities, particularly for Hispanic students, would increase the number of students attending full-time and speed up the flow of students graduating with advanced degrees in Early Childhood Education.**

Under-preparedness is one of the most significant challenges for students moving through the pipeline.

This issue, which was identified during our planning process with the Advisory Group and student focus groups, was confirmed by our student survey results. Some students may need intensive support to be prepared, while others may need only short-term review sessions to be ready for college level work. Students with poor academic preparation may not be able to

pass regular coursework or they are often required to take remedial coursework; thus, their progress is often delayed. Although many Pre-candidates and students who "leaked" from the ECE program were aware that their institution provided academic support, less than half of those who were aware actually used these services. Interestingly, students who "leaked" were significantly less satisfied with the services they received for Basic Skills test assistance. **Increasing utilization of support programs may require universities to modify their offerings to meet the students' needs by, for example, offering advising or tutoring services in the evenings, online, or at more convenient locations. Other improvements might include providing childcare services and bi-lingual tutoring, particularly for assistance with the Basic Skills test.** Further exploration is needed to determine factors impeding students from taking advantage of support services. Many of the universities participating in this study provided assistance with the Basic Skills test within their Colleges of Education. This policy should be continued and encouraged at other institutions to help students feel part of the larger community of education as early in their college career as possible. Lastly, members from the Advisory Group, as well as higher education experts interviewed for a recent article in *The Chronicle of Higher Education* (Berger, 2009) concerning college access and success, point to the need to reach back into high schools to ensure students' college and career readiness.

Undergraduate students' reasons for not being enrolled in the ECE program in Fall 2007 are related to prerequisites (including passing the Illinois Basic Skills Test) and financial issues; however, specific reasons vary depending on the group.

The majority of Pre-candidates cited not having completed all prerequisites (76%), followed by work/class time conflict (33%) and personal financial issues (24%). Students who switched to another major or students not enrolled in the institution in Fall 2007 are more diverse in terms of having differing reasons for not being in the ECE program. Inability to pass the Illinois Basic Skills Test (32%) and no longer interested in the ECE field (24%) were within their top three reasons. Similar to Pre-candidates, this group cited not completing all prerequisites (22%) and personal financial issues (22%) within their top three reasons. Both groups identified "unsatisfactory advisor/academic counselor" as a reason; however, fewer Pre-candidates believed this was an issue (19% vs. 22%). **As stated above, increasing utilization of**

support programs and decreasing the financial burden would help improve students' persistence. In addition, addressing students' reasons for dissatisfaction with academic advisors may also influence students' decision to continue with the ECE degree.

Students "own desire and determination" was the primary reason for Candidates and Graduated students' ability to persist in or graduate from the ECE program.

Candidates and Graduated students ranked "my own desire and determination" far above other factors influencing their persistence in the ECE program—98% for undergraduates and 96% for graduate students. Several factors (e.g., support from family or friends, quality of ECE program, faculty support, financial support, and flexibility) also influenced students' ability to persist and progress to graduation. **Several of these factors are under the control of the ECE program, such as assigning an ECE faculty mentor to students and increasing flexibility by offering courses at more convenient times and locations, as well as in different modalities. Pairing successful students as peer mentors with struggling students would help create a supportive environment for students who might be less likely to continue in the ECE program.**

Students who "leaked" from the ECE program appear to be exploring the ECE major and are not yet committed to the field of Early Childhood teaching.

Some students (18%) from the Enrolled, but not in ECE and Not enrolled in the institution group cited taking classes to consider the ECE major as their primary reason for attending college in Fall 2006, rather than seeking a Bachelor's degree. In addition, students do not yet seem committed to this education path (at this point in time); 26% had no intentions and 18% were undecided on seeking the Illinois ECE teaching certificate. We also found that fewer students who "leaked" from the ECE program were aware of programs to help them with college and career decisions. **Early identification of these students to improve efforts to meet their academic needs and provide career guidance may increase their satisfaction with the institution and ECE program and encourage them to commit to the field of Early Childhood Education. Coordinated efforts between the College of Education and the institution's admissions and central advising staff prior to official enrollment in a degree may solidify students' decisions to major in ECE and facilitate their course taking and progression**

through the program. **Increasing participation in orientation may also improve their engagement and commitment.** A recent article in *Inside Higher Ed* (Matthews, 2009) suggests colleges should expand their orientation programs to include college readiness training in months prior to the beginning of the academic year in the autumn to help students with their transition, which may improve retention rates.

Large disparities exist in students' perceptions and the institutions' records of the 2007 enrollment status.

Only 56% of students' survey responses matched the institutional record for their 2007 enrollment status. The most inconsistency occurred when students identified themselves as Candidates, whereas the institutional data recorded them as Pre-candidates (35 out of 61 students). Possible explanations for the misperceptions include: 1) students may be admitted into the College of Education without having completed requirements for the Early Childhood Education program; 2) students may have junior or senior standing at the institution without having completed requirements for the Early Childhood Education program; and 3) delays in processing paperwork. **Detailed analysis of institutions' enrollment data by candidacy status and increased communication with students about their progress would help improve consistency between students' perception and institutional data regarding students' enrollment status.**

Further research studies would provide details on additional factors that affect attendance patterns.

Opportunities to extend the current study include examining institutions in the wider Chicago region and across the state, as well as including other teacher preparation programs. Examining more points in time (semester to semester) over a longer timeframe would help differentiate enrollment patterns of "stop outs" and "drop outs." More detailed analysis of such program designs as course taking patterns might provide additional insight into students' enrollment patterns. Multivariate analysis with additional factors (e.g., course patterns, total hours completed, and public or private institution) would shed more light on college persistence of Early Childhood Education students. The recently announced Chicago Teacher Pipeline Partnership, a Teacher Quality Partnership grant from the U.S. Department of Education to develop the pipeline for high quality elementary and preschool teachers for Chicago Public Schools, offers a tremendous opportunity to further explore and improve students' teacher preparation experiences. Three of the four institutions participating in the Chicago Teacher Pipeline Partnership contributed to this study. We believe our findings and recommendations will be beneficial as efforts to transform teacher preparation in Chicago move forward.

About the Author

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Introduction

In June 2006, the Illinois Education Research Council (IERC) completed a two-year study of the supply of and demand for early childhood teachers in Illinois (Presley, Klostermann, & White, 2006). We examined not only the pipeline of new certificants from higher education, but also the reserve pool of already certified teachers, and we suggested incentives that might encourage the latter group of teachers to work in Illinois early childhood centers. We found that, in general, the reserve pool could be expected to meet increased demand if salaries reflected the training and professional experience of these teachers. We also found, however, that the city of Chicago will need to rely more heavily on the certificant pipeline because the reserve pool was much less robust in that region. Further, we found that there appears to be large leakages in this higher education pipeline—especially from the "interest" to "program enrollment" stages of institutional enrollment.

In Fall 2006, we received a planning grant from the Illinois Board of Higher Education to explore these issues in order to inform a full research proposal for funding. We convened a planning group of Education Deans, Early Childhood Education program directors, and institutional researchers from the Chicago higher education institutions that provide Early Childhood teacher preparation programs. We also invited leaders from community colleges and other Early Childhood experts to explore how best to further examine the leakage and data issues of the Early Childhood teacher pipeline in the Chicago area. Based on this discussion and two focus groups with students, we developed this research study that is being funded by The Joyce Foundation and the McCormick Foundation. Most of the individuals from the planning group continued on as members of an Advisory Group to the project.[1] These individuals, as well as new individuals brought into the project, provided feedback on preliminary results and suggestions for conclusions and recommendations.

Specifically, the purpose of this study is to examine and better understand the higher education pipeline of Early Childhood teachers in the Chicago area in order to make recommendations for strategies to increase the number of qualified Early Childhood teachers. To do this, we used a two-pronged approach:

1. ***Analyze pipeline data in more detail:*** Because many institution data systems cannot distinguish between students flagged as "interested" versus "enrolled" in an Early Childhood program, the data provided by the institutions to the federal Integrated Postsecondary Education Data System (IPEDS) may provide inflated enrollment numbers of the certificant pipeline. Since these federal data are the primary data source that allows for comparisons of enrollment and program completion across institutions within the state as well as nationally, it is beneficial to analyze more thoroughly the institutions' pipeline data, given that student persistence is likely to differ from those who are officially enrolled versus those who are not officially enrolled. Therefore, we worked with ten participating institutions to conduct a detailed analysis

[1] A list of Advisory Group members is available on our website http://ierc.siue.edu under Supplement Report Materials.

of their pipeline data of Early Childhood teachers. The resulting figures more accurately describe the pipeline in terms of characteristics of the Early Childhood students and factors that influence their progression through the pipeline.

2. ***Examine barriers preventing students from progressing.*** We examined conditions that are preventing students from progressing through the education pipeline by surveying students about challenges and barriers they faced and supports they received to overcome them. We also examined if conditions of the program designs or students' personal circumstances impede their progress.

This report summarizes the results of these two activities.[2] First, we discuss more definitive information about the size and nature of the pipeline for Early Childhood teachers in Chicago's institutions of higher education based on the detailed analysis of the institutional enrollment and persistence data. We follow with a summary of the student survey data regarding barriers and other factors impacting progress. Lastly, we provide recommendations regarding consistent and useful data to examine the higher education pipeline and options for state and/or institutional action to address barriers to students' progress.

Detailed Analysis of Higher Education Early Childhood Teacher Pipeline Data

The following ten Chicago institutions agreed to participate in this study: Chicago State University, Columbia College Chicago, DePaul University, Dominican University, Erikson Institute, Northeastern Illinois University, National-Louis University, Roosevelt University, St. Xavier University, and University of Illinois at Chicago. We subcontracted with each institution (e.g., the Institutional Research office or the Early Childhood Education department) to work with us to define the data elements and supply the data files. Each institution received $2,500 to offset some of the labor costs (McCormick Foundation funded this portion of the project). Three Chicago institutions chose not to participate, primarily due to lack of staff resources to complete the project. These three programs were small to medium in enrollments (i.e., two were less than 75; one was less than 15); therefore, we do not anticipate their lack of participation significantly impacting our results.

In this section, we present the data from the ten participating institutions combined, broken out by degree level. We then discuss the data for the individual institutions in terms of factors that may influence students' progression from Fall 2006 to Fall 2007 (e.g., part-time vs. full-time status). Since the purpose of the study is to examine the higher education pipeline of these Chicago institutions as a whole, individual institutions will not be identified with the results.

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[2] We also catalogued Early Childhood Education program requirements from the ten participating institutions. See our website http://ierc.siue.edu under Supplemental Report Materials.

Data

Each institution provided demographic, enrollment, and persistence data for their Early Childhood Education students enrolled in Fall 2006. Demographic data for students included gender, race/ethnicity, and birth year. Enrollment data included Federal Interagency Committee on Education (FICE) code to identify the following: Fall 2006 starting status; Fall 2007 enrollment status (outcome); graduation major (if applicable); and Fall 2006 and Fall 2007 data for attempted hours, degree level, class level, and major.

"Candidates" are students officially admitted into the ECE program after completing a set of requirements.

Students officially enrolled in the Early Childhood Education program in Fall 2006, as well as those who expressed interest in the program during the same term, were included in the study. Enrolled students, referred to as "Candidates," are defined as individuals officially admitted into the Early Childhood Education program after completing a set of requirements. While the specific requirements varied among the institutions, they usually included completing a number of prerequisite general education and education courses, having a minimum 2.5 cumulative GPA, and passing the Illinois Basic Skills Test. The definition for students who are flagged as interested in the Early Childhood program, referred to as "Pre-candidates," is not as consistent. Based on a discussion with the Advisory Group, students were identified as Pre-candidates based on the individual institutions' local use. We included students in the study population who were flagged in their institutions' database system as "interested"; these students had indicated on an admission form that they were interested in the Early Childhood major. Some institutions also required these individuals to enroll in at least one pre-professional education course.

"Pre-candidates" are students who expressed interest in the ECE program, but are not officially enrolled in the ECE program.

We categorized students into one of the following possible 2007 outcomes: Pre-candidate; Candidate; Graduated student; Enrolled in the institution but not in Early Childhood Education (e.g., in other teacher preparation programs and non-education majors); and Not enrolled in the institution. We purposely do not use the term "non-persister" because we are examining only one time period (Fall 2006 to Fall 2007); therefore, we cannot distinguish between those students who have temporarily stopped out and those who have dropped out of the institution.

For race/ethnicity data, we combined some groups due to the small number of cases in some of the categories. See Table A1 in Appendix A for the detailed numbers. Since black and Hispanic groups are typically the target minority groups for this type of study for this community, we collapsed the remaining groups into the "White & Other" category. Note that this "White & Other" category is primarily white students; however, it also includes Asian/Pacific Islander, American Indian/Alaska Native, and non-resident Alien categories, as well as students coded as "Other." These new collapsed race/ethnic groups (i.e., Black, Hispanic, and White & Other) will be used for the remainder of the report.

The enrollment level (i.e., the number of attempted credit hours taken by a student) is reported by full-time/part-time status, as well as by credit hours. For full-time/part-time status, all institutions considered full-time status for the undergraduate program at 12 hours or more (quarter credit hours were not converted). Enrollment as measured

by credit hours was divided into four categories: less than 8 hours, 8–11 hours, 12–14 hours, and 15 or more hours. In this instance, quarter credit hours were converted to semester hours using a two-thirds (2/3) ratio for two of the institutions in order to make equal comparison of the number of semester hours enrolled by students. The two-thirds (2/3) ratio is a national standard and is also used by these institutions. We included four enrollment levels for undergraduate programs to provide additional detail concerning the length of time needed to complete an undergraduate degree. For graduate programs, we used each institution's local definition to classify their students as full-time or part-time, since the institutions varied on the number of credit hours needed for full-time status. Local definitions ranged from 6 to 12 hours for full-time status.

Results from Pipeline Data Analysis

Based on the enrollment and one-year persistence data provided by the ten participating Chicago institutions, there are approximately 1,300 students in the pipeline for Early Childhood Education teachers as of Fall 2006. In Table 1, we show the number of students by degree level for the ten participating institutions to get a sense of the variation in the size of the Early Childhood Education programs in the Chicago area. Throughout the rest of the report, overall counts (N sizes) will be provided. In addition, based on the Advisory Group's recommendation, individual institution counts (n sizes) will be included in order to determine the number of students based on the percentages provided; however, institutions' names will not be indicated so that anonymity will be maintained. In figures and tables, institutions will be ordered based on the increasing proportion of the specific variable of interest. Again, the focus is on the overall Early Childhood teacher pipeline and factors that may impact the pipeline. Note that some figures may not total 100% due to rounding.

In Fall 2006, just over 1,300 students were in the pipeline for Early Childhood Education teachers across the ten Chicago institutions participating in this study.

Table 1. Enrollment Counts for Ten Participating Institutions

	Undergraduate Program	Graduate Program	Total
Institution 1	*	24	24
Institution 2	*	30	30
Institution 3	65	**	65
Institution 4	35	33	68
Institution 5	74	4	78
Institution 6	52	39	91
Institution 7	57	58	115
Institution 8	200	55	255
Institution 9	206	74	280
Institution 10	302	**	302
TOTAL	991	317	1,308

  * No undergraduate program
** No graduate program

Demographic Data

Figure 1 shows selected students' demographic and enrollment characteristics for all the institutions combined, again separating the study population by degree level. Nearly all of the students in both undergraduate (97%) and graduate (96%) programs are female. Regarding racial/ethnic diversity, we see that approximately one-third (33%) of the students at both degree levels are black. A slightly higher percentage of Hispanic students are undergraduate students compared to graduate students (21% vs. 9%). Overall, these institutions serve older students in their undergraduate Early Childhood programs. Slightly less than half (48%) of students in undergraduate programs fall into the traditional age range for undergraduate students. The age range for the undergraduate students spans from 18 to 70, with an average age of 27.7 (median=24). For graduate students, the average age is 32.7 (median=29), with a range of 22 to 66. Two-thirds (66%) of graduate students are 24–34 years old, and just about one-third (31%) are 35 years or older.

Figure 1. Student Demographic and Enrollment Characteristics for All Institutions Combined
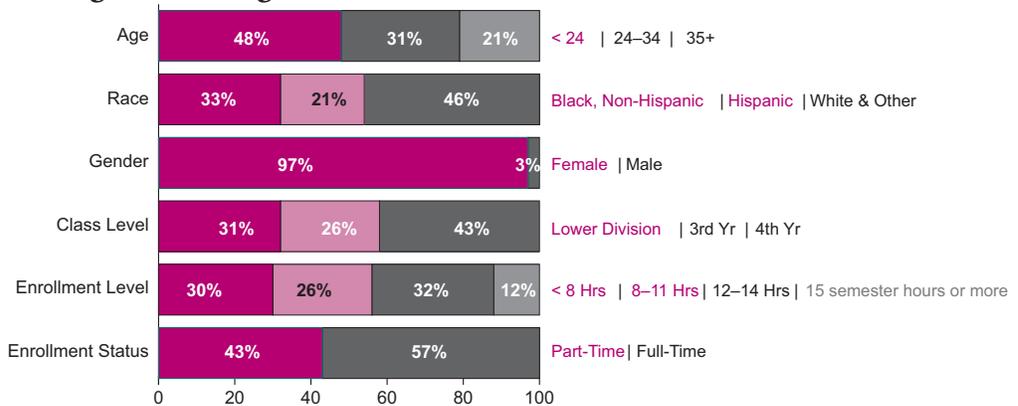
Undergraduate Programs (N=991)

| | < 24 | 24–34 | 35+ |
| Age | 48% | 31% | 21% |

| | Black, Non-Hispanic | Hispanic | White & Other |
| Race | 33% | 21% | 46% |

| | Female | Male |
| Gender | 97% | 3% |

| | Lower Division | 3rd Yr | 4th Yr |
| Class Level | 31% | 26% | 43% |

| | < 8 Hrs | 8–11 Hrs | 12–14 Hrs | 15 semester hours or more |
| Enrollment Level | 30% | 26% | 32% | 12% |

| | Part-Time | Full-Time |
| Enrollment Status | 43% | 57% |

Graduate Programs (N=317)

| | < 24 | 24–34 | 35+ |
| Age | 3% | 66% | 31% |

| | Black, Non-Hispanic | Hispanic | White & Other |
| Race | 33% | 9% | 58% |

| | Female | Male |
| Gender | 96% | 4% |

| | Part-Time | Full-Time |
| Enrollment Status | 64% | 36% |
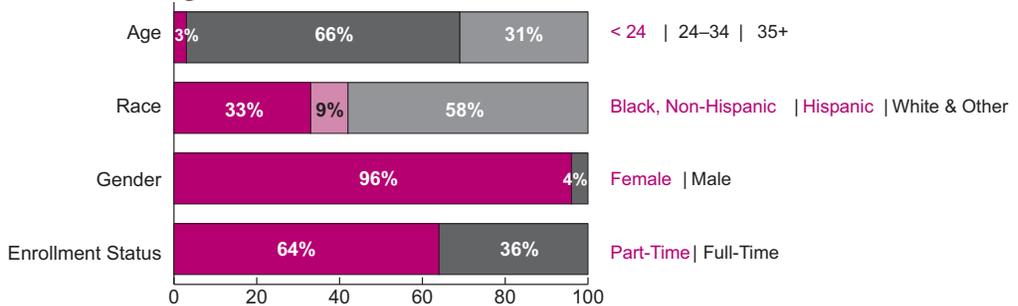
Looking at enrollment characteristics, we see that one-third (31%) of the undergraduate students are lower division students (first and second year), which is just over 300 out of 991 students. Almost one-half (44%) of the undergraduates are taking 12 semester hours or more (quarter hours have been converted); however, only 12% are taking at least 15 semester hours which would keep them on track to graduate in four years (assuming

they maintain that course load throughout all terms, excluding summer terms). Based on the institutions' definition of part-time and full-time status (unconverted hours), we see that 43% of undergraduate students are part-time. Also in Figure 1, we see that a majority of students at the graduate level are enrolled part-time (64%).

Compared to state level demographic and enrollment figures for four-year public and independent not-for-profit institutions (these match the institutions in our study), our ten participating institutions have higher populations of female students, minority students, older undergraduate students, and part-time students (Table 2).

Table 2. 2006 Fall Enrollment Survey for Illinois Public and Independent Not-For-Profit Institutions

	Undergraduate Level (n=285,930)	Graduate Level (n=113,886)
Gender		
Female	55%	59%
Male	45%	41%
Race/Ethnicity		
Black	11%	9%
White	66%	58%
Hispanic	8%	4%
Asian	7%	5%
American Indian	<1%	<1%
Alien	2%	14%
Other	6%	9%
Median Age		
Public Univ	21.1	29.0
Indep. Not-For-Profit	21.1	29.2
Enrollment Level		
FT	86%	45%
PT	14%	55%
Source: IBHE 2006 Fall Enrollment Survey. Tables: II-1, II-2, II-7. http://www.ibhe.org/EnrollmentsDegrees		

Fall 2006 Starting Status and Fall 2007 Progress Status

Table 3 displays the total number of Pre-candidates and Candidates by degree level in the Early Childhood Education programs from the ten participating institutions. Overall, 1,308 students were identified as officially enrolled or having expressed interest in the Early Childhood programs in Fall 2006, with just under half (48%) of the students classified as Candidates and just over half (52%) as Pre-candidates. When we look at the split by degree level, however, we get a very different picture. We see that only one-third (35%) of students at the bachelor's level are officially enrolled (i.e., Candidates) in the Early Childhood Education programs, while nine out of ten students (89%) at the graduate level are officially enrolled. This low percentage of bachelor's level Candidates may begin to shed light on why so few students are progressing through the pipeline. We turn next to the progress students make by examining their 2007 enrollment status.

Table 3. Number and Percent of Students in Early Childhood Education in Fall 2006, All Institutions Combined
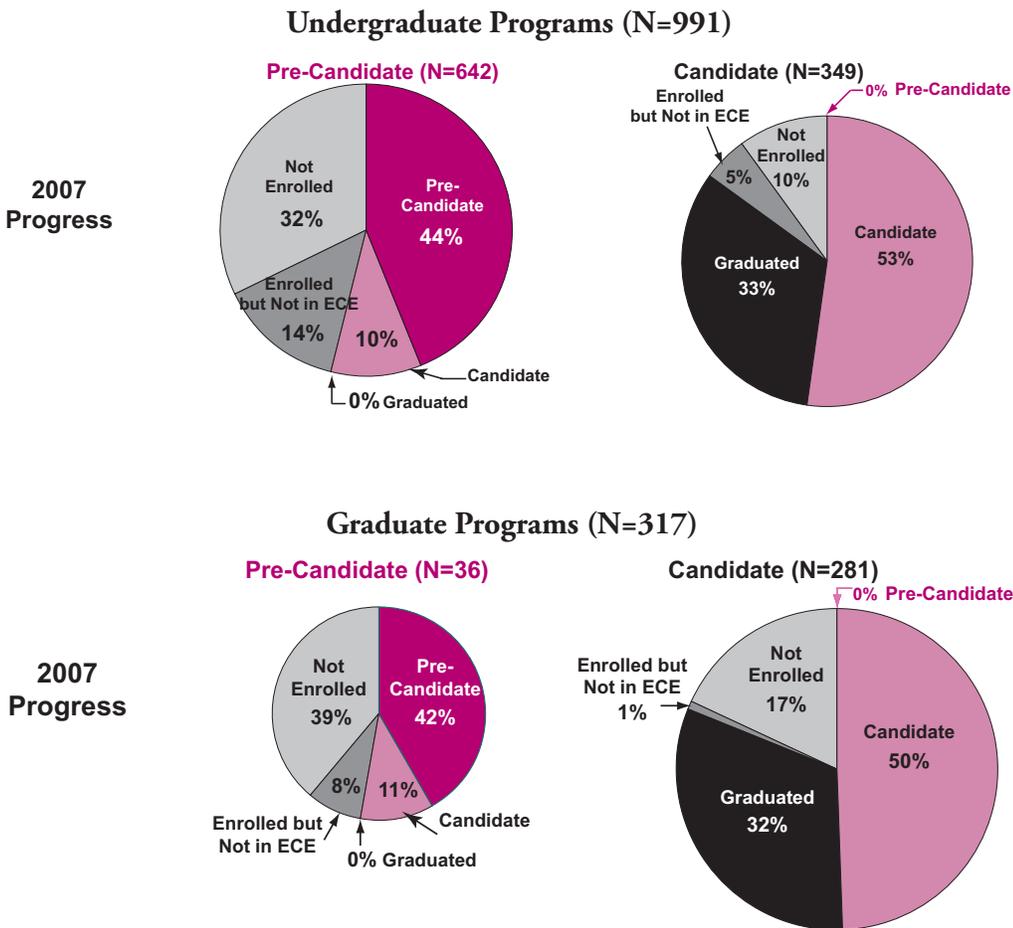
	Pre-Candidates		Candidates		Total	
	N	%	N	%	N	%
Undergraduate Programs	642	65%	349	35%	991	100%
Graduate Programs	36	11%	281	89%	317	100%
Total	678	52%	630	48%	1,308	100%

When we look at the Fall 2007 enrollment status of these individuals separated by candidacy status, we see a very interesting picture (Figure 2). For undergraduates, Candidates are much more likely than Pre-candidates to progress in their program. For Candidates, one-third (33%) have graduated and one-half (53%) are still Candidates by Fall 2007. Only 5% have "leaked" to other teacher preparation programs or other non-education majors, and 10% were not enrolled in the institution in Fall 2007. On the other hand, only one in ten (10%) Pre-candidates have moved to the Candidate stage, and almost half (44%) are still Pre-candidates.

More critically, Pre-candidates are more likely to have "leaked" from the pipeline in terms of switching to other programs (14%) or not being enrolled at all in the institution (32%) in Fall 2007. As previously mentioned, we cannot say whether these individuals are stopping out with plans to return or dropping out of the institution. In addition, we do not know if these individuals are "swirlers" who have enrolled in another institution in Fall 2007, but may have plans to return.

In Figure 2, we also see that students in graduate programs have 2007 outcomes that are similar to undergraduate programs. Candidates more likely to continue in the program (50%) or to progress to graduation (32%). For Pre-candidates at the graduate level, only 11% have become Candidates, 8% have switched out of Early Childhood Education, and 39% are no longer enrolled in the institution in Fall 2007. The impact of fewer Pre-candidates progressing or more Pre-candidates leaking is not as detrimental at the graduate level due to the smaller number of students in this group.

Figure 2. Fall 2007 Enrollment Status for 2006 Pre-Candidates and 2006 Candidates for All Institutions Combined

Undergraduate Programs (N=991)

2007 Progress

Pre-Candidate (N=642)

Candidate (N=349)

Regardless of degree level, Candidates are more likely to progress to their next step (i.e., graduation) and less likely to "leak" to another major or out of the institution in Fall 2007.

Graduate Programs (N=317)

2007 Progress

Pre-Candidate (N=36)

Candidate (N=281)

Summary

Approximately 1,300 students from these ten participating Chicago institutions are in the pipeline for Early Childhood Education teachers. The students are predominantly female and represent a mix of racial/ethnic groups—primarily white, black, and Hispanic. Undergraduate programs have a slightly higher percentage of Hispanic students than graduate programs. Students' ages range from 18 to 70, with an average age of 27.7 for undergraduate students and 32.7 for graduate students. Just over half (52%) of the undergraduate students are 24 years old or older. A large percentage of undergraduate students are enrolled part-time (43%), and one-third (31%) of students at the bachelor's level are lower division students. When students are separated by candidacy status, we find that the majority (65%) of undergraduate students are Pre-candidates while the vast majority (89%) of graduate students are Candidates. Regardless of degree level, Candidates are more likely to progress to their next step (i.e., graduation) and less likely to leak to another major or leak out of the institution by Fall 2007.

Demographic and Enrollment Characteristics for Individual Institutions

We asked institutions to provide demographic and enrollment data in order to describe the study population, as well as to examine factors that may be related to persistence. In this section, we explore more closely the pipeline of Early Childhood teachers by examining data for institutions individually. As previously mentioned, institutions will be ordered based on the increasing proportion of the specific variable of interest. Given the differences between undergraduate and graduate programs, we will look at these two populations separately.

Gender

Similar to Early Childhood teachers in the workforce, students in Early Childhood programs in the ten participating institutions are overwhelmingly female. Only 3% of undergraduates and 4% of graduate students are male. N sizes are too small to report for each institution individually, except for one institution that had 14 males enrolled or interested in its undergraduate Early Childhood program in Fall 2006.

Age

As expected, undergraduate students are generally younger than graduate students, although both levels have older students in their sixties. In Figure 3, we see that the overall average age of students in undergraduate programs is 27.7 and the overall average age of students in graduate programs is 32.7. Also, undergraduate programs vary more in the average age of the students (ranging from 20.7 to 33.5) compared to graduate programs (ranging from 27.3 to 36.7). The figure also shows median age, overall and for each institution. Institutions with larger differences between the mean and median have wide variations in the age of their students.

Figure 3. Average and Median Student Age for All Institutions
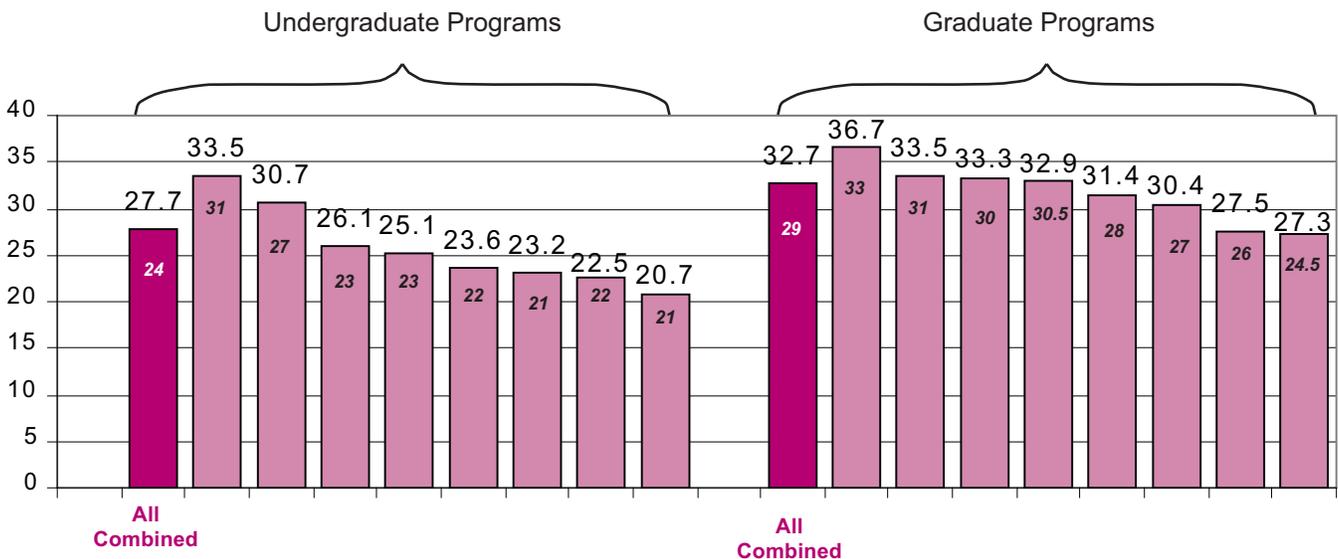
Average age is indicated above the bar. Median age is indicted within the bar.

We also divided age into the following three categories: <24, 24–34, and 35+. Based on the Advisory Group's recommendation, 24 was chosen as a cut-off because this is the age at which parents can no longer claim their child as a dependent for financial aid purposes. Figure 4 displays the data for students in eight of the participating institutions with undergraduate programs. With all eight institutions combined, only half (48%) of the students fall into the "traditional" age range, and one out of every five (21%) students is 35 years or older. The age span for students in undergraduate programs is 18–70 years of age. When we look at individual institutions, we see that their undergraduate students vary considerably in terms of age. Three institutions have primarily traditionally aged students, with over 75% of the students under the age of 24. Two institutions have older undergraduate students, with 41% and 33% of their students over 35 years of age. This variation in the distribution of students' age signifies that these institutions have very different student populations; thus, they possibly have different needs and issues regarding student persistence.

Institutions vary considerably in the age of ECE students they serve.

Figure 4. Age Level by Institution
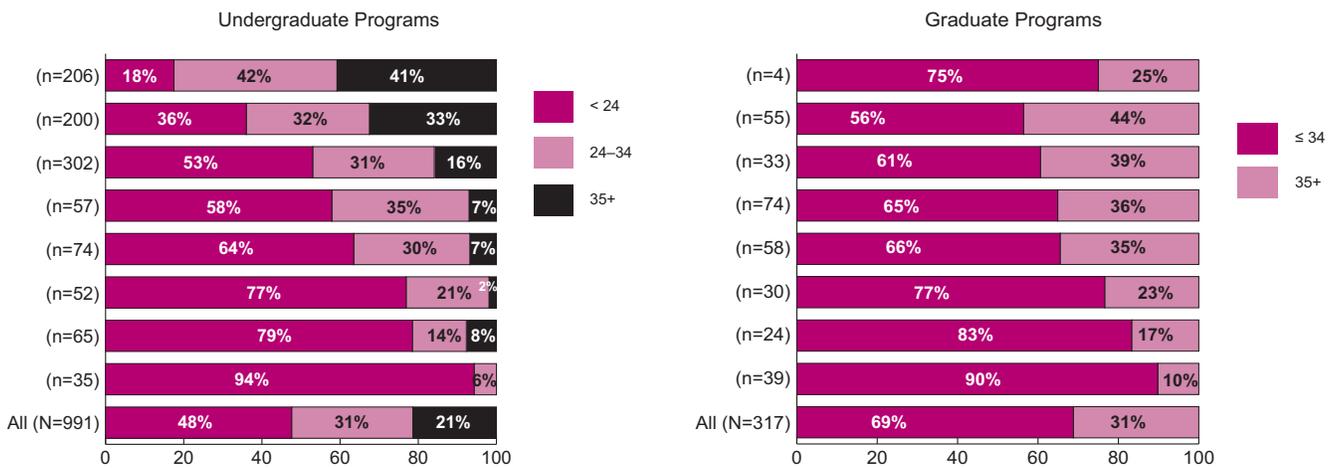
For graduate programs, we see that the majority of students are 34 years of age or younger, overall and for individual institutions. We do see some differences in the distribution of age groups between the institutions, with the percent of students 35 years or older ranging from 10% to 44%. With a student age span of 22 to 66 years old, these institutions may still find a need to provide different support services to students of various age groups as they progress in their program.

Varying distributions of students' ages signify different needs and issues regarding student persistence across the ten institutions.

Race/Ethnicity

As mentioned earlier, overall both undergraduate and graduate Early Childhood Education programs have a mix of race/ethnic groups—primarily White & Other, black, and Hispanic. Figure 5 shows that undergraduate programs vary in terms of the racial/ethnic makeup of their students. One institution serves a predominantly black undergraduate student population (88%). Two institutions serve a sizable proportion of Hispanic students (31% and 40%). The remaining five institutions (located in the middle of the chart) have approximately similar proportions of students in the three categories, with the majority of students being white.

Figure 5. Race/Ethnicity by Institution

Undergraduate Programs

	Black, Non-Hispanic	Hispanic	White & Other
(n=35)	3%	31%	66%
(n=302)	9%	40%	51%
(n=52)	14%	15%	71%
(n=57)	18%	12%	70%
(n=74)	19%	15%	66%
(n=65)	25%	12%	63%
(n=206)	35%	16%	49%
(n=200)	88%	7%	6%
All (N=991)	32%	21%	46%

Graduate Programs

	Black, Non-Hispanic	Hispanic	White & Other
(n=4)		25%	75%
(n=33)	6%	9%	85%
(n=39)	13%	3%	85%
(n=24)	17%	4%	79%
(n=30)	13%	13%	73%
(n=74)	23%	8%	69%
(n=58)	45%	10%	45%
(n=55)	84%	13%	4%
All (N=317)	33%	9%	58%

Legend: ■ Black, Non-Hispanic ■ Hispanic ■ White & Other
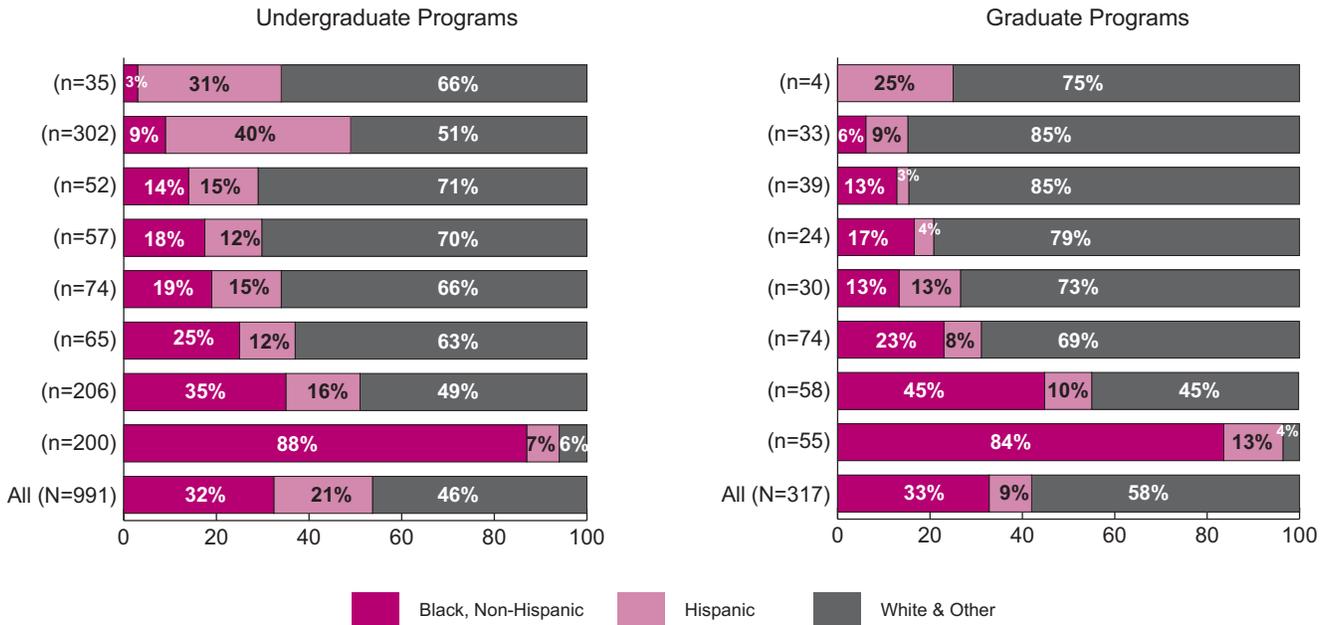
Most of the institutions have a mix of race/ethnic groups, with the majority of students being white. One institution is the exception and primarily serves black students.

Compared to the undergraduate programs, we do not see as much representation from the target minority groups at the graduate level (Figure 5). Similar to the undergraduate level, one institution serves predominantly black graduate students (84%). Another institution has equal proportions of graduate students in the White & Other category and in the black category (45%); and, the remaining 10% of graduate students in the Hispanic category. For the remaining five institutions, one-third or fewer of the students are black or Hispanic.

Class Level

Figure 6 shows the breakdown of class level for the institutions combined and for each institution individually. Here we combine the undergraduate and graduate data to show the distribution of *all* Early Childhood Education students within each institution. For all institutions combined, we see a relatively even distribution by class level: roughly 25% for each group, with a slightly higher percentage of fourth-year students. It is a little surprising to see roughly 50% of third- and fourth-year students, given the high percentage (65%) of Pre-candidates at the undergraduate level (see Table 3). When examining individual institutions, we see that two institutions provide Early Childhood Education at the graduate level only and another two offer the degree at the undergraduate level only. We learned that the one institution with relatively fewer lower division students (6%) receives a high number of transfer students, thus increasing the proportion of fourth-year students. Although institutions with a higher percentage of lower division students have more students coming into the pipeline, their students may require more resources to progress to graduation.

Figure 6. Class Levels by Institution for Both Undergraduate and Graduate Programs
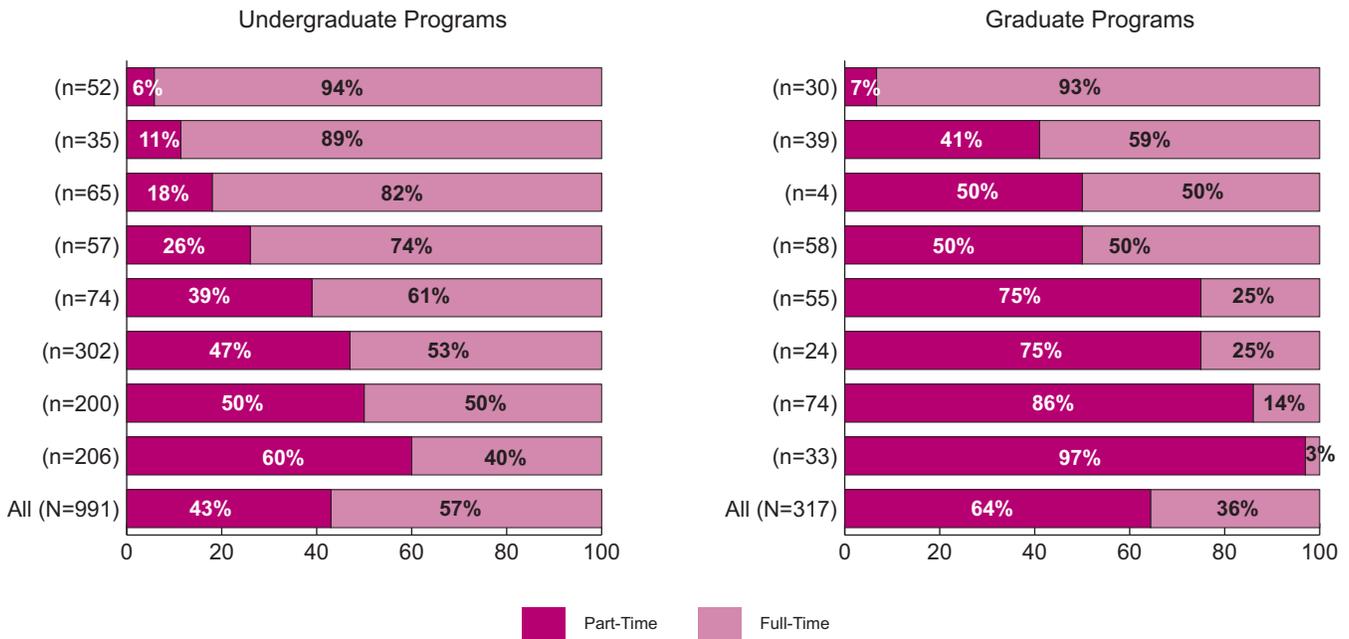

* No undergraduate program
** No graduate program
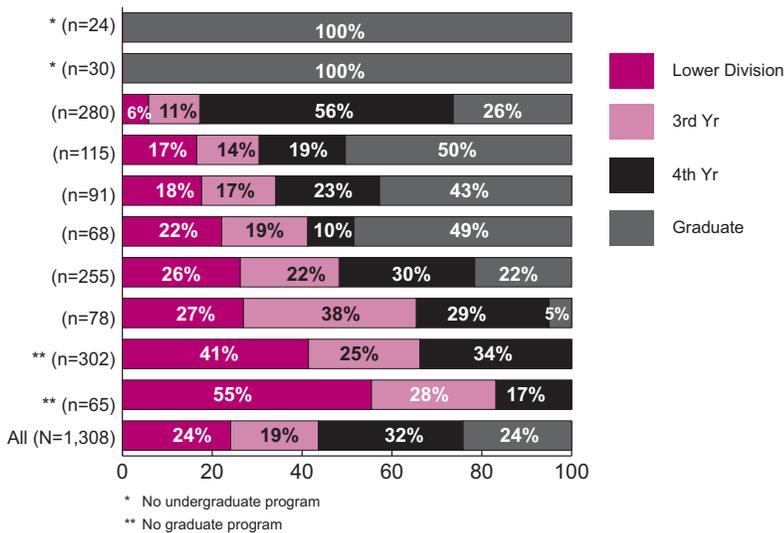
Enrollment Level

The number of credit hours students take will directly impact the speed at which they progress through the program. Institutions with more part-time students will require more time to produce Early Childhood Education graduates. We realize this study represents a snapshot in time and that the number of credits students take will vary over the course of their time at the institution; however, these data provide estimates for which we might anticipate students moving through the preparation pipeline. In Figure 7 for undergraduate programs, we see that, for all institutions combined, 43% of the students are enrolled part-time (less than 12 credit hours), which translates to 426 out of 991 students. When we examine institutions individually, we see a wide variation in the percentage of students enrolled part-time with a range from 6% to 60%. Several institutions have nearly one-half or more (47%, 50%, and 60%) of their undergraduate students enrolled part-time. On the other end of the continuum, two institutions have just one in ten or fewer of their students at part-time status. Based on these data, it appears that institutions with fewer undergraduate students in their ECE program tend to have more students attending full-time.

For graduate programs (Figure 7), overall the majority of students are enrolled part-time (64%). As a reminder, we used each institution's local definition to classify full-time and part-time status. These cut-offs included 8, 9, and 12 credit hours. Similar to undergraduate programs, the individual institutions differ in terms of students' enrollment levels; however, graduate programs tend to serve a higher percentage of part-time students overall. We learned from the Advisory Group that many non-traditional age graduate students may enroll in one or two courses per semester; however, they are likely to enroll full-time during the summer semester. One institution had nearly all of its students enrolled full-time during the Fall 2006 term, compared to another institution with nearly all of its students attending part-time. The other institutions ranged from 41% to 86% of the students attending part-time. The high percentage of

Institutions with a high percentage of part-time students will require more time to produce Early Childhood Education graduates.

Figure 7. Full-Time/Part-Time Status in Fall 2006 by Institution

Undergraduate Programs

(n=52)	6% / 94%
(n=35)	11% / 89%
(n=65)	18% / 82%
(n=57)	26% / 74%
(n=74)	39% / 61%
(n=302)	47% / 53%
(n=200)	50% / 50%
(n=206)	60% / 40%
All (N=991)	43% / 57%

Graduate Programs

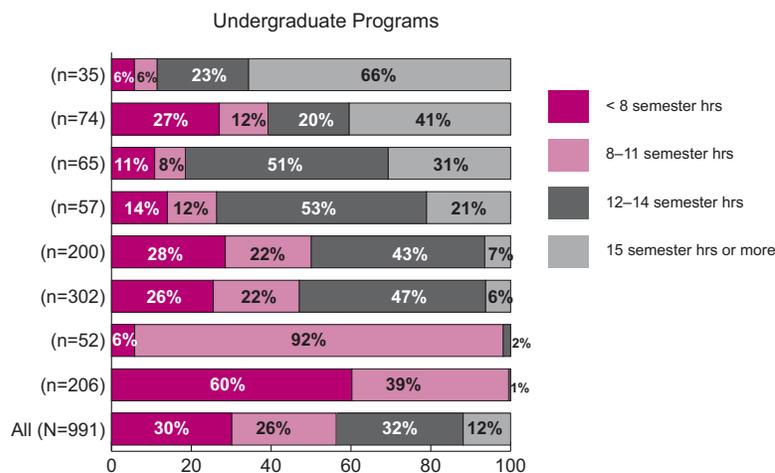|	
(n=30)	7% / 93%
(n=39)	41% / 59%
(n=4)	50% / 50%
(n=58)	50% / 50%
(n=55)	75% / 25%
(n=24)	75% / 25%
(n=74)	86% / 14%
(n=33)	97% / 3%
All (N=317)	64% / 36%

■ Part-Time ■ Full-Time

part-time graduate student signals a slower pace for more advanced Early Childhood teachers available in the workforce.

Next we consider enrollment level by examining the number of credit hours taken in Fall 2006 by undergraduate students (Figure 8) to provide a closer look at the pipeline flow.[3] As we described earlier, we converted quarter hours to semester hours for two institutions on a quarter system (2/3 ratio) in order to make comparisons across all institutions. For all institutions combined, only 12% of undergraduate students are taking 15 or more semester credit hours. When examining institutions individually, we again see that they vary considerably. One institution has over half (66%) of their

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[3] Full-time equivalent (FTE) headcount of students is another measure of enrollment; however, we did not request these data for this study.

Overall, nearly one-third (30%) of undergraduate students enrolled less than eight semester hours in Fall 2006.

Figure 8. Enrollment Level in Fall 2006 by Institution

Undergraduate Programs

(n=35)	6% / 6% / 23% / 66%
(n=74)	27% / 12% / 20% / 41%
(n=65)	11% / 8% / 51% / 31%
(n=57)	14% / 12% / 53% / 21%
(n=200)	28% / 22% / 43% / 7%
(n=302)	26% / 22% / 47% / 6%
(n=52)	6% / 92% / 2%
(n=206)	60% / 39% / 1%
All (N=991)	30% / 26% / 32% / 12%

■ < 8 semester hrs
■ 8–11 semester hrs
■ 12–14 semester hrs
■ 15 semester hrs or more

undergraduate students enrolled in 15 or more hours, putting them on track to graduate in four years (assuming they maintain that course load throughout all terms, excluding summer terms). Another three institutions have a smaller but moderate percentage (21%, 31%, and 41%) of students on track to graduate in four years. The two institutions with 6% to 7% of their students enrolled in at least 15 credit hours also have about 25% of their students enrolled less than eight hours. Given that these are larger programs, the slower pace of students moving through the pipeline at these institutions will have a significant impact on the Chicago area's pool of new certificants.

Fall 2006 Starting Status

In Figure 9, we show the starting status as of Fall 2006 of the students for the eight institutions with an undergraduate Early Childhood program. Overall, 65% of students are classified as Pre-candidates. As seen in the bar graph, five out of the eight institutions have a majority of their students in Pre-candidate status (51%–89%). Only three out of the eight institutions have over half (54%–71%) of their students officially enrolled in their Early Childhood program. For graduate programs, we see that nearly all institutions consist of 100% candidates; 60% of students are Pre-candidates in only one institution.

By definition, Pre-candidates are students who have indicated an interest in an Early Childhood degree but who have not been officially admitted and enrolled into the program. Optimistically speaking, we see a large tributary of potential Early Childhood students who may eventually graduate with a degree. A next critical step is to examine how many students pass this hurdle and become Candidates. We turn to that issue next.

Overall, 65% of undergraduate students are Pre-candidates. For many of the institutions, more than half of their undergraduate students are Pre-candidates.

Overall, 35% of undergraduates are Candidates. This translates to 347 students officially enrolled in an ECE program across these ten institutions.

Figure 9. Fall 2006 Starting Status by Institution
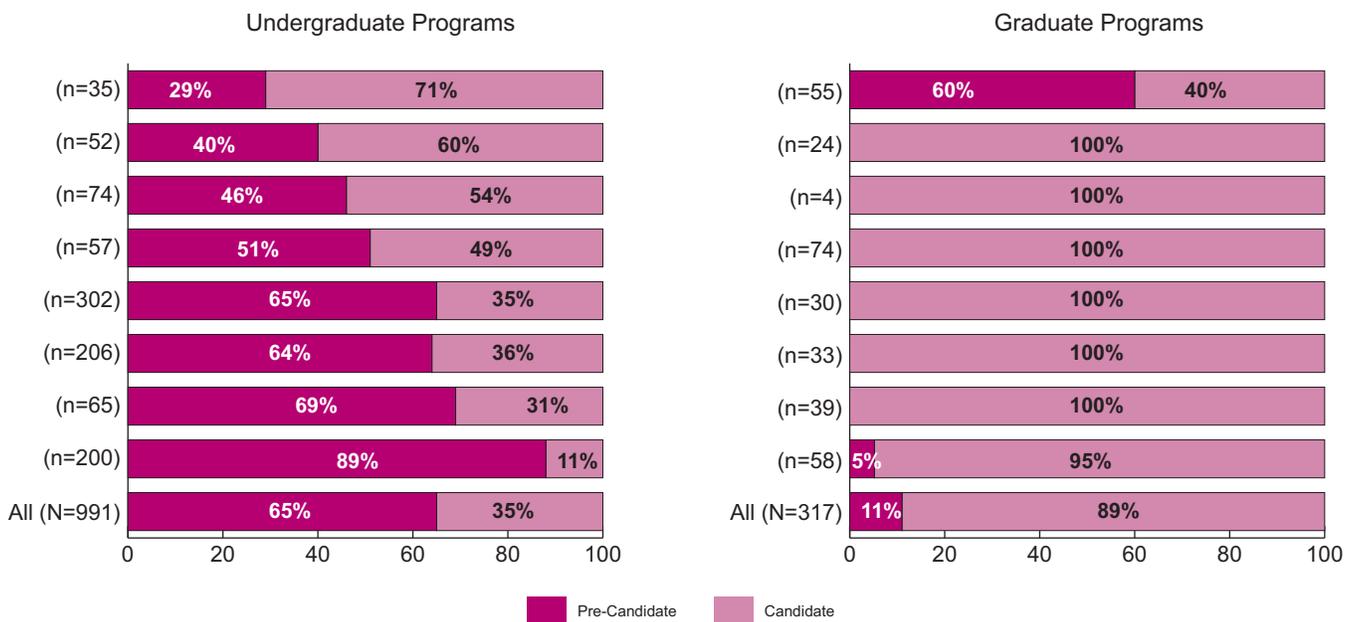
Fall 2007 Outcome for Undergraduate Programs

As described earlier, we started with the Fall 2006 students from the participating institutions and tracked them within their institution to Fall 2007. We wanted to identify how many students were progressing through the pipeline, how many "leaked" from the pipeline, and where they "leaked." Specifically, the Fall 2007 outcomes include: Pre-candidate in Early Childhood Education program; Candidate in Early Childhood Education program; Graduated student (from December 2006 through Summer 2007); Enrolled in the institution, but not in the Early Childhood Education program (includes students enrolled in other teacher preparation programs and other non-education programs); and Not enrolled in the institution.

In Figure 10, we show the 2006 Pre-candidates and Candidates undergraduate students graphed separately with the breakdown of their 2007 outcome. Overall, we see that Candidates fared much better than Pre-candidates in terms of progressing to their next step in the program (Candidates → Graduated student; Pre–candidates → Candidate status). Overall, 32% of Candidates graduated by Fall 2007, while only 10% of Pre-candidates moved to Candidate status by Fall 2007. For 2006 Pre-candidates, only two institutions have a moderate proportion (38% for both) of students moving to the Candidate status in Fall 2007. On the other hand, a higher proportion of 2006 Candidates for five institutions (35%–50%) have progressed to Graduated student by Fall 2007. Fewer 2006 Candidates (5%–9%) "leaked" to another major (including other teacher preparation programs) compared to 2006 Pre-candidates (14%–35%). In addition, a relatively small percentage of 2006 Candidates "leaked" from the institution. We were surprised by the high proportion of Pre-candidates who were not enrolled in any program at the institution in Fall 2007. Five out of the eight institutions

Figure 10. 2007 Outcome for Fall 2006 for Pre-Candidates and Candidates (Undergraduate Programs)
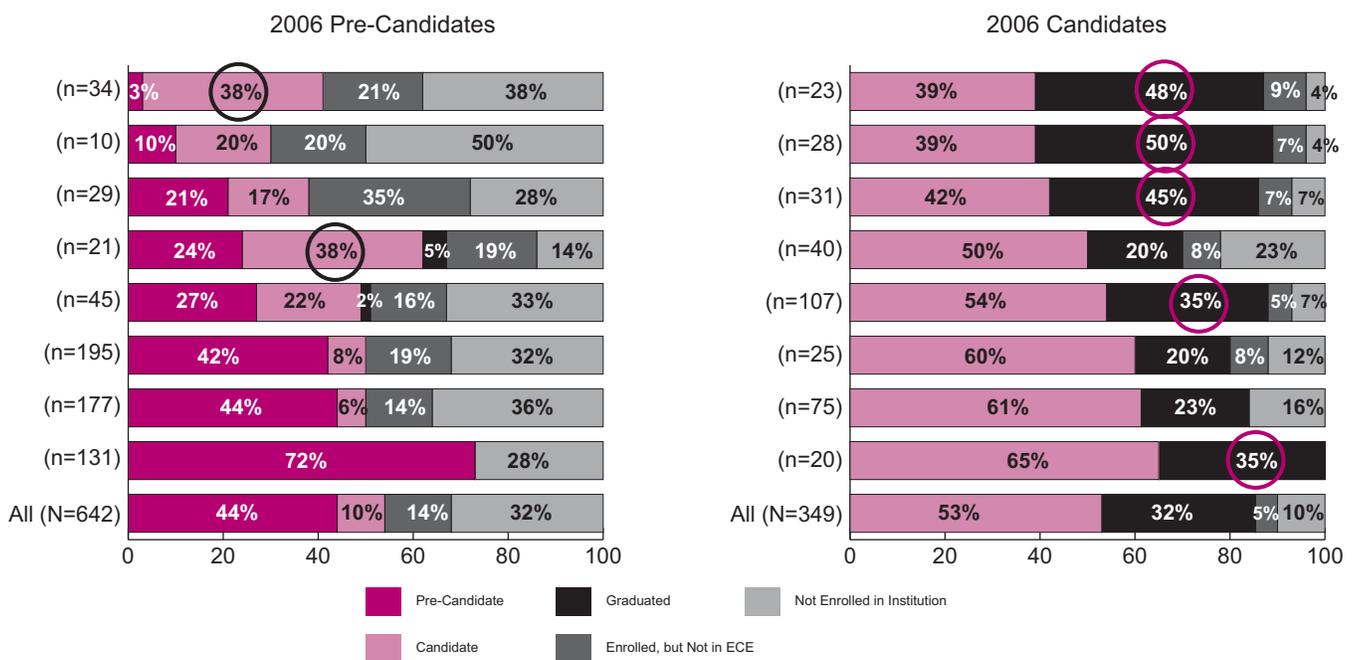
experience one-third to one-half (32%–50%) of their Pre-candidates flowing out of their institutions. Considering all institutions combined, this translates to 205 (32%) Pre-candidates not returning to enroll in Fall 2007 at their Fall 2006 institution. The fewer Pre-candidates progressing to Candidate stage, coupled with the large "leakage" of Pre-candidates to non-ECE programs and out of the institution, suggest a sluggish pipeline with significant drainage that will significantly influence the production of qualified Early Childhood teachers.

Fall 2007 Outcome for Graduate Programs

We followed the same tracking methodology for graduate programs. We do not graph the Pre-candidates at the graduate level due to the small number of students and the ability to produce meaningful results. For Fall 2007 Candidates, we combined two groups ("Enrolled in the institution but not in the ECE program" and "Not enrolled in the institution") into a new category ("Not enrolled in ECE or the institution") due to the low number of students in these groups. As shown in Figure 11, for all institutions combined, half (50%) of Fall 2006 Candidates remained Candidates as of the following Fall 2007, one-third (32%) were Graduated students by Fall 2007, and 18% were "Not enrolled in the Early Childhood graduate program" or "Not enrolled in the institution." Approximately one-quarter or more of graduate students completed their degree in each of the institutions. One institution stands apart with over half (58%) of its students graduating. Given that the majority of graduate students attend part-time, it seems reasonable that this proportion of students remain as Candidates. Note that although the overall number of students may be small, the percent of students within some institutions "Not enrolled in the Early Childhood program or the institution" one year later is approximately 25%. However, we learned from Early Childhood faculty that the "Not enrolled in Fall 2007" group includes some students who were on a leave of absence with intentions to return to the program in the future.

Figure 11. 2007 Outcome for Fall 2006 Candidates (Graduate Programs)
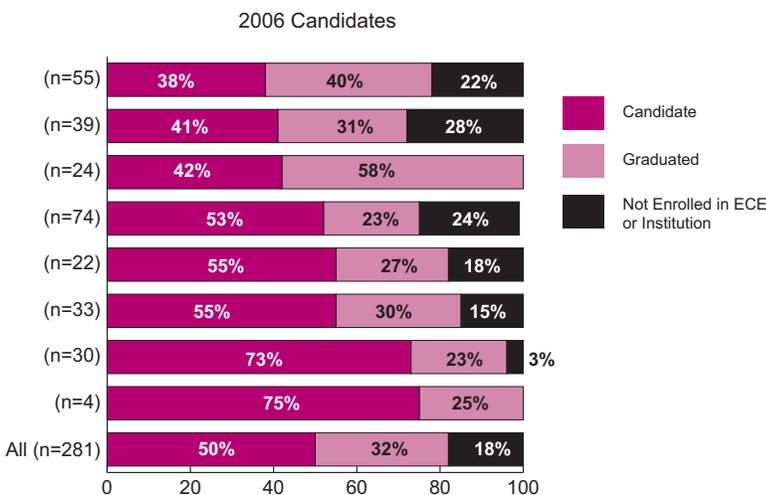
All institutions have approximately one-quarter or more of their 2006 graduate level Candidates progressing to graduation by Fall 2007.

Summary of Findings from Pipeline Data Analysis

Approximately 1,300 students from this study's ten participating Chicago institutions are in the pipeline of Early Childhood Education teachers as of Fall 2006 (991 in undergraduate programs; 317 in graduate programs). Early Childhood Education programs at these institutions vary in size for both undergraduate programs (eight institutions ranging from 35 to 302 students) and graduate programs (eight institutions ranging from 4 to 74 students).

Overall, students are predominantly female and represent a mix of racial/ethnic groups—primarily white, black, and Hispanic. Undergraduate programs have a relatively higher percentage of Hispanic students compared to graduate programs. On average, undergraduate students are older than the traditional age student with a median age of 24 (state median age is 21.1). The median age for graduate students is 29, which matches the state median age. Individual institutions vary considerably on these race and age demographic characteristics.

Overall, a large percentage (43%) of undergraduate students are enrolled part-time, and one-third (31%) of students at the bachelor's level are lower division. One institution stands apart from the others with a significantly higher proportion of fourth-year students (56%), primarily due to a high number of transfer students into the institution. Again, there are differences among the institutions in terms of the percentage of part-time students at the undergraduate level, ranging from 0% to 60%. Overall, two-thirds of students in graduate programs are enrolled part-time. One-half or more of their graduate students are enrolled part-time at most institutions. One institution differs, with nearly all of its students enrolled full-time.

Overall, a majority (65%) of undergraduate students are Pre-candidates (i.e., interested, but not enrolled in ECE program) while the vast majority (89%) of graduate students are Candidates (i.e., officially enrolled in the program). Nearly all institutions' graduate programs consist of 100% Candidates; however, undergraduate programs are very different in the proportion of Candidates (ranging from 29% to 89%).

Regardless of degree level, Candidates are more likely than Pre-candidates to progress to their next academic step (i.e., Candidates → Graduated student; Pre-candidates → Candidate status). Institutions are fairly similar in terms of Candidates' progress and leakage; however, institutions vary considerably regarding Pre-candidates' progress and leakage from the ECE program and institution.

Survey of Early Childhood Education Students

The purpose of the survey was to learn from students themselves about barriers and challenges they face as they work toward completing a degree in Early Childhood Education. We also investigated other factors shown to impact college persistence (i.e., satisfaction with college experience and Early Childhood Education program, use of support services, and college readiness).

Survey Methodology

Institutional research offices at the ten participating institutions provided contact information, demographic data, and enrollment data for the 1,308 students officially enrolled or interested in an Early Childhood Education program in Fall 2006. Institutions created a dummy ID and a crosswalk to their original data to maintain students' anonymity. We grouped the students by their 2007 enrollment status: Pre-candidate, Candidate, Graduated student, Enrolled, but not in Early Childhood Education (includes students enrolled in another teacher education program and students enrolled in another major), and Not enrolled in the institution in Fall 2007.

Because we are most interested in the students who "leaked" from the Early Childhood Education program or who were not progressing in their program, we selected all of the students classified as Pre-candidates; Enrolled, but not in Early Childhood; and Not enrolled in the institution (n=709). Due to limited resources, we randomly selected one-half of the Candidates and Graduated students (n=299). This totaled 1,008 for the survey sample, of which we were able to deliver 908 (90%) surveys. We contacted individuals via the United States mail in mid-August 2008 to inform them they had been selected to participate in the survey.[4] The survey was administered between September 2008 and November 2008 using a web-based survey, followed by a mailing of the paper survey after one follow-up email reminder. A reminder email was sent two weeks after the paper survey mailing. In order to increase response rates, a shorter version of the survey was mailed in paper format at the end of October.[5] A final postcard reminder was mailed approximately two weeks later.

Usable surveys were returned from 207 individuals (for a 23% response rate) as follows: 100 (48%) individuals responded via the web, and another 107 (52%) responded via the paper survey; 167 (81%) completed the long version of the survey, and 40 (19%) completed the short survey; 18% (129 out of 709) of the Pre-candidates, Not enrolled in ECE, and Not enrolled in the institution group completed the survey; and 26% (78 out of 299) of the Candidate and Graduated student group completed the survey. Due to the lower than desired response rates and issues with students' perception of their 2007 enrollment status (described in the results section), the survey responses were not weighted based on the sampling design. Therefore, the survey results presented in this report relate only to the students who responded to the survey. We examined the survey

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[4] One institution chose to mail the survey and reminders to their students. IERC staff administered the mailings for the remaining nine institutions.

[5] A copy of the long and short version of the survey is available on our website http://ierc.siue.edu under Supplemental Report Materials.

response patterns and determined they were similar to the population for institutions attended, gender, race, program level, and full-time/part-time status. The survey respondents are slightly older (mean age=31.9) than the population (mean age=29.1). Consequently, we believe the survey results are informative in terms of learning more about persistence in Early Childhood Education programs, and identifying areas to focus on to address these issues. See Appendix A for response rate information by institution (Table A2) and comparisons between completed sample and population (Table A3).

Survey items were based on our primary research question regarding barriers students may face as they progress through their college program. We also obtained demographic information (e.g., gender, race/ethnicity, birth year, income, language fluency, marital status, family members with college experience, and whether the respondent had any children under six years old living with them). We also collected employment information (number of hours worked and whether the job was related to Early Childhood). We asked respondents to indicate their 2007 enrollment status. Given the development of the recent Associate of Arts in Teaching (AAT) for Early Childhood Education, we asked respondents about transfer activities and whether they had received an AAT. We also asked questions about factors that have been shown to influence college persistence (i.e., satisfaction with college and Early Childhood Education program, use of support services, and college readiness). Lastly, we asked candidates and graduates about factors that influenced their ability to stay in the program or successfully graduate. The short version of the survey only included key questions regarding satisfaction, use of services, factors influencing persistence in the ECE program, number of hours worked, transfer behavior, and demographic characteristics (i.e., ACT, GPA, language fluency, income, and family members with college experience).

The survey analysis groups are roughly split into thirds: Pre-candidates (29%); Candidates and Graduated students (38%); and Enrolled, but not in ECE program and Not enrolled in the institution (33%).
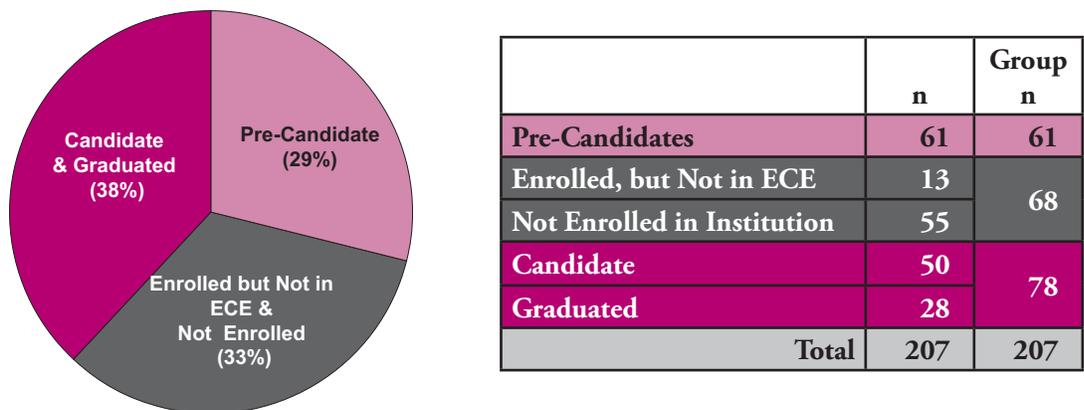
Analysis Groups

We divided respondents into three mutually exclusive groups for analysis based on their 2007 enrollment status as defined by the institutional research offices (Figure 12). Students not enrolled in Early Childhood Education or Not enrolled in the institution in Fall 2007 were grouped together, partly due to a low number of respondents but also because both groups are considered to have "leaked" from the Early Childhood Education program (33%). Pre-candidates are also of interest because, even though they are in the pipeline, they are progressing at a slower pace. Therefore, Pre-candidates are

Figure 12. Distribution of Respondents

	n	Group n
Pre-Candidates	61	61
Enrolled, but Not in ECE	13	68
Not Enrolled in Institution	55	
Candidate	50	78
Graduated	28	
Total	207	207

in an analysis group by themselves (29%). Candidates and Graduated students were grouped together because these students remained in good standing or had progressed in their program (38%).

Survey Results

In this section, we discuss the results of the survey. We first examine students' perception of their 2007 enrollment status. We then explore demographic characteristics, employment, and transfer behavior for the three analysis groups. Lastly, we examine other factors (i.e., satisfaction, use of support services, and college readiness) shown to be related to college persistence.

Students' Perception of 2007 Enrollment Status

We asked respondents to indicate their 2007 enrollment status in order to direct them to the respective survey questions. Pre-candidates, Students not enrolled in ECE, and Students not enrolled in the institution were directed to answer questions relating to reasons that influenced why they were not enrolled in the ECE program. Candidates and Graduated students answered questions about factors that influenced their ability to continue in or graduate from the ECE program.

An unintended survey finding resulted when we compared the students' responses about their 2007 enrollment status and the institutional data for their 2007 enrollment status. Table 4 shows the comparison, with only 116 cases (56%) matching between the students' responses and the institutional data (circled in black). Students who reported to be Candidates or Graduated closely matched the institutional data (only 10 out of 78 did not match). More mismatches occurred with Enrolled, but not in ECE and Not enrolled in institution categories. Between these two groups, 37 out of 68 students' responses did not correspond with institutional data; most of the students (18) classified themselves as Candidates rather than Not enrolled in the institution. We see the largest discrepancy with Pre-candidates. Nearly 75% of students (45 out of 61) did not match the institutional data to identify themselves as Pre-candidates. The largest inconsistency occurred when students identified themselves as Candidates (35) but institutional data coded them as Pre-candidates.

Large disparities exist in students' perceptions and the institutions' records of the 2007 enrollment status.

Table 4. Students' Survey Response by Institutional Data for 2007 Enrollment Status

		Institutional Data for 2007 Enrollment Status					Student Response Total
		Pre-Candidate	Enrolled but Not in ECE	Not Enrolled	Candidate	Graduated	
Student Survey Response for 2007 Enrollment Status	Pre-Candidate	(16)	1	6	1	0	24
	Enrolled, but Not in ECE	7	(9)	4	1	0	21
	Not Enrolled	0	0	(23)	0	0	23
	Candidate	(35)	2	(18)	(45)	5	105
	Graduated	3	1	4	3	(23)	34
Institution Total		61	13	55	50	28	207

Note: Matching data are in black circles. The two largest groups with mismatched data are in red circles.

We checked with several of the institutions and confirmed that the institutional data were coded correctly. Based on discussions with the Advisory Group, these mismatches are not surprising and are possibly due to delays in processing paperwork. Interestingly, the misclassification occurred at eight of the ten participating institutions in varying degrees, ranging from 8% to 61% mismatches. Further discussions with several institutions revealed that the mismatch is likely due to students misinterpreting the survey question because some institutions have practices/policies whereby the students may not realize that they have not been formally admitted into the College of Education and the Early Childhood Education program. This may include allowing non-admitted students to take upper level courses; other students may initially be admitted into the College of Education (or similar college) without having completed all of the requirements to be formally admitted into the Early Childhood Education program. Another possibility is that students with a high number of credit hours due to transferring or frequent major changes may consider themselves candidates because they have junior or senior standing at the institutional level, even if they are not yet at the equivalent level in the Early Childhood Education program.

In light of these inconsistencies, we decided to use the original institutional data classifications to define the data analysis groups. As we pointed out earlier, these inconsistencies occurred to some degree at many of the institutions. By using the institutional classifications, data from all institutions will be treated in the same manner. This finding highlights the need to examine communication strategies among students, departments, and offices of institutional research regarding enrollment status.

Demographic Characteristics

Table 5 shows the demographic characteristics of the three analysis groups, which is based on survey responses and institutional data, and separated for undergraduate and graduate students.

Undergraduate Pre-candidates have many risk factors that may impede their progress, including racial minority, older age, lower incomes, and part-time enrollment status.

At the undergraduate level, Pre-candidates are more likely to be black (56%), more likely to be older (32.9 mean age), and more likely to have children six years of age and younger living with them (68%). Although 46% of Pre-candidates are never married, they are more likely to be married (39%) than other groups. Two-thirds of Pre-candidates and Candidates & Graduated students have a father with college experience. Candidates and Graduated students are more likely to have a grandparent or mother with college experience, while Pre-candidates and Students in the Not in ECE or Not in the institution groups are more likely to have a sibling with college experience. This is possibly due to the younger age of the Candidates and Graduated students. Fluency in English is equally high for all groups (around 90%) and moderate for fluency in Spanish (around 20%). Roughly one-third of the students in all groups earned less than $20,000 in 2007; however, more Candidates and Graduated students were in the higher income levels for the same timeframe, despite the fact that more Pre-candidates work 30 hours or more a week. This might be explained by more Pre-candidates working in Early Childhood related jobs, which tend to have lower pay scales.

Table 5. Demographic Characteristics of Analysis Groups by Degree Level

	Undergraduate Level			Graduate Level	
	Pre-Candidate	**Enrolled, but Not in ECE & Not Enrolled**	**Candidate & Graduated**	**Enrolled, but Not in ECE & Not Enrolled**	**Candidate & Graduated**
Gender	*(n=54)*	*(n=53)*	*(n=55)*	*(n=15)*	*(n=23)*
Female	98%	100%	100%	100%	100%
Race †	*(n=54)*	*(n=53)*	*(n=55)*	*(n=15)*	*(n=23)*
Black, Non-Hispanic	(56%)	32%	20%	40%	*
Hispanic	17%	23%	22%	0%	*
White & Other	28%	45%	58%	60%	74%
Age as of 2006 †	*(n=54)*	*(n=53)*	*(n=55)*	*(n=15)*	*(n=23)*
23 yrs and younger	26%	38%	53%	–	–
24–34 yrs old	32%	26%	29%	47%	65%
35 yrs and older	43%	36%	18%	53%	35%
Median Age	31	27	23	45	29
Mean Age †	(32.9)	31.8	26.7	40.3	34.3
Marital Status †	*(n=44)*	*(n=34)*	*(n=37)*	*(n=9)*	*(n=17)*
Married	(39%)	18%	22%	*	*
Never Married	46%	59%	73%	*	47%
Widowed/Divorced/Separated	16%	24%	*	*	*
Family Member with College	*(n=54)*	*(n=53)*	*(n=55)*	*(n=15)*	*(n=23)*
Grandparent †	33%	28%	(55%)	53%	61%
Father †	(67%)	47%	(67%)	73%	83%
Mother † ‡	13%	19%	(38%)	*	(70%)
Sibling †	(24%)	(23%)	*	*	*
Child	30%	26%	31%	*	48%
Children 6 yrs and younger †	*(n=47)*	*(n=38)*	*(n=39)*	*(n=10)*	*(n=17)*
Yes	(68%)	40%	23%	*	35%
Language Fluency	*(n=52)*	*(n=49)*	*(n=52)*	*(n=13)*	*(n=22)*
English	90%	86%	94%	100%	96%
Spanish	18%	23%	18%	*	*
2007 Income (annual gross) †	*(n=53)*	*(n=49)*	*(n=51)*	*(n=13)*	*(n=22)*
No Income from Employment	*	*	*	*	*
< $20,000	32%	39%	39%	*	*
$20,000–$29,999	38%	20%	16%	*	*
$30,000–$39,999	*	*	(16%)	*	*
$40,000 or more	*	*	(18%)	*	*
Prefer Not to Answer	*	20%	*	*	*
Hours Work in a Week †	*(n=49)*	*(n=47)*	*(n=47)*	*(n=12)*	*(n=22)*
None	19%	21%	23%	0%	*
1–10 hours	*	*	15%	*	0%
11–20 hours	*	15%	30%	*	*
21–30 hours	12%	*	*	0%	*
More than 30 hours	(57%)	(43%)	26%	58%	55%
Job Was Related to ECE †	*(n=40)*	*(n=37)*	*(n=36)*	*(n=12)*	*(n=17)*
Yes	(55%)	46%	36%	50%	53%

†p<.05 – Significant for Undergraduate Level; ‡p<.05 – Significant for Graduate Level;
*≤ 5 respondents; N sizes are lower in some categories because those questions were asked only on the long version of the survey.

At the graduate level, we did not find any statistically significant differences between the two groups, partly due to small sample sizes, except for one category. Candidates and Graduated students were more likely to have a mother with college experience (70%); however, more than half of the students in both groups had a grandparent and father with college experience. In terms of demographic characteristics, we see less diversity in terms of race compared to the undergraduate students, with fewer students in minority categories and 60% or more students in both graduate level groups in the White & Other category. (Note that this group is comprised primarily of white students.) This also was verified by fewer than five respondents from both groups reporting fluency in Spanish. Roughly, almost one-half (47%) of Candidates and Graduated students never married, and one-third (35%) report living with children six years of age or younger. Candidates and Graduated students tend to be younger than students who are not enrolled in ECE or the institution. Just over one-half of the students in both groups work 30 hours or more per week, and a similar percentage (approximately 50%) report working in an Early Childhood-related job.

The Chicago ECE pipeline for undergraduate students is slow moving due to the large percentage of Pre-candidates, many of whom are enrolled in eight or fewer semester hours.

Enrollment Characteristics

Table 6 shows the enrollment characteristics of the three analysis groups based on survey responses and institutional data for undergraduate students. Responses for graduate programs are not reported in Table 6 due to small sample sizes. Full-time status is 12 credit hours for undergraduate programs (unconverted hours). Credit hours for two institutions on a quarter system were converted to semester hours using a two-thirds (2/3) ratio for reporting level of enrollment by semester hours to make a comparison across all ten institutions.

For undergraduates, Pre-candidates are more likely to enroll part-time (57%) compared to the two other analysis groups. When we examine enrolled credit hours (all have been converted to semester hours), we see that Pre-candidates are on a much slower pace to complete their degree with nearly half (46%) of Pre-candidates enrolled in fewer than eight semester hours. Looking at class level, the "leakage" (i.e., Students not enrolled in ECE or Not enrolled in the institution) occurs primarily with lower division students (43%). Surprisingly, 43% of Pre-candidates are fourth-year students. We learned from the Advisory Group that this may be due to students who transferred into the institution with enough credit hours to be at the junior or senior level in the university standing but are not officially enrolled in the ECE program. Alternatively, students may accumulate credit hours at part-time enrollment for many years without officially being admitted to the ECE program because they have not passed all ECE program requirements (primarily the Illinois Basic Skills Test).

Students who "leaked" from the ECE program appear to be exploring the ECE major and are not yet committed to the ECE field.

There were no statistically significant differences among the analysis groups regarding transfer into the four-year institution. Over half (53%–64%) of the students in each group reported transferring to the senior level institution. Those who had problems transferring typically reported issues with losing credit hours, with many losing seven or more credit hours. More than one-quarter of the students in each group reported receiving an Associate of Arts in Teaching (AAT) for Early Childhood Education. However, feedback from the Advisory Group and data from the Illinois Community College Board indicate students' perceptions are not accurate. The AAT was approved

Table 6. Enrollment Characteristics of Analysis Groups for Undergraduate Programs

	Undergraduate Level		
	Pre-Candidate	**Enrolled, but Not in ECE & Not Enrolled**	**Candidate & Graduated**
2006 Enrollment Status [a] †	*(n=54)*	*(n=53)*	*(n=55)*
Part-Time	57%	45%	33%
Full-Time	43%	55%	67%
2006 Enrolled Semester Hours [b] †	*(n=54)*	*(n=53)*	*(n=55)*
Less than 8 semester hours	46%	32%	20%
8–11 semester hours	30%	26%	38%
12–14 semester hours	19%	30%	22%
15 or more semester hours	*	11%	20%
2006 Class Level †	*(n=54)*	*(n=53)*	*(n=55)*
Lower Division	26%	43%	13%
3rd year	32%	23%	24%
4th year	43%	34%	64%
Did you transfer?	*(n=52)*	*(n=49)*	*(n=49)*
Yes	64%	53%	59%
Did you have problems transferring?	*(n=33)*	*(n=26)*	*(n=29)*
No	67%	50%	59%
Yes, transferring credit hours	30%	42%	41%
Number of credits not accepted	*(n=10)*	*(n=11)*	*(n=12)*
Lost 7 or more credits	70%	82%	67%
Received AAT degree [c]	*(n=33)*	*(n=26)*	*(n=29)*
Yes	24%	46%	31%
Primary reason for attending	*(n=41)*	*(n=34)*	*(n=36)*
Take classes to consider ECE major	22%	18%	*
Obtain Bachelor's degree	59%	74%	86%
Other reasons combined	19%	*	*
Did you have plans to seek IL ECE Teaching Certificate? †	*(n=44)*	*(n=38)*	*(n=37)*
Yes	82%	55%	92%
No	*	26%	*
Undecided	*	18%	*

[a] For undergraduates, 12 hours (semester or quarter hours) or more is full-time status.
[b] Quarter credit hours were converted to semester hours using two-thirds (2/3) ratio.
[c] Percent reported is likely high due to students' misperceptions about degree.
†p<.05
* ≤ 5 respondents; N sizes are lower in some categories because those questions were only asked on the long version of the survey.

in Fall 2005. Enrollments at the five Chicago area community colleges that offered the AAT totaled only 3 in FY06, 74 in FY07, 130 in FY08, and 210 in FY09; however, as of FY09, only three of these students have completed the AAT.[6] Early Childhood program directors from the Advisory Group suggested that many students are often confused about which Associate's degree they received (i.e., Associate of Arts (AA), Associates in Applied Science (AAS), or AAT).

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[6] Data source is the Illinois Community College Board FY09 Annual Enrollment and Completion (A1) Submission.

We asked students to indicate their primary reason for attending the institution. Based on the responses, it appears that some Pre-candidates (22%) and Enrolled, but not in ECE and Not in institution students (18%) are in an "exploring" stage because they are taking classes to consider pursuing the ECE degree, as opposed to seeking a bachelor's degree as their primary reason for attending college. The latter group seems to be less committed to this education path (at this point in time) when they responded they had no intentions (26%) or were undecided (18%) about seeking the Illinois ECE teaching certificate.

Reasons for Not Being Enrolled in ECE program in Fall 2007

The primary focus of the survey was hearing from the students' perspective their reasons for not being enrolled in the ECE program. Our initial interest was in students who "leaked" from the program—specifically in those who switched to another teacher education program or a different degree program, and in those who were not enrolled in the institution in Fall 2007. During the data analysis phase for the institutional data, we learned of the large group of Pre-candidates whose progression through the higher education pipeline was very slow; therefore, we also focus our attention on this group in this section. Due to the low numbers of graduate students in these groups, we will be only reporting the undergraduate students' responses.

We asked students to select three reasons that had the largest influence on why they were not enrolled in ECE in Fall 2007. Table 7 presents the reasons that were selected most often. Note that the response group size for this question is smaller for these two groups because many students skipped this question due to misclassifying themselves as Candidates rather than Pre-candidates; therefore, they were not directed to answer this survey question. To more thoroughly understand all possible challenges and barriers, we are reporting responses with cell sizes of 4 and 5 for Table 7. Despite the fewer number of students, their responses provide insight into barriers and challenges faced by students while completing their degree.

As seen in Table 7, reasons receiving the most votes tend to center on prerequisites (including passing the Basic Skills test) and financial issues; however, specific reasons vary for the two groups. The majority of Pre-candidates cited not having completed all prerequisites (76%), followed by work/class time conflict (33%) and personal financial issues (24%). For students who switched to another major or students not enrolled in the institution, we see a longer list of top three reasons. This suggests that because students in these groups are more diverse, their reasons for not being in the ECE program are more varied. Inability to pass the Basic Skills test (32%) was the primary reason for these students. Note that, although passing the Basic Skills test is also a prerequisite for the ECE programs, this group specifically identified this as a barrier. Not unexpectedly, students indicated "no longer interested in ECE field" (24%) within their top three reasons. Similar to Pre-candidates, this group cited not completing all prerequisites (22%) and personal financial issues (22%) within their top three reasons for not being enrolled in ECE in Fall 2007. Both groups identified "unsatisfactory advisor/academic counselor" next in line; however, fewer Pre-candidates thought this was an issue (19% vs. 22%).

Pre-candidates cited not completing all prerequisite (76%), work/class time conflict (33%), and personal financial issues (24%) in their top three reasons for not being enrolled in the ECE program.

Students who "leaked" from the ECE program cited inability to pass the Basic Skills test (32%), no longer interested (24%), not completing all prerequisite (22%), and personal financial reasons (22%) in their top three reasons.

Table 7. Undergraduate Students' Ratings of Top Three Reasons Why Not Enrolled in ECE Program in Fall 2007

Enrolled, but Not in ECE & Not Enrolled	% Placing Reason in Top Three (N=37)
Could not pass Illinois Basic Skills Test	32% (n=12)
No longer interested in ECE field	24% (n=9)
All prerequisites were not completed	22% (n=8)
Personal financial issues	22% (n=8)
Unsatisfactory advisor/ academic counselor	22% (n=8)
Work/class time conflict	19% (n=7)
Time required to complete was too long	16% (n=6)
Inadequate communication about program	16% (n=6)
Unable to receive financial aid	14% (n=5)
Personal/family reasons	14% (n=5)
Unsatisfactory school placement experience	14% (n=5)
Unsure of career goals	11% (n=4)
Poor instruction in the ECE program	11% (n=4)
Lack of support from faculty	11% (n=4)

Pre-Candidates	% Placing Reason in Top Three (N=21)
All prerequisites were not completed	76% (n=16)
Work/class time conflict	33% (n=7)
Personal financial issues	24% (n=5)
Could not pass Illinois Basic Skills Test	19% (n=4)
Unsatisfactory advisor/ academic counselor	19% (n=4)
Inadequate communication about program	19% (n=4)

We asked students who switched to another major or who were not enrolled in the institution with whom they discussed their decision about not completing the ECE program. Family (27%) and friends (22%) were cited most often. Very few students said they discussed their decision with the Education faculty member or academic advisor. We learned from the Advisory Group that many programs assign an Education faculty member or Education advisor after students are officially enrolled in the program. Given that one out of five (22%) of these students cited "unsatisfactory advisor" within their top three reasons, reconsidering this policy may help ECE programs reduce the number of "leaking" students. Another alternative is to work closely with the institution's central advising office to provide advising specific to the ECE program (and other teacher preparation programs) to students who are not yet accepted into an academic program. This may help students become informed as early as possible in order to get them on track to complete requirements. We learned that St. Xavier has significantly increased efforts in this area over the past year and has seen progress with students considering the ECE degree.

ECE program directors rated students' competing work/family responsibilities and lack of financial support as large challenges.

To get another perspective related to students' not being enrolled in the ECE program, we collected information from the ECE program directors of the participating institutions. Using a survey developed by researchers at the Frank Porter Graham (FPG) Child Development Institute (Maxwell, Lim, & Early, 2006), we asked ECE program directors their perceptions of challenges their ECE programs face on a 5-point Likert scale, ranging from 1–not a challenge to 3–somewhat a challenge to 5–a large challenge. Six of the program directors completed the survey. For comparison purposes, FPG provided an overall summary of the Illinois data for Chicago (many of whom overlap with this study) and the rest of the state. The 2004 data were collected by FPG as part of the National Survey of Early Childhood Teacher Preparation Programs in the United States with support from the Foundation for Child Development (FCD). National and state reports are available at www.fpg.unc.edu/~npc/pages/reports.cfm. The FPG research team and FCD did not participate in the data collection, analysis, or report writing of this IERC study and may not agree with the conclusions and recommendations of this IERC report. Although the data were collected at two different points in time, they are useful in providing a general sense of programs' challenges.

Table 8 shows the ratings for the ECE program directors for the IERC study, the FPG Chicago area universities, and other Illinois universities in the FPG study. All three groups rated students' competing work/family responsibilities and lack of financial support/scholarships as large challenges. ECE program directors from this study also rated students' lack of academic preparation or skill as a large challenge. These responses are similar to what students told us regarding their reasons for not being enrolled in the ECE program. Difficulty attracting and retaining ethnically and linguistically diverse faculty were also rated as challenges for programs in our study, as well as the FPG Chicago institutions and those in the rest of the state.

Candidates and Graduated Students' Influences to Help Them Stay in or Graduate from the ECE Program

Students "own desire and determination" was the primary reason for their ability to persist in or graduate from the ECE program.

To learn about internal and external supports, we asked Candidates and Graduated students to what extent (major, some, not at all) various factors influenced their ability to stay in or graduate from the ECE program. Table 9 shows the percentage of students, by program level, who reported each factor was a "major" influence. The responses were generally in the same rank order, with more graduate students endorsing each of the items. Both groups ranked "my own desire and determination" far above the other factors (98% for undergraduates and 96% for graduates). Quality of the ECE program was a "major" influence for more graduate students (73%) compared to undergraduates (46%). Approximately half of undergraduate students (56%) and graduate students (50%) reported support from family or friends as a "major" influence. Graduate students were influenced more by support from faculty (46% vs. 25%), financial support (46% vs. 23%), flexibility in the program (36% vs. 17%), and advising (27% vs. 11%). Fortunately, there are a number of factors under the control of ECE program (e.g., quality, faculty support, and flexibility) that influence students' ability to stay in the program and progress to graduation.

Table 8. Early Childhood Education Program Directors' Mean Ratings of Challenges Faced by Their Universities' Programs

1 – Not a challenge 3 – Somewhat of a challenge 5 – A large challenge	IERC Study (n=6)	FPG Study Chicago Area Universities (n=8)	FPG Study Other Illinois Universities (n=15)
Student-related			
Students' competing work/family responsibilities	4.2	4	3.3
Lack of financial support or scholarships	3.7	3.8	3.1
Students' lack of academic preparation or skill	3.7	2.9	2.2
Lack of student motivation	2.0	2	2.1
Faculty-related			
Lack of faculty with expertise in ECE education	1.8	2.4	2.6
Lack of full-time faculty in department	2.3	3.5	2.7
Poor working conditions and wages for faculty	2.3	2.8	2.3
Difficulty attracting/retaining ethnically diverse faculty	3.7	3.8	4.1
Difficulty attracting/retaining linguistically diverse faculty	3.5	3.9	3.4
Institution-related			
Problems with credit transfer and articulation	1.5	2.5	2.6
Lack of support from university for ECE teacher preparation	2.3	2.6	2.7
Inability to serve the number of students who want to enroll	2.3	2.0	2.7
Community-related			
Lack of quality ECE practicum sites	3.0	3.4	2.9
Attracting/keeping students due to poor working conditions and wages in ECE field	2.8	3.8	3.1

Table 9. Percent Indicating "Major" Influence to Stay in/Graduate from ECE Program

	Undergraduate Level: Candidate & Graduated Student (n=55)	Graduate Level: Candidate & Graduated Student (n=23)
My own desire and determination	98%	96%
Support from family or friends	56%	50%
Quality of ECE program	46%	73%
Support from faculty	25%	46%
Financial support	23%	46%
Flexibility in ECE program	17%	36%
Academic advising or counseling	11%	27%
Tutoring or other academic support	*	*
Job placement services	*	*

Other Factors Related to Persistence

We next turn to other factors shown to be related to transition and persistence in college. *Crossing the finish line: Completing college at America's public universities*, (Bowen, Chingos, & McPherson, 2009) provides an extensive research review and policy discussion regarding college completion. Several recent articles have also summarized research findings related to these issues (Goldrick-Rab, 2007; Orr, 2009; Trent, Orr, Ranis, & Holdaway, 2007; National Survey of Student Engagement, 2009). Previous IERC studies have also examined factors related to continuation into college (Gong, Presley, & White, 2006) and college persistence (Mullin, White, & Brown, 2009); see series listing in the Reference section. This study focuses on satisfaction with college and ECE program experience, college readiness, and academic and other student support services.

Students' Satisfaction with College Experience and ECE Program

More undergraduate Candidates and Graduated students are "satisfied" and "very satisfied" with their college and ECE program experience.

Table 10 shows students' level of satisfaction with their university experience in general, as well as with their ECE program. Three out of four undergraduate Candidates and Graduated students are "satisfied & very satisfied" with both their college experience and their ECE program. This is significantly more than Pre-candidates and students who switched to another major and those not enrolled in the institution. Although not statistically significant (probably due to the small number of cases), graduate level Candidates and Graduated students are also more satisfied with their college (91%) and ECE program (100%) experience than Students enrolled, but not in ECE and Students not enrolled in the institution in Fall 2007 (73% and 60%).

Table 10. Students' Satisfaction with College Experience and ECE Program

	Undergraduate Level			Graduate Level	
	Pre-Candidate	**Enrolled, but Not in ECE & Not Enrolled**	**Candidate & Graduated**	**Enrolled, but Not in ECE & Not Enrolled**	**Candidate & Graduated**
College Experience †	*(n=53)*	*(n=52)*	*(n=55)*	*(n=15)*	*(n=23)*
Very Disappointed & Disappointed	13%	19%	16%	*	*
Neutral	26%	27%	7%	*	*
Very Satisfied & Satisfied	60%	54%	76%	73%	91%
ECE Program † ‡	*(n=54)*	*(n=51)*	*(n=55)*	*(n=15)*	*(n=23)*
Very Disappointed & Disappointed	13%	29%	16%	*	*
Neutral	30%	28%	11%	*	*
Very Satisfied & Satisfied	57%	43%	73%	60%	100%

† p< .05 Undergraduate Level   ‡ p< .05 Graduate Level
* ≤ 5 respondents

Students' Awareness, Use, and Satisfaction with Support Services

Universities provide financial, academic, and other support services to assist students as they make their way through their academic career. Meetings with the Advisory Group and student focus groups confirmed our hypothesis that student under-preparedness is a major barrier for the ECE pipeline. To address the issue regarding support to students, we reviewed existing institution support programs and surveyed students about their awareness of, use of, and satisfaction with support services (described later). We paid particular attention to programs assisting students with the Illinois Basic Skills Test.

First, we catalogued available programs for each institution from information obtained from their websites. We then asked the Education Deans to review and make additions to our list. Personnel from many of the institutions' student services offices also reviewed and provided information. Appendix B provides examples of support programs available at the participating institutions. A full list of programs is available on our website (http://ierc.siue.edu) under Supplemental Report Materials. We summarized the information into general categories of types of services and tallied the number of institutions that provided the service (Table 11). As seen in the table, institutions provide many programs to support students (e.g., academic support for writing and math tutoring; and student services to help navigate the college environment, including academic advising, transfer assistance, and assistance with financial aid). Programs for targeted populations (e.g., low-income, first generation, minority, and adult) are also available at most of the institutions. We are particularly interested in programs targeting the Illinois Basic Skills Test. We learned that seven out of ten institutions provide specific workshops or tutoring to help students pass the Basic Skills test. Typically the Office for Academic Support offers these programs; however, several Colleges of Education provide targeted support to students attempting to pass the Basic Skills test. A few institutions provide

> *Institutions offer many programs to assist students to be successful in their academic career.*

Table 11. Support Services Available to Students

	Number of Institutions (n=10)		Number of Institutions (n=10)
Illinois Basic Skills Test	7	Services for students with disabilities	10
ISBE Content Test	5	Services for low-income, first generation students	8
APT Test	4	Services for international students	8
		Services for minority students	7
Writing	10	Services for adult students	7
Math	9		
Tutoring	9		
		Orientation	9
Academic Advising	10	First Year Courses/Seminar	8
Financial Aid	10	Bridge/Summer programs for transition	7
Career Counseling	10		
Transfer Assistance	9		
Job Placement (e.g., job listings)	6		

assistance to students for the ISBE Content Test and the Assessment of Professional Teaching (APT) test.

We next turn to the survey results regarding students' awareness of, use of, and satisfaction with academic and other student support services. We only provide survey results in this section for undergraduate students since graduate students are less likely to participate in these programs (our survey results reflect this) due to less need for services or scheduling issues (i.e., attend night or summer classes). Figure 13 shows the percentage of students for each of the analysis groups who are aware of the various services. See Tables A4, A5, and A6 in Appendix A for percentages and counts for questions pertaining to support services. Overall, students who "leaked" from the ECE pipeline are less aware of support programs. Not surprisingly, fewer of these students are aware of help for passing the ISBE Content Test and APT Test since they have not yet reached that stage in the program. It is noteworthy that these students are less likely than Pre-candidates and Candidates & Graduated students to be aware of services to assist with math (81% vs. 96% vs. 91%, respectively). Also, fewer students who switched to another major or not enrolled in the institution are aware of career counseling services even though this group appears to exploring the early childhood degree or are undecided about obtaining an Early Childhood teaching certificate (see Table 6 for reasons for attending and plans to obtain ECE certificate). Fewer students not enrolled in the ECE program or the institution in Fall 2007 also report being aware of orientation programs. Since orientation programs focus on introducing students to the university, its programs, and campus life, the fact that "leaked" students are less aware of orientation may partially explain their lack of awareness of academic and other support services.

Figure 13. Undergraduate Students' Awareness of Services

Overall, students who "leaked" from the ECE pipeline are less aware of support programs—specifically, assistance with math, academic advising, career counselling, job placement, and orientation.
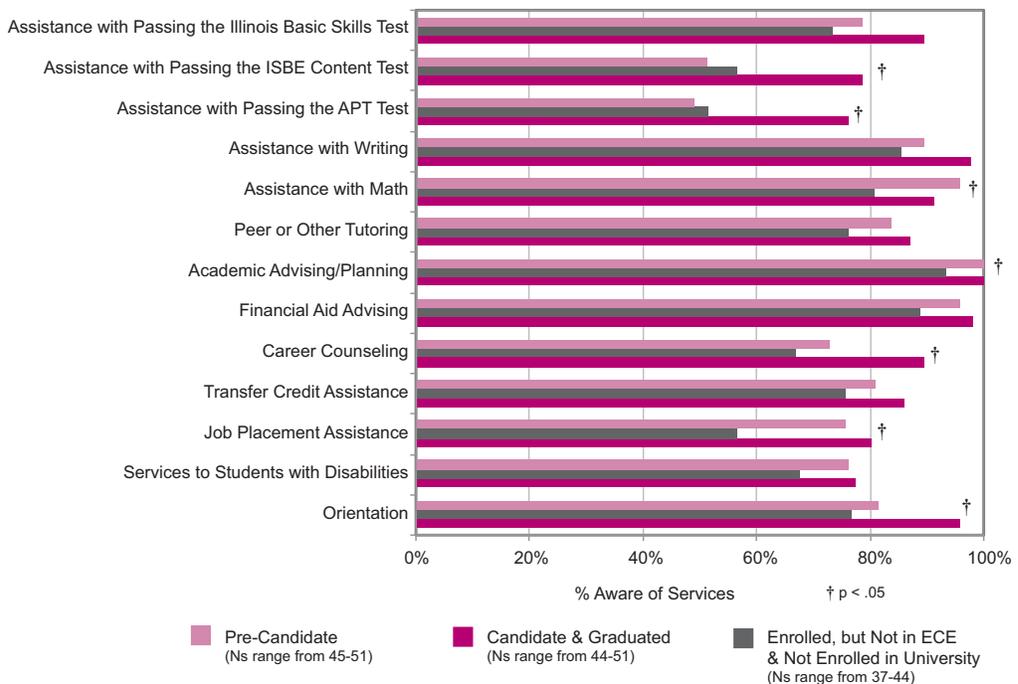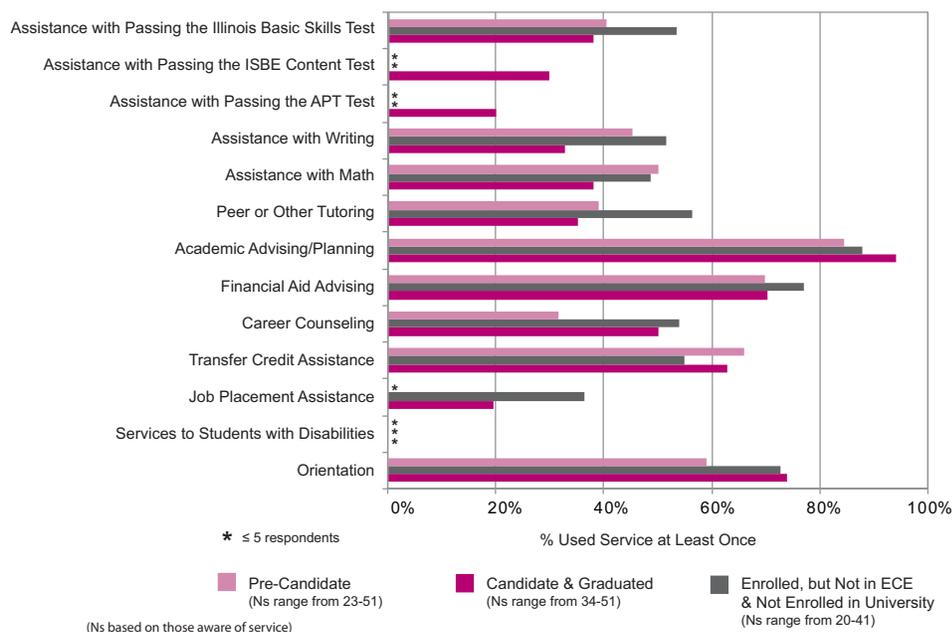
Figure 14 shows the percentage of students who used the specific support service at least once, based on those who were aware of the service. We did not find any statistical differences among the groups regarding use of services. Even with the bar set low at "used at least one time," we see that fewer than 50% of the students in all three groups took advantage of many of the support programs, with a few exceptions. Of those aware of academic advising services, over 80% of each group utilized the assistance. Slightly fewer (roughly 70%) of those aware of orientation programs and financial aid assistance made use of these services. Lastly, approximately 60% of students in all three groups aware of assistance to transfer to the institution used this service. When we look specifically at use of programs to assist with passing the Illinois Basic Skills Test, we do not see statistical differences in utilization among the three groups. Just over one-half (53%) of students who "leaked" from the ECE program participated at least once in a workshop or program to aid them in passing the Basic Skills test. Based on the low number of survey cases, we cannot say with certainty whether students in this group who utilized the Basic Skills programs also cited inability to pass the Basic Skills test as their primary reason for not being enrolled in the ECE program in Fall 2007. However, individual institutions could examine their own program data to determine whether students who are not persisting are utilizing support programs.

Figure 14. Undergraduate Students' Use of Services

Fewer than 50% of students took advantage of many of the support programs.

We next consider satisfaction with support services. Figure 15 shows the percentage of students satisfied with each of the services based on those who used the service. In general, students in all three groups were satisfied with the services they received, with most ratings between 80% and 100%. Satisfaction with academic advising was lower than other services; for all three groups, it ranged from 58% to 78%. Efforts to examine this service, given its importance in helping students select appropriate courses and course sequences, may help improve continuation rates in the ECE program. Also noteworthy are the differences found in satisfaction with programs for the Illinois Basic Skills Test.

Figure 15. Undergraduate Students' Satisfaction with Services
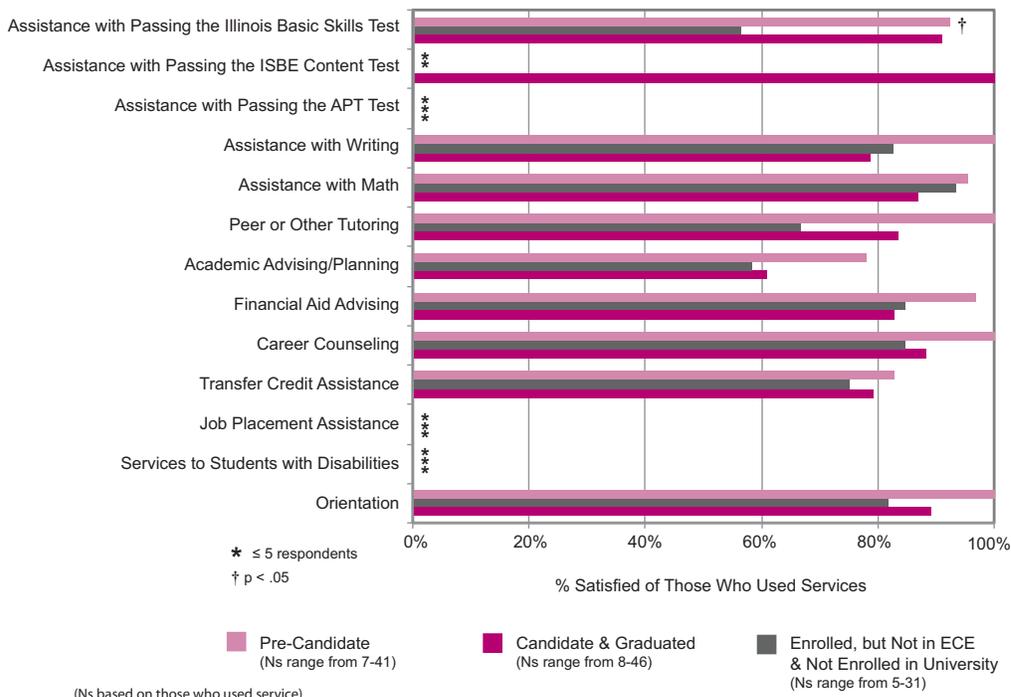
In general, most students were satisfied with the services they received.

Students who "leaked" from the ECE program were less satisfied than Pre-candidates and Candidates and Graduated students (56% vs. 92% vs. 91%, respectively). As noted above, collecting and evaluating data regarding use and satisfaction of programs to assist with Basic Skills test may help determine whether those who "leak" from the ECE are getting the support they need to persist.

Students' College Readiness

The IERC Readiness Index is a simplified version of the model developed by Berkner and Chavez (1997) to measure students' readiness for college. (For more information, see *The Demographics and Academics of College Readiness in Illinois* [Presley & Gong, 2005]). The IERC Readiness Index combines information on students' ACT scores and high school GPAs. For this study, we used students' self-reported ACT scores and self-reported high school GPAs; therefore, it is likely that the resulting readiness scores are somewhat inflated due to the self-reported scores. We made an additional modification by classifying students who provided a high school GPA but not an ACT score (see Table 12). A large percentage of students in this study are older and did not attend college for the first time immediately out of high school; therefore, many either did not take the ACT or did not remember their score. Students with both the ACT score and high school GPA missing were excluded from the analysis (n=30, 15%). The index has five levels (i.e., not/least ready, minimally ready, somewhat ready, more ready, and most ready). We only include the College Readiness Index for undergraduate students because graduate students are more likely to be evaluated based on the GRE score rather than the ACT score.

Table 12. Calculation of College Readiness Index

Self-Reported ACT	Self-Reported High School GPA				
	≤ 2.4	2.5 - 2.9	3.0 - 3.4	3.5 - 4.0	**Missing**
< 20					
20-22					
23-25					
26+					
Missing					*Excluded*

Not/Least Ready	Minimally Ready	Somewhat Ready	More Ready	Most Ready

Table 13 shows the distribution of college readiness for undergraduate students. The far right column provides the distribution for all the undergraduates combined. Although there were no statistically significant differences among the groups, we see a trend that suggests students less prepared for college may be more likely to progress slowly through the ECE program or not persist in completing the ECE degree.

Table 13. College Readiness Index for Undergraduate Students

	2007 Status - Undergraduate Level			
	Pre-Candidate (n=47)	Not in ECE & Not Enrolled (n=42)	Candidate & Graduated (n=48)	TOTAL (n=137)
Not/Least Ready	*	*	*	4%
Minimally Ready	*	24%	*	13%
Somewhat Ready	34%	26%	23%	28%
More Ready	43%	31%	40%	38%
Most Ready	13%	*	25%	17%
Total	100%	100%	100%	100%

Differences are not statistically significant.
*≤ 5 respondents

For this study, we see a trend that suggests students less prepared for college progress more slowly or do not persist.

As seen in the table, Candidates and Graduated students have higher readiness scores (25% Most Ready; 40% More Ready). Although Pre-candidates have some students classified as Most Ready, one-third (34%) of this group are Somewhat Ready for college. Lastly, more students who "leaked" from the ECE pipeline fall into the lower readiness categories with one-quarter (24%) who are Minimally Ready for college.

Summary of Survey Findings

In Fall 2008, we surveyed 908 students from ten Chicago higher education institutions enrolled in Fall 2006 in the Early Childhood Education (ECE) program. Usable surveys were returned by 207 (23%) students. Respondents were divided into three mutually exclusive groups based on their 2007 enrollment status. The distribution of the respondents is as follows:

- ➢ 29% Pre-candidates (i.e., interested, but not officially enrolled in the ECE program in Fall 2007);

- ➢ 38% Candidates and Graduated students (i.e., officially enrolled in the ECE program in Fall 2007 or graduated with ECE degree since Fall 2006);

- ➢ 33% Enrolled, but not in ECE and Not enrolled in the institution (i.e., enrolled in another teacher education or university major, or not enrolled in the institution in Fall 2007).

There are large disparities in students' perception and the institution's record of their 2007 enrollment status.

- ➢ Only 56% of students' responses matched the institutional record for their 2007 enrollment status.

- ➢ The largest inconsistency occurred when students identified themselves as Candidates; however, the institutional data recorded them as Pre-candidates (35 out of 61 students).

- ➢ Several reasons were cited for possible explanations for the misperceptions, including: 1) admission into the College of Education, but not yet completing requirements for the ECE program; 2) junior or senior standing at the institution, but not yet completing all ECE program requirements; and 3) delays in processing paperwork.

Pre-candidates have many risk factors associated with slow progression to degree completion and non-persistence. Pre-candidates are:

- ➢ more likely in a minority group (56% black students; 17% Hispanic students);

- ➢ older (31 median age; 32.9 average age);

- ➢ work more than 30 hours per week (57%);

- ➢ have children age six and younger (68%);

- ➢ earn less income (32% earned less than $20,000 in 2007);

- ➢ attend part-time (57%);

- ➢ enroll less than 8 semester hours (46%).

Pre-candidates and Students not enrolled in ECE and Not enrolled in the institution appear to be "exploring" the ECE major.

➤ 22% Pre-candidates and 18% Students not in ECE and not in institution report their primary reason for attending the institution is to take classes to consider the ECE major rather than to obtain a bachelor's degree (59% for Pre-candidates and 74% for Students not in ECE and Not in the institution).

➤ Students not enrolled in ECE and Not enrolled in the institution are less committed to the Early Childhood teaching career at this point in time, with 18% reporting no intentions and 26% reporting undecided about their plans to seek the Illinois ECE teaching certificate.

"Leaks" in the pipeline (i.e., students switching to another major or not enrolled in the institution) occur primarily with lower division students (43%).

For undergraduate students, reasons for not being enrolled in the ECE program in Fall 2007 are related to prerequisites (including passing the Illinois Basic Skills Test) and financial issues; however, specific reasons vary depending on the group.

➤ The majority of Pre-candidates cited not having completed all prerequisites (76%), followed by work/class time conflict (33%) and personal financial issues (24%) in their top three reasons for not being enrolled in the ECE program.

➤ Students who switched to another major or students not enrolled in the institution are more diverse in terms of having differing reasons for not being in the ECE program. Inability to pass the Illinois Basic Skills Test (32%) and no longer interested in ECE field (24%) were within their top three reasons. Similar to Pre-candidates, this group cited not completing all prerequisites (22%) and personal financial issues (22%) within their top three reasons.

➤ Both groups identified "unsatisfactory advisor/academic counselor" as a reason; however, fewer Pre-candidates believed this was an issue (19% vs. 22%).

For Candidates and Graduated students, undergraduate and graduate level students ranked similar reasons for their ability to persist in the ECE program.

➤ Both groups ranked "my own desire and determination" far above other factors influencing their persistence in the ECE program, 98% for undergraduate and 96% for graduate level students.

➤ Several factors under the control of the ECE program (e.g., program quality, faculty support, and flexibility) also influenced students' ability to persist and progress to graduation.

Fewer undergraduate level Pre-candidates and Students not enrolled in ECE and Not enrolled in the institution, compared to Candidates and Graduated students, are "Satisfied" and "Very Satisfied" with:

➤ their overall college experience (60%, 54% vs. 76%);

➤ their experience with the ECE program (57%, 43% vs. 73%).

Overall, students who "leaked" from the ECE pipeline are less aware of support programs available at the institution or within the College of Education.

> ➢ Fewer students in this group are aware of career counseling services, even though they appear to be exploring the ECE degree or are undecided about obtaining an Early Childhood teaching certificate.

> ➢ Fewer students in this group also report being aware of orientation programs, which may limit their opportunity to learn about the university, its programs, and its support services.

> ➢ Fewer students in this group are aware of programs to assist with math.

Of those aware of the programs, fewer than 50% of the students in all three groups took advantage of many of the available support programs, with a few exceptions.

> ➢ Over 80% of students in each group utilized the academic advising services.

> ➢ Roughly 70% participated in orientation programs and used financial aid assistance.

> ➢ Approximately 60% of students in all three groups sought assistance in transferring to the senior institution.

> ➢ There were no statistical differences among the groups regarding use of programs to assist with passing the Illinois Basic Skills Test. More students who "leaked" from the ECE program participated than the other two groups, with one-half (53%) of students participating at least once in a program to aid them in passing the test (compared to 41% of Pre-candidates and 38% of Candidates and Graduated students).

In general, students in all three groups who utilized support programs were satisfied with the services they received, with most ratings between 80% and 100%.

> ➢ Satisfaction with academic advising was lower than other services for all three groups, ranging from 58% to 78%.

> ➢ Differences were found in satisfaction with programs for the Illinois Basic Skills Test. Students who "leaked" from the ECE program were less satisfied than Pre-candidates and Candidates & Graduated students (56% vs. 92% vs. 91%, respectively).

Although not statistically significant, we see a trend that suggests students less prepared for college may be more likely to progress slowly or not persist in completing the ECE degree. For "More" and "Most" categories for college readiness for undergraduates,

> ➢ 31% are Students not in ECE and Not enrolled in the institution;

> ➢ 56% are Pre-candidates;

> ➢ 65% are Candidates and Graduated students.

Conclusions and Recommendations

The Chicago Early Childhood Education pipeline for undergraduate students is slow moving due to the large percentage of Pre-candidates, many of whom are enrolled in eight or fewer semester hours. Pre-candidates have many risk factors impeding their progress, including racial minority, older age, lower incomes, and part-time enrollment status. Pre-candidates face financial challenges and difficulty completing prerequisites, including the Illinois Basic Skills Test. Many have other responsibilities (i.e., work and childcare), that do not allow them to attend full-time. Policies directed at reducing the financial burden (e.g., scholarships, loan forgiveness for community service, subsidies for books, need-based grants, subsidies for internet access) and decreasing work/class time conflict (e.g., free childcare services, flexible schedules, online or condensed courses, trading intern hours in university's childcare for child-care services) would likely increase the number of full-time students, thus accelerating the production of early childhood education graduates eligible for certification.

At the graduate level, the pipeline of ECE teachers is slow due to the number of students attending part-time for financial reasons. Most graduate students fund themselves and do not receive financial aid or support. Providing funding opportunities, particularly for Hispanic students, would increase the number of students attending full-time and speed up the flow of students graduating with advanced degrees in Early Childhood Education.

Anticipated increased requirements for Early Childhood teachers to obtain an English as a Second Language (ESL) credential by 2014 will put additional strain on the pipeline of qualified ECE teachers. The current ECE workforce is also required to obtain an ESL credential by the same timeframe. Advisory members indicated that although the Special Education credential is not required at this time, principals prefer to hire Early Childhood teachers with the Special Education qualification, thus putting market pressure on students to obtain the additional credential. Universities will also need to look for ways to increase the production of students with these credentials, despite the already struggling ECE pipeline.

Student under-preparedness is one of the most significant challenges for students moving through the pipeline. This issue, which was identified during our planning process with the Advisory Group and student focus groups, was confirmed with our student survey results. Some students may need intensive support to be prepared, while others may need only short-term review sessions to be ready for college-level work. Students with poor academic preparation may not be able to pass regular coursework or they are often required to take remedial coursework; thus, their progress is often delayed. Although many Pre-candidates and students who "leaked" from the ECE program were aware of their university provided academic support, less than half of those aware actually used the services. Interestingly, students who "leaked" were significantly less satisfied with the services they received for Basic Skills test assistance. Increasing utilization of support programs may require universities to modify their program offerings to meet the students' needs by, for example, offering advising or tutoring services in the evenings, online, or at more convenient locations. Other improvements may include providing childcare services and bi-lingual tutoring, particularly for assistance with the Basic Skills test. Further exploration is needed to determine factors impeding students from taking advantage of support services. Many of the universities participating in this study provided assistance with the Basic Skills test

within their Colleges of Education. This policy should be continued and encouraged at other institutions to help students feel part of the larger community of education as early in their college career as possible. Lastly, members from the Advisory Group, as well as higher education experts interviewed for a recent article in *The Chronicle of Higher Education* (Berger, 2009) concerning college access and success, point to the need to reach back into the high schools to ensure students' college and career readiness.

Undergraduate students' reasons for not being enrolled in the ECE program in Fall 2007 are related to prerequisites (including passing the Illinois Basic Skills Test) and financial issues; however, specific reasons vary depending on the group. The majority of Pre-candidates cited not having completed all prerequisites (76%), followed by work/class time conflict (33%), and personal financial issues (24%). Students who switched to another major or students not enrolled in the university in Fall 2007 are more diverse in terms of having differing reasons for not being in the ECE program. Inability to pass the Illinois Basic Skills Test (32%) and no longer interested in the ECE field (24%) were within their top three reasons. Similar to Pre-candidates, this group cited not completing all prerequisites (22%) and personal financial issues (22%) within their top three reasons. Both groups identified "unsatisfactory advisor/academic counselor" as a reason; however, fewer Pre-candidates believed this was an issue (19% vs. 22%). As stated above, increasing utilization of support programs and decreasing the financial burden would help improve students' persistence. In addition, addressing students' reasons for dissatisfaction with academic advisors may also influence students' decision to continue with the ECE degree.

Students who "leaked" from the ECE program (i.e., students who switched to another major or were not enrolled in the university in Fall 2007) appear to be exploring the ECE major and are not yet committed to the field of Early Childhood teaching. Given that they are less aware of programs to help them with college and career decisions, early identification of these students to improve efforts to meet their academic needs and provide career guidance may increase their satisfaction with the university and ECE program and encourage them to commit to the field of Early Childhood Education. Coordinated efforts between the College of Education and the university's admissions and central advising staff prior to official enrollment in a degree may solidify students' decisions to major in ECE and facilitate their course taking and progression through the program. Increasing participation in orientation may also improve their engagement and commitment. A recent article in *Inside Higher Ed* (Matthews, 2009) suggests colleges should expand their orientation programs to include college readiness training in months prior to the beginning of the academic year in the autumn to help with their transition, which may improve retention rates.

A more detailed analysis of institutions' enrollment which examines the progress of Pre-candidates and Candidates separately provides a more precise account of the higher education pipeline of Early Childhood Education teachers. Including both groups in the enrollment counts to the federal Integrated Postsecondary Education Data System (IPEDS) paints a broad picture of potential Early Childhood Education graduates; however, the data are not consistent across institutions due to differing proportions of Pre-candidates at institutions and differing persistence outcomes. Conducting a more detailed analysis would also assist Education Deans and Early Childhood Education faculty in their discussions about the pipeline for future program planning and resource allocation. Closer examination of enrollment status, particularly for

Pre-candidates, and increased communication with students would help improve consistency between students' perception and institutional data. Electronic data files and automated reports would facilitate these analyses, especially if the analysis is scaled up to a statewide analysis or to other teacher preparation programs. Doing this fine-tuned analysis entirely with electronic data systems (instead of also relying on manual data collection) may require a review of the entire admissions process to identify at which junctures students are identified and flagged in the institutional databases as "interested" versus "accepted and officially enrolled" in the Early Childhood Education program. A consistent definition of "Pre-candidate" would need to be determined across all institutions. Information sharing among the institutions for this process review and coding procedures may facilitate and encourage data reporting consistency for identifying Pre-candidates and Candidates within the Chicago area, and possibly statewide.

We recently learned of plans for the Illinois State Certification Board to revise the annual reporting system for teacher preparation programs. The annual report includes program completers, enrollment figures, locations, faculty information, assessments, partnerships, and use of assessment results to make changes in the program. The report includes an open comment section where institutions could include information about when students are officially admitted into the College of Education and the Early Childhood Education program (i.e., when students declare a major or when students complete specific benchmarks). This information could be used in conjunction with IPEDS data to inform researchers of differences in institutions' reporting practices for enrollment data. The revision of the annual reporting system is scheduled to begin in January 2010.

Further research regarding the pipeline of Early Childhood Education teachers would provide details to fill in the story concerning additional factors that affect attendance patterns. Opportunities to extend the current study include examining institutions in the wider Chicago region and across the state, as well as including other teacher preparation programs. Examining more points in time (semester to semester) over a longer timeframe would help differentiate enrollment patterns of "stop outs" and "drop outs." More detailed analysis of such program designs as course taking patterns might provide additional insight into students' enrollment patterns. For example, studies could examine course taking patterns to see if there is a drop out pattern after a certain number of course hours or after/during certain courses. Additionally, studies determining if ECE programs are too theoretical in early courses delaying students' hands-on field experience may help identify other factors that impact students' decisions to leave the ECE program. Multivariate analysis with additional factors (e.g., course patterns, total hours completed, public or private institution) would shed more light on college persistence of Early Childhood Education students. The recently announced Chicago Teacher Pipeline Partnership, a Teacher Quality Partnership grant from the U.S. Department of Education to develop the pipeline for high quality elementary and preschool teachers for Chicago Public Schools, offers a tremendous opportunity to further explore and improve students' teacher preparation experiences. Three of the four institutions participating in the Chicago Teacher Pipeline Partnership contributed to this study. We believe our findings and recommendations will be beneficial as efforts to transform teacher preparation in Chicago move forward.

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The Illinois Class of 2002 and College Readiness: A descriptive summary four years after high school (IERC 2009-2), by Bradford R. White, Christopher M. Mullin, and Kathleen S. Brown

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The Illinois Class of 2002 and Parent Income: A descriptive summary four years after high school (IERC 2009-4), by Bradford R. White, Christopher M. Mullin, and Kathleen S. Brown

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Previous IERC Studies on the Illinois Class of 2002:

The demographics and academics of college readiness in Illinois (IERC 2005-3), by Yuqin Gong and Jennifer B. Presley

The demographics and academics of college going in Illinois (IERC 2006-2), by Yuqin Gong and Jennifer B. Presley

Following the Illinois high school class of 2002: Three years into college (IERC 2006-5), by Yuqin Gong, Jennifer B. Presley and Bradford R. White

Appendix A: Detailed Data Tables

Table A1. Race/Ethnicity Distribution

Race/Ethnicity	Undergraduate Program		Graduate Program		Total	
Asian/Pacific Islander	40	4%	16	5%	56	4%
Black	321	32%	104	33%	425	33%
Hispanic	211	21%	29	9%	240	18%
American Indian/Alaska Native	–	–	0	0%	–	–
Non-Resident Alien	–	–	–	–	7	< 1%
Other	–	–	–	–	–	–
Unknown	92	9%	20	6%	112	9%
White	317	32%	144	45%	461	35%
TOTAL	991	100%	317	100%	1,308	100%

– N too small to report

Table A2. Survey Response Rate by Institution

	Population N=1,308	Sample N (n=1,008)	Deliverable (n=908)	Respondents (n=207)	Completed (of those Deliverable) (n=207)
Institution 1	24	12	75.0%	2	22.2%
Institution 2	30	13	76.9%	6	60.0%
Institution 3	65	50	82.0%	6	14.6%
Institution 4	68	43	90.7%	10	25.6%
Institution 5	78	55	92.7%	13	25.5%
Institution 6	91	58	98.3%	20	35.1%
Institution 7	115	72	86.1%	10	16.1%
Institution 8	255	236	91.1%	52	23.7%
Institution 9	280	222	91.4%	54	26.6%
Institution 10	302	247	89.5%	34	15.4%
TOTAL	1,308	1,008	90.1%	207	22.7%

Table A3. Comparison Between Completed Sample and Survey Population

	Completed Survey Sample (n=207)	Population (Deliverables) (n=908)
Female	99%	97%
Race		
Black, Non-Hispanic	36%	36%
Hispanic	17%	19%
White and Other	47%	45%
Age (as of 2006) †		
Mean age	31.9	29.1
Program Level		
Undergraduate	78%	81%
Graduate	22%	19%
Enrollment Status		
Undergraduate Full-Time	55%	55%
Undergraduate Part-Time	45%	45%
Graduate Full-Time	36%	30%
Graduate Part-Time	64%	70%

† p < .05

Table A4. Percent and Count of Undergraduate Students' Aware of Support Services

Awareness	Pre-Candidate (*n*)	Enrolled, but Not in ECE Program & Not Enrolled (*n*)	Candidates and Graduated (*n*)
Basic Skills	79% (37)	73% (30)	89% (42)
Content Test †	51% (24)	56% (22)	79% (37)
APT Test †	49% (23)	51% (20)	76% (35)
Writing	89% (42)	85% (35)	98% (43)
Math †	96% (46)	80% (33)	91% (42)
Tutoring	84% (41)	76% (32)	87% (40)
Academic Advising †	100% (51)	93% (41)	100% (51)
Financial Aid	96% (46)	89% (39)	98% (47)
Career Counseling †	73% (35)	67% (26)	89% (42)
Transfer Assistance	81% (38)	76% (31)	86% (43)
Job Placement †	76% (34)	56% (22)	80% (36)
Services for Disabilities	76% (35)	68% (25)	77% (34)
Orientation †	81% (39)	77% (33)	96% (46)

† p< .05

Table A5. Percent and Count of Undergraduate Students' Use of Support Services

Used Service at Least Once	Pre-Candidate (*n*)	Enrolled, but Not in ECE program & Not Enrolled (*n*)	Candidates and Graduated (*n*)
Basic Skills	41% (15)	53% (16)	38% (16)
Content Test	*	*	30% (11)
APT Test	*	*	20% (7)
Writing	45% (19)	51% (18)	33% (14)
Math	50% (23)	48% (16)	38% (16)
Tutoring	39% (16)	56% (18)	35% (14)
Academic Advising	84% (43)	88% (36)	94% (48)
Financial Aid	70% (32)	77% (30)	70% (33)
Career Counseling	31% (11)	54% (14)	50% (21)
Transfer Assistance	66% (25)	55% (17)	63% (27)
Job Placement	*	36% (8)	19% (7)
Services for Disabilities	*	*	*
Orientation	59% (23)	73% (24)	74% (34)

No statistically significant differences. * ≤ 5 respondents

Table A6. Percent and Count of Undergraduate Students' Satisfaction with Support Services

Satisfied with Service	Pre-Candidate (*n*)	Enrolled, but Not in ECE program & Not Enrolled (*n*)	Candidates and Graduated (*n*)
Basic Skills †	92% (12)	56% (9)	91% (10)
Content Test	*	*	100% (8)
APT Test	*	*	*
Writing	100% (18)	82% (14)	79% (11)
Math	96% (21)	93% (14)	87% (13)
Tutoring	100% (13)	67% (10)	83% (10)
Academic Advising	78% (32)	58% (18)	61% (28)
Financial Aid	97% (28)	85% (22)	83% (24)
Career Counseling	100% (7)	85% (11)	88% (15)
Transfer Assistance	83% (19)	75% (12)	79% (19)
Job Placement	*	*	*
Services for Disabilities	*	*	*
Orientation	100% (20)	82% (18)	89% (24)

† p< .05   * ≤ 5 respondents

Appendix B: Examples of Support Programs

College of Education programs/supports	Institution-based programs (available at nearly all institutions)	Selected programs
Chicago State University • Tutoring support for Basic Skills test, ISBE Content test, and remediation • Monthly workshops for ISBE Content test areas and test-taking strategies • Workshops for writing, reading, portfolios, Livetext **Columbia College Chicago** • Connections Program: required programs by academic departments to meet faculty and other incoming students **DePaul University** • Academic Success Center: Provides peer and professional guidance of all Early Childhood Education majors through workshops, individualized tutoring and test preparation, seminars, career exploration sessions (with guest speakers), and computer-based and print materials for skills development and for use in fieldwork/student teaching experiences **Dominican University** • Individual program directors assist their students with the ISBE Content and APT tests at students' request. **Erikson Institute** • Academic Writing Preparation: a five-week summer writing seminar prior to beginning master's program **National-Louis University** • A grant program for intensive bilingual tutoring program for the Basic Skills test in the Cicero neighborhood **Northeastern Illinois University** • Workshops for assistance in reading, writing, and mathematics; free for students; students must be registered for Basic Skills test; students take as many workshops as they wish	➢ **Study skills assistance**: support programs to all students in study strategies, time management, test preparation and test-taking strategies, math tutoring, writing/revising papers, and reading ➢ **Academic advising**: assists students with major choice, course selection, and requirements; provides academic advisors to assist students ➢ **Financial aid**: assists students with financial aid process ➢ **Transfer assistance**: provides information regarding transferring credits and offers an online, interactive transfer guide; transfer orientation program ➢ **Freshmen Orientation Program**: provides assistance for freshmen in various formats including one-day session, seminar-style course, online information ➢ **Career advising and services**: assists students with internships, employment and resume service, professional development workshops, networking, career awareness activities, computer based guidance programs, job listings, and graduate/professional school options ➢ **Counseling Center**: peer tutoring, test anxiety workshops, social-issues workshops, and individual counseling ➢ **Writing Center**: provides tutoring and web resources for writing; special assistance for learning-disabled students, non-native English speakers, and students with difficulty reading ➢ **Office of International Services**: supports international students through advising on governmental and institution policies, orientation, and cross-cultural programming ➢ **Testing services**: provides test information, test administration, and test evaluation (e.g., ACT, MAT, GIS, PEP) ➢ **Assessment of Professional Teaching (APT)**: workshop offering test-taking strategies for the APT ➢ **PRAXIS I**: workshop offering test-taking strategies for the PRAXIS I ➢ **Wellness Center**: provides information about health and wellness topics through events, workshops, and printed material ➢ **Transportation support**: discounted street parking and discounted fare for CTA buses and trains (U-Pass) ➢ **Upward Bound (TRIO program)**: a pre-collegiate experience designed to assist low-income and/or first-generation high school students to develop skills and motivate them to enroll and graduate from college	**Chicago State University** • Transitional College Preparatory Program: to assist high school students' transition to higher education; weekly two-hour seminars **Columbia College Chicago** • Non-Traditional Student Drop-in: a Counseling Services' special group for non-traditional students to meet once a month for support **DePaul University** • Office of Adult Student Affairs: assist adult (24+ years of age) students in their transition to college and supports them in achieving their education goals through one-on-one counseling, referrals, workshops, networking opportunities, Adult Student Center, and Adult Student Association **Dominican University** • Commuter Student Resources: assists commuter students connect to University through resources, programs, and student leadership opportunities **Erikson Institute** • Office of Multicultural Student Affairs: provides support to students of color through academic support, nonacademic advising, financial aid information, and social and networking events **National-Louis University** • FOCUS (Focus on Completing Undergraduate Studies) courses: offers accelerated format courses to complete general education requirements and electives **Northeastern Illinois University** • El Centro campus: provides educational, career, and cultural opportunities primarily to the Latino community; campus is located in the northwest side of Chicago; students are able to complete general education requirements; classes are primarily held during the evening or weekend hours; provides academic advising, tutoring, educational workshops, and cultural opportunities; in addition to courses in other academic areas, courses are offered from the Education

College of Education programs/supports	Institution-based programs (available at nearly all institutions)	Selected programs
Roosevelt University • Early Childhood Residency Fellow Program: a graduate cohort program in Early Childhood available to employed child care employees with undergraduate degree working in high need agencies; additional supports including mentors, advising, and financial support given to students **St. Xavier University** • Faculty support to students to assist with the ISBE Content test; handbooks for teacher education, field experience, clinical practice, and graduate studies **University of Illinois at Chicago** • Project SELLS (Supporting English Language Learners' Success): program to increase the number of properly certified teaching personnel to serve the needs of English Language Learners and to provide all teachers graduating from UIC with knowledge about second language learners	➢ **Summer Transition Program**: a comprehensive six-week program preparing students for a successful transition from high school to university ➢ **Student Success Program (TRIO)**: serves students who are first generation, low-income, and/or have disabilities, by supporting academic and personal development and encouraging completion of students' baccalaureate degrees through counseling, tutoring, advising and supplemental academic instruction	Leadership Program leading to a Master's Degree and IL Type 75 Certification for educators working in bilingual schools and programs **Roosevelt University** • Educational Talent Search (TRIO program): academic outreach program to help and motivate students to complete middle and high school, and to pursue further education or training **St. Xavier University** • Faculty/Staff advisor: undergraduate students are assigned an advisor to help them plan their course of study, select their classes, and reach their academic goal **University of Chicago at Chicago** • Latin American Recruitment & Educational Services Program (LARES): program to recruit, advise, and provide educational assistance to Latino students at both high school and college levels

The Illinois Education Research Council was established in 2000 at Southern Illinois University to provide Illinois with education research to support P-20 education policy making and program development. The IERC undertakes independent research and policy analysis, often in collaboration with other researchers, that informs and strengthens Illinois' commitment to providing a seamless system of educational opportunities for its citizens. Through publications, presentations, participation on committees, and a research symposium, the IERC brings objective and reliable evidence to the work of state policy makers and practitioners.