Surveying the Landscape of Teacher Education in New York City: Constrained Variation and the Challenge of Innovation

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In this article, the authors describe the state of teacher education in and around the large and diverse school district of New York City. Using multiple data sources, including program documents, interviews, and surveys of teachers, this study attempts to explore the characteristics of programs that prepare elementary teachers of New York City public schools, including the kinds of programs that exist, who enters these different programs, who teaches in the programs, and what characterizes the core curriculum. A central question concerns the amount of variation that exists in the preparation of elementary teachers for a single, large school district. Despite the number and variety of programs that exist to prepare elementary teachers, the authors found the overall curriculum and structure of teacher education to be more similar than different. To understand this lack of variation, the authors draw on organizational theory, particularly, the concept of institutional isomorphism, to examine the case of teacher education. The authors conclude with recommendations for what it might take to change the landscape of teacher education in the context of a large urban district.

Keywords: *teacher education, teacher labor markets, alternative certification*

We are in the midst of a great national debate about how best to recruit and prepare teachers for our nation's schools (cf. Darling-Hammond & Bransford, 2005; Hess, Rotherham, & Walsh, 2004; Levine, 2006). The debate has sparked calls for more large-scale studies of teacher preparation and better evidence on the impact of teacher education programs (Cochran-Smith & Zeichner, 2005; Wilson, Foden, & Ferrini-Mundy, 2001). Many studies of teacher education have produced case studies of individual programs across the nation (cf. Darling-Hammond, 2000; Goodlad, 1990; Levine, 2006), taking a ground-level view of programs that prepare teachers. Such studies provide detailed analyses of what individual programs, often chosen on the basis of their reputations, provide to students and how they organize opportunities for learning to teach. Other studies have focused in on specific aspects of how teachers are prepared, including how they are prepared to teach reading, writing, or mathematics (cf. Hoffman et al., 2005; Kennedy, 1998; Walsh, 2006). Very few studies of teacher education, however, have focused on a specific school district or labor market, investigating the array of preparation programs that provide teachers to a specific locale. Moreover, relatively few of these studies have followed students from teacher education into the 1st year of teaching or tried to look at outcome data for graduates.[1]

Our study of teacher education for New York City schools (cf. Boyd, Grossman, Lankford, Loeb, Michelli, et al., 2006) has taken a different vantage point, observing many programs from what we might term an aerial perspective. Such a vantage point has its obvious disadvantages, particularly when it comes to portraying nuances of individual programs. Our goal, however, is to develop a broader map of the terrain of teacher education in a large and diverse school district, portraying, in general, how teachers are prepared to teach in New York City public schools. This map is the first stage of a larger effort to investigate relationships between features of teacher preparation and outcomes for both teachers and students in New York City schools by following a cohort of teachers through their first 2 years of teaching.

If we accept that teaching is a rather local profession, with the majority of teachers teaching in schools close to where they prepared for teaching and often close to where they themselves went to high school (cf. Boyd, Lankford, Loeb, & Wyckoff, 2005a, 2005b), then focusing on teacher education programs that serve a common school district makes sense. To the extent that programs are preparing teachers for the same school district, they must address a similar set of local demands and needs. In addition, no teacher education program exists in a vacuum; instead, programs are competing with and influencing others in the same locale.[2] Finally, programs within the same locale must respond to the same policy context, which includes state regulations governing teacher preparation. Because standards governing certification can differ dramatically from state to state, examining a group of programs that must negotiate the same policy demands and prepare teachers for many of the same school districts allows us to separate differences in context from the differences in program features that we are interested in analyzing.

In this article, we describe the state of teacher education in New York City, focusing on the programs that provide elementary school teachers to the New York City school district. The research questions driving this study include the following:

What are the characteristics of individuals who enter different pathways to teaching in New York City schools? To what extent are pathways attracting different pools of candidates?

What structural features (e.g., degree level, length, program size) characterize the different pathways and programs that prepare teachers for New York City schools?

Who teaches in teacher education?

What characterizes the core curriculum for elementary teachers, particularly in the areas of

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preparation to teach reading and mathematics, learning and development, and preparation to teach ethnically and linguistically diverse students? How does the curriculum vary, if at all, by program and pathway?

Our study is an attempt to capture both themes and variations in the preparation of elementary teachers. Given a common set of regulations governing teacher education, how much variation exists in the preparation of teachers for the same large, urban school district? Is it true, as Shulman (2005) argues, that there is so much variability that one cannot even claim the existence of something called teacher education? Or have regulation and other institutional factors constrained variation and stifled innovation, as different critics of teacher education have claimed (cf. Walsh & Jacobs, 2007)?

Our findings suggest that both are true. The creation of varied pathways into teaching in New York City has brought a different pool of teachers into classrooms. However, despite dramatic variation in possible pathways into teaching, the programs we studied are remarkably similar in terms of their curriculum. Underneath the veneer of curricular similarity, however, lies another layer of instructional variation that likely results in differential opportunities to learn to teach.

Background on Pathways Into Teaching in New York City[3]

First, we should note that New York City, although similar to many large urban school districts in many respects, also has attributes that make it unique. Like most urban districts, New York City public schools have a diversity of students with respect to socioeconomic status, race, ethnicity, and achievement. Teachers must be prepared to address these differences in the classroom. The teacher education landscape in New York City is also shaped by New York State teacher certification requirements that impose high standards. Like many urban districts, New York City has found it difficult to recruit and retain teachers who meet these standards, leading to the growth of alternative pathways into teaching.

However, New York differs from other large urban areas in terms of its sheer size and complexity; for example, New York City employs almost as many teachers as the rest of New York State combined. New York City may differ from other large urban areas in several aspects of teacher preparation described below. For example, New York may differ in its reliance on a larger number of different preparation programs for its supply of teachers. As described below, the vast majority of teachers come from roughly 18 colleges and universities, but many more institutions also prepare teachers for the city's schools, creating a unique context for teacher preparation. Unfortunately, the literature on the structure and composition of teacher preparation programs that supply teachers to large urban areas such as New York is very limited, and thus the generalizability of our findings is very difficult to determine.

New York State defines multiple pathways to certification, including completion of undergraduate- or graduate-level college-recommending programs; certification through independent evaluation by the state; Transitional B certificates, which allow people to begin teaching prior to completing full certification requirements; and temporary license and modified temporary license, which require the least prior preparation. This article focuses primarily on the preservice programs within the college-recommending and early-entry pathways.[4] One of the larger purposes of this project is to focus on features of teacher preparation that cut across programs and pathways rather than on particular programs. Describing programs as "traditional" or "alternative" can mask the fact that many of these programs share common features. In New York City, because many of the "alternative" programs are based at universities, both pathways can require much of the same course work. The differences arise in when students take their course work and in the nature of their preparation before they begin teaching. Thus, we felt that the terminology *early entry* and *college recommending* better described the kind of preparation teachers receive before beginning to teach or student teach, allowing us to distinguish between programs in which students begin full-time teaching before having completed all of their certification requirements and those that require student teaching after the majority of preparation has been completed.

Broadly speaking, college-recommending programs are more traditional, university-based preservice programs, in which candidates spend much of their early preparation in course work and pre–student teaching fieldwork (e.g., observing other practitioners or working with small groups) prior to student teaching. To be recommended for certification in the college-recommending pathway, teachers must pass a general knowledge exam (the Liberal Arts and Science Test, or LAST), a content specialty exam (CST), and an assessment of teaching skills and must complete a university-based program that is registered with the state of New York. Relative to early-entry programs, students' trajectory for taking over full classroom responsibility is more gradual; this pathway requires more course credits and field experience hours prior to independent student teaching and becoming a teacher of record. In our sample, college-recommending programs required an average minimum of 40 credits to complete the program, including 32 credits completed prior to student teaching.

Individual evaluation refers to the process through which teachers become certified by completing the requirements for certification and applying directly to the state for certification rather than by completing a particular program and then being recommended by that program, as described above.

Prior to 2000, teachers could also enter the classroom with temporary licenses. Temporary licenses, designed to respond to teacher shortages, required relatively little preservice preparation prior to an individual's becoming a teacher of record. In 1999, the Board of Regents voted to terminate the issuance of temporary licenses, effective September 2003.

New York State then created the Transitional B certificate to replace the temporary license as an eased pathway into teaching that nonetheless required more structured preparation and support. These programs serve only graduate students and allow teachers to serve as teachers of record after a brief preservice preparation. Before becoming teachers of record, individuals entering teaching through an early-entry pathway are expected to complete 200 hours of preservice training and pass both the LAST and CST. These teachers are issued a Transitional B certificate, good for 3 years, following the introductory component. While working as teachers of record, they are expected to enroll in teacher education programs at partner colleges to complete their certification requirements.

The New York City Teaching Fellows (NYC Teaching Fellows) and Teach for America (TFA) are each examples of early-entry programs that provide teachers with Transitional B certificates. Participants enrolled in these early-entry programs must fulfill a similar set of requirements for certification as all other candidates for teaching certificates; by the end of their preparation, they have completed a similar set of courses to those taken by graduates of college-recommended programs. Although NYC Teaching Fellows and TFA are both early-entry programs, they differ in terms of their preservice curriculum as well as when they partner with university-based teacher educators.

The NYC Teaching Fellows is one of the largest early-entry programs in the country. Currently, more than 6,000 fellows are teaching in New York City schools (NYC Teaching Fellows, 2005). Prior to entering the classroom as the teacher of record, fellows complete an introductory component, usually offered in the summer, which includes field experiences in local classrooms. The courses are taught and designed by instructors at partner universities. Once fellows begin full-time teaching, they continue to take courses at these partner universities and receive supervision from a university liaison. Most fellows complete their programs and certification requirements within 2 to 3 years.

TFA recruits teachers to teach in high-poverty schools around the country. They recruit nationally, targeting recent graduates from elite colleges and universities. The process is very selective. Once corps members are selected, they attend a summer training institute, designed and directed by TFA and unaffiliated with a university, prior to being placed as the teacher of record in a New York City classroom. Like the fellows, once corps members begin teaching, they are required to take courses offered by a university that partners with TFA. TFA requires a 2-year commitment; at the end of this period, corps members earn certification and, in some cases, a master's degree in education as well.

Method

This analysis focused specifically on 16 institutions that prepare the majority of elementary teachers for New York City schools.[5] Within these institutions, we concentrated on the preservice preparation at 26 college-recommending childhood certification programs as well as two large early-entry programs in New York City—the NYC Teaching Fellows and TFA. For college-recommending institutions, we define a program as an institutionally determined set of courses and field placements that lead to certification in a specific area, in this case, a credential in childhood education. For alternative routes, we consider a program to be a set of courses, experiences, and placements that prepare teachers prior to their becoming the teacher of record. TFA and the NYC Teaching Fellows are two examples of this. For this analysis, we focused specifically on the preservice component of early entry programs—the courses and field experiences that candidates took prior to becoming classroom teachers.

As noted above, both NYC Teaching Fellows and TFA included preservice preparation in the summer before participants begin teaching full-time in New York City schools. Those enrolled in the NYC Teaching Fellows completed this course work at one of four institutions; we treated these as separate programs in our analysis, as the summer courses differed by institution. TFA ran its own summer preservice program, so we counted this as one program.[6] Altogether, we documented the preparation received by participants in 31 programs: 26 college-recommending, or more traditional university-based, programs and 5 early-entry, or alternative route, programs.[7] We chose to focus our attention on five key areas of teacher preparation identified in the literature: program structure, subject-specific preparation, field experiences, preparation in learners and learning, and preparation for teaching diverse students (cf. Cochran-Smith & Zeichner, 2005; Darling-Hammond & Bransford, 2005). For subject-specific preparation to teach elementary school, we chose to document how prospective teachers are prepared to teach reading and mathematics, because these are both the most visible and high-stakes subject areas in the elementary curriculum and also the areas in which we are able to study gains in student achievement.

In conducting this study, we used multiple data sources, including administrative data from New York State on program completers; program and institutional data on program structure, faculty, and curriculum; interview data with program directors and directors of field experiences; and survey data from our cohort of teachers who completed preservice teacher education in the spring and summer of 2004. We describe each of these data sources in more depth below.

Program Documentation

We relied on a number of data sources to document information about programs, including program requirements, faculty, size, structure, admissions, and the required curriculum. We scoured a number of different documents to find information about requirements and course descriptions, including state documents, institutional bulletins and program descriptions, National Council for Accreditation of Teacher Education (NCATE) documents when available, and institutional Web sites. We documented courses to try to understand what was taught in the program. In college-recommending programs, most courses were three to four credits. In the early entry programs, we examined courses, activities, and modules that focused on keys areas of the elementary curriculum, such as mathematics, literacy, and learning and development. When needed, we considered the number of hours in these courses, activities, or modules and converted them into course hours so that we could assess them in relationship to more traditional course work in college-recommending programs.

In documenting information about courses, whenever possible, we used the information that was closest to what was actually taught. For example, we asked programs for the names of instructors who taught reading and mathematics methods for the cohorts completing programs in 2004 and used this list rather than the list of faculty included in the state documents. We also conducted faculty surveys and collected course syllabi and used this information to supplement course descriptions in catalogs and in state documents. In addition, we interviewed program directors and directors of field experiences about the curriculum, structure, and field experiences in these programs. We entered information from these sources into a common template

that had a set of questions linked to more than 200 variables about programs.

In addition, we relied on state data on program completers to calculate the number of graduates from each program we were studying. Because these documents provide institutional data, rather than data focused on particular programs, we identified program completers according to the institution, certification area, and degree status. We also used files from the NYC Teaching Fellows and TFA to identify teachers entering teaching through one of these programs.

Participant surveys

In addition to collecting data on programs, we surveyed graduates of these programs in the spring of 2004. A large part of the survey asked specifically about their experiences in teacher preparation, including their field experiences, course work, and preparation to teach reading and mathematics. We designed the surveys to elicit information from them about their actual experiences in their teacher education programs rather than their perceptions of how prepared they felt. For example, we asked how much opportunity they had had to learn about characteristics of emergent readers or to study the stages of child development.[8] We asked if they had had opportunities to listen to a child read aloud and to analyze student mathematics work (see www.teacherpolicyresearch.org for copies of the surveys). For the 2004 survey of program completers, we received a total of 460 responses from students at 18 institutions, 261 from students enrolled in graduate programs and 199 from students enrolled in undergraduate programs (see Table 1). In addition, we surveyed participants in early-entry programs. We asked questions very similar to the ones we asked students in college-recommending programs, although we modified some questions to reflect the differences in programmatic structure and terminology. We surveyed 2,000 participants enrolled in TFA and NYC Teaching Fellows in the summer of 2004, at the end of their preservice programs. Of these respondents, 421 were preparing to teach elementary school. As Table 1 suggests, we had roughly equal numbers of elementary respondents from both college-recommending and early-entry pathways. Our overall response rate for the program completers survey was 71%.

TABLE 1
Number of Survey Respondents by Pathway, 2004

Type of program	Number of respondents
College-recommending undergraduate	199
College-recommending graduate	261
Early-entry programs	421
Total	881

Survey analyses. In analyzing the survey responses, we first isolated the data from students who were completing childhood programs at the 16 institutions included in the study that prepared elementary teachers and the two early-entry pathways. We then compared mean responses for both individual survey items and factors by institution and analyzed for differences across programs and pathways. We also conducted *t* tests to identify systematic differences by level of program (graduate or undergraduate) and by pathway.

Faculty surveys

In addition to collecting program documents, we surveyed faculty who taught the reading or English and language arts (ELA) and mathematics methods classes at these institutions. We asked faculty for information both about themselves and about their courses. For example, we asked about the faculty status of those who teach the methods class, their prior experiences in schools, and information about their highest degree. Questions about the content of the methods courses mirrored questions we asked students enrolled in these programs. We asked faculty who filled out these surveys to send us their syllabi as well. We surveyed 212 instructors from these 16 institutions and received 107 responses, for a response rate of 50%.

Analysis

For the following analyses, we focused in on the data from the 31 programs within 16 institutions that prepared elementary school teachers. For the curricular analysis, we identified the number of credits and courses offered in the foundational areas of learning and development, including multicultural education, special

education, and the teaching of English learners as well as in the subject areas of mathematics and ELA. We reviewed course descriptions included in course catalogs to gain a better understanding of the curriculum in each course. In the areas of mathematics and ELA preparation, we also reviewed course syllabi. We received 45 ELA methods syllabi from instructors who responded to our faculty survey. In our analysis of these syllabi, we looked at core textbooks, references to state and local standards and assessments, whether courses included a focus on early or intermediate literacy, whether they addressed issues of assessment and diversity, whether field experience was required as part of the course, and whether assignments for the class asked students to do something with students in schools as part of the course requirements.

We received 18 syllabi from mathematics methods instructors at 14 of the 26 college-recommending programs and subsequently analyzed the syllabi for focus on content, pedagogical content knowledge, links to field experiences, textbooks and other readings, and assignments.[9] In looking at the content emphasis, we coded syllabi to see if they explicitly identified the following topics: fractions, number theory, place value, geometry, and statistics and probability. We also checked to see if there were assessments of content knowledge or assignments directly linked to mathematical content. We also coded for references to the National Council of Teachers of Mathematics (NCTM), New York State, or New York City standards. We kept track of required textbooks and the nature of class assignments, including whether students were asked to design lessons or units on mathematics content. Finally, we noted the prevalence and character of connections to students' field experiences.

Through interviews with program directors, staff of the alternative-route programs, and program documents and syllabi, we documented the kind of preparation alternative-route participants received during their preservice summer in the areas of learning and development, including issues related to racial, ethnic, and linguistic diversity, as well as in the areas of ELA and mathematics.

Through program documents, faculty surveys, and interviews, we ascertained faculty status and analyzed what proportion of each program's faculty were tenure-line and adjunct faculty. We also looked at the highest degrees and teaching experience of faculty who teach the methods classes, including the institutions at which faculty earned their degrees. Finally, we looked at faculty reports on what topics receive the greatest attention in their classes and compared these to student reports of opportunities to learn. Throughout this article, as we present the findings, we offer examples from the programs to highlight particular themes that emerged in our analysis. In most instances, we have selected examples that represent the programmatic variation reflected in our data.

In the pages that follow, we begin by noting the proliferation of programs to prepare teachers for New York City schools, including the growth of early-entry programs, and explore some of the consequences of this proliferation. Next, we examine how teachers entering these various pathways differ with regard to their characteristics. We then look at characteristics of the faculty who teach at the college-recommending programs in our sample, focusing on faculty who teach learning and development courses as well as methods courses in mathematics and ELA. We next examine the curriculum of teacher education across pathways and programs, emphasizing both themes and variation in curricular content. In the next section of the article, we discuss the similarity that underlies the diversity of programs and use organizational theory to help explain this convergence. In the final section, we explore possible levers for changing the landscape of teacher education.

Results

The Proliferation of Pathways and Programs

So what do we see in surveying the landscape? The first feature of the landscape that comes into view is the proliferation of teacher preparation programs in a relatively small geographic area. New York City covers 301 square miles. Within this area, we found more than 100 college-recommending programs in 18 institutions that prepare teachers in just the following areas we studied: childhood education, secondary mathematics, secondary science, and special education. In fact, even as we began the study, new

programs cropped up, as institutions tried to respond to the demand for faster routes into the classroom by creating their own version of fast-track programs. In addition to the more traditional college-recommending programs, we also found multiple alternative-route programs, including well-known programs, such as TFA and Troops to Teachers, as well as programs designed specifically for New York City, including the NYC Teaching Fellows and the Teaching Opportunity Program run by the City University of New York. The landscape is a crowded one.

All of the 16 institutions in our sample that prepared elementary teachers run multiple programs, including undergraduate and graduate programs; programs in multiple certification areas; initial and professional certification programs; traditional and alternative programs, even several different alternative programs. As noted above, under New York State requirements, all teachers enrolled in alternative-route programs must simultaneously complete a similar set of certification requirements at a university. As a result, institutions such as the City University of New York, the largest preparer of teachers for New York City schools, also prepares the largest number of teachers enrolled in the NYC Teaching Fellows program. A number of the institutions we studied ran both undergraduate and graduate programs in multiple certification areas as well as programs for both TFA and Teaching Fellows. For example, of the 16 institutions we studied offering childhood education programs, 10 institutions offered both undergraduate and graduate college-recommending programs; of these 10 institutions, 5 also offer childhood certification through the NYC Teaching Fellows program. So within this crowded landscape, institutions themselves offer competing alternatives for gaining certification.

The size of programs varies widely, both within and across institutions. Some of these programs are quite small. The number of students enrolled in traditional college-recommending teacher education programs in mathematics is tiny, particularly at the undergraduate level. In 2005, the average number of students completing undergraduate certification in secondary mathematics at the institutions we studied was approximately 7; the average number of students completing graduate programs in secondary mathematics at any institution was 26, with a range in size from 1 to 41. On the other hand, many programs were quite large, particularly in the area of childhood education. The average number of students completing graduate childhood education programs in 2005 was 125, with programs ranging in size from 10 to 294 students. But no matter the size, each program must allocate resources to provide oversight, required course work, field experiences, and some form of supervision. Directors must find faculty to teach the courses and supervisors to visit classrooms. The sheer number of programs housed within a single institution requires administrators and faculty alike to face significant organizational challenges.[10]

Multiple pathways within single institutions

The academic components for almost all of the early-entry programs we studied are housed at the very same institutions that prepare teachers through more traditional college-recommending pathways.[11] Those charged with responsibility for teacher education at these institutions must therefore figure out how best to run both traditional and alternative programs within the same organizations, with the same faculty, and with relatively limited resources. Institutions responded in various ways to this challenge. One response was simply to offer the same program to all teacher education students; as one director told us, "The program is the program. Everyone gets the same program." What differs in these institutions is the timing of when those enrolled complete a relatively common set of course requirements. So for example, Teaching Fellows enrolled in an institution's childhood education program might take their course work in a slightly different sequence, but they take the majority of their classes with students from the more traditional college-recommending program. Although virtually all of the campuses created special courses for Teaching Fellows during the preservice summer, relatively few institutions created entirely separate programs for Fellows during the academic year.

The rapid growth of the NYC Teaching Fellows program, among many other factors, has created new institutional challenges and demands for teacher education programs, as faculty and

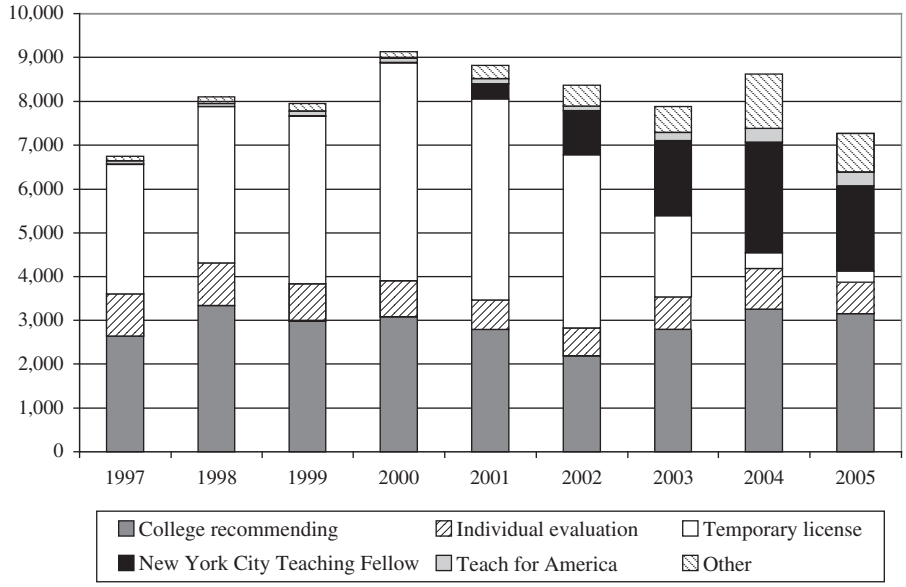

FIGURE 1. *Number of teachers entering through different pathways.*

administrators grapple with how best to provide course work and fieldwork requirements to students in multiple programs. The complexity of the administrative task of overseeing teacher education at institutions offering multiple pathways has increased as programs proliferate.

The Emergence of Early-Entry Routes

A second element of the landscape that immediately comes into view is the huge impact of the NYC Teaching Fellows program on teacher preparation for New York City schools. Created in 2000 in response to changes in New York regulations regarding the certification of teachers, the NYC Teaching Fellows program provides an alternative route to certification designed specifically for New York City teachers. As mentioned above, those enrolled in the program take 6 weeks of preservice preparation during the summer and begin teaching full-time in the fall.[12] Under New York State requirements, Fellows continue to take university-based course work during the first 2 years of teaching, ultimately earning both certification and a master's degree. This program has grown tremendously since its inception in 2000, from 350 to 2,000 in 2005–2006. As Figure 1 suggests, Teaching Fellows have largely replaced the teachers working under temporary licenses, just as the program was designed to accomplish. At this point, the NYC Teaching Fellows program prepares more than a third of all new teachers for New York City schools, as shown in Figure 1; in 2006–2007, approximately 10% of all New York City teachers had begun their careers as Teaching Fellows.

Also striking is the shift in numbers of program completers from undergraduate to graduate programs during this same time period. As is apparent in Figure 2, the number of program completers in undergraduate childhood programs at the 16 institutions we studied decreased between 2000 and 2005, whereas the number of program completers in graduate programs increased steadily until 2004. Two factors may account for this shift. In New York City, part of the trend may be because of the impact of the NYC Teaching Fellows, which is a graduate program. However, this shift toward increasing numbers of graduate program completers in childhood education mirrors statewide patterns as well, suggesting that the increase in graduate programs is not solely a function of the NYC Teaching Fellows program. In 2000, New York State began to require teachers to complete a master's degree within 5 years for professional certification; this requirement helps explain the shift toward graduate teacher education.

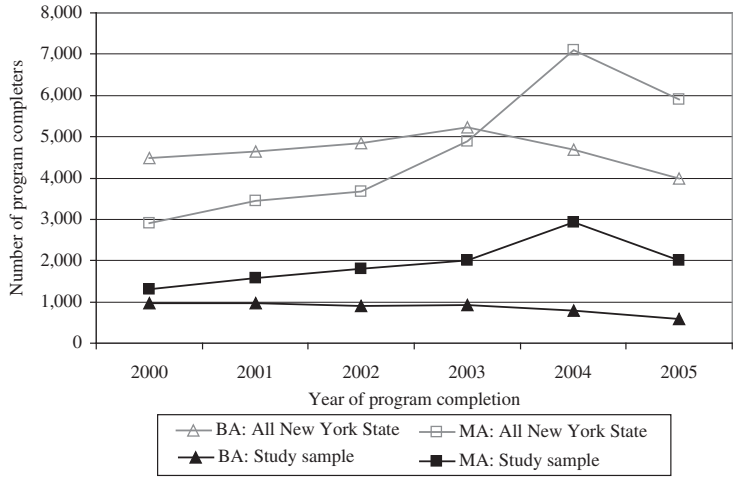

FIGURE 2. *Number of childhood program completers by degree type.*

TABLE 2

Characteristics of 1st-Year Elementary Teachers in 2004–2005 (Includes Pre-K, Kindergarten, Grades 1–6, Mixed Grade Levels)

Characteristic	CR (n = 1,854)	NYCTF (n = 907)	TFA (n = 182)	IE (n = 372)	Temp (n = 39)	Other (n = 421)	Total (N = 3,775)
Gender							
Female	84.68%	74.42%	71.43%	84.68%	92.31%	76.48%	80.74%
Age	29.712	29.456	23.753	35.503	34.359	31.891	30.349
	(7.786)	(7.968)	(1.695)	(10.252)	(8.869)	(9.403)	(8.545)
Ethnicity							
White	77.41%	62.02%	71.51%	71.15%	50.00%	66.99%	71.32%
Black	8.68%	17.19%	7.26%	15.38%	26.47%	9.71%	11.63%
Hispanic	8.56%	14.61%	11.17%	7.97%	20.59%	10.44%	10.43%
Other	5.35%	6.18%	10.06%	5.49%	2.94%	12.86%	6.62%
LAST	244.090	268.306	278.225	242.703	230.056	255.142	252.571
	(27.247)	(20.012)	(12.480)	(30.573)	(26.618)	(25.803)	(27.963)

Note. Standard deviations in parentheses. CR = college recommending; NYCTF = New York City Teaching Fellows; TFA = Teach for America; IE = independent evaluation; Temp = temporary license; LAST = liberal arts and sciences test.

Who Goes Where? Differences in Teacher Characteristics Across Pathways

The creation of early-entry programs has attracted a different pool of teachers into New York City schools; teachers in these pathways, as shown in Table 2, are more likely to come from more selective colleges and score higher on state tests of their knowledge of liberal arts and sciences (LAST).

We also looked at which programs and pathways program completers applied to as they considered entry into teaching. Only 7.34% of survey respondents from early-entry pathways reported applying to college-recommending programs, suggesting that the early-entry routes are indeed attracting a separate pool of teachers. However, 18% of those in the college-recommending pathway did apply to one or more early-entry routes. Given the financial incentives

that accompany early-entry pathways, this is not surprising. Our data suggest that there is a pool of teachers in the college-recommending programs that would likely have gone to alternative programs had they been accepted.

Perhaps more surprising, given the proliferation of programs in and around New York City, is that almost 89% of our survey respondents applied to two programs or fewer. The mean number of programs our respondents applied to was 1.2, suggesting that there is less competition among programs and pathways than one might expect, given this crowded landscape.[13] (For more detailed information on the characteristics of prospective teachers by pathway, see Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2006.)

Who Teaches in Teacher Education? The Local and Adjunct Nature of the Teacher Educator Workforce for Childhood Education Programs

Birds-eye views of teacher education can also provide a sense of patterns across institutions, including a sense of the characteristics of those who teach in university-based teacher education (see Wolf-Wendel, Baker, Twombly, Tollefson, & Mahlios, 2006, for a national perspective on the characteristics of teacher educators). As part of our study, we kept track of who taught the learning and development courses and content area methods courses in ELA and mathematics in childhood education programs at the 16 institutions in our sample. Using state documents, program documents, interviews, and Web sites, we categorized faculty as either tenure line or adjunct. Adjunct faculty includes both part-time instructors and full-time adjuncts and clinical faculty.[14]

In looking at the overall distribution of faculty who teach mathematics methods classes, ELA methods, or learning and development classes, we found that on average, fewer than half of the faculty teaching what are arguably core courses for teacher preparation are tenure-line faculty (see Table 3). Although across higher education, more and more adjunct faculty are being hired, the percentage of adjunct faculty is actually higher in the institutions in our sample than in national studies, in which 47% of faculty were listed as adjunct instructors (http://insidehighered.com/news/2007/03/28/faculty).[15]

TABLE 3
Faculty Status

Faculty status	Tenure line (%)	Adjunct (%)
ELA methods faculty (n = 118)	47	53
Math methods faculty (n = 38)	44	56
Learning and development faculty (n = 102)	39	61

Note. ELA = English and language arts.

According to state documents and the faculty survey, most tenure-line and adjunct faculty who teach methods courses have classroom teaching experience, although not always in public elementary schools. However, this was much less true of the tenure-line faculty teaching learning and development courses than of faculty teaching methods classes. Not surprisingly, tenure-line faculty are much more likely to hold a PhD than are adjunct faculty, who are more likely to hold master's degrees.

Although these data reflect overall trends, programs varied considerably in the extent to which they relied on adjunct faculty. In the area of mathematics methods, for example, we looked at the ratio of tenure-line faculty to overall faculty. According to this analysis, 7 out of 26 college-recommending childhood education programs had 75% to 100% tenure-line faculty teaching these classes, and 8 programs had no tenure-line faculty at all teaching mathematics methods. The type of institution did not necessarily predict the percentage of tenure-line faculty. For example, institutions that had 100% of their mathematics methods courses taught by tenure-line faculty included both public and private institutions and teaching- and research-intensive universities. Although faculty status does not necessarily predict the quality of these courses, it may reflect something about the commitment of the institution to its teacher education programs. Mathematics educators are a scarce resource, given the shortage of doctoral graduates in the field of mathematics education (cf. Reys, 2000). Programs that are staffing mathematics methods courses with tenure-line faculty in mathematics education may be

signaling their commitment to teacher education through these staffing choices, or they may simply be more successful in hiring tenure-line faculty in mathematics education.

In interviews with program directors, administrators talked about the challenges of staffing courses for multiple programs. One institution with several new early-entry programs chose to hire a number of non-tenure-line clinical faculty, in part because funding for these new programs was not guaranteed for the long term. According to administrators, the rapidly changing landscape of teacher education makes it difficult for programs to hire additional tenure-line faculty to teach in alternate-route programs because of the contract-like nature of the work. For example, programs must compete every 5 years to renew their right to offer the NYC Teaching Fellows programs; during the period of our study, TFA also renegotiated which campuses would prepare TFA corps members. According to at least several program directors, hiring clinical staff with adjunct status provided greater flexibility; institutions cannot risk hiring tenure-line faculty when the financial support for those positions may disappear if the contract with New York City or TFA is terminated.

The other surprising finding is the very local nature of the tenure-line teacher education workforce. Of 72 tenure-line faculty who teach either mathematics or reading methods in childhood education, more than half (54%) came from 1 of 6 of the 18 institutions we studied, and 34% received their doctorates from 1 of only 2 institutions in New York City. Instructors with master's degrees also tended to earn their degrees at one of these same 18 institutions. The fact that a relatively small number of places prepare the majority of teacher educators in the New York City area suggests a possible lever for change, which we take up below.

What Gets Taught in Teacher Education?

As suggested above, preservice teacher education programs of all stripes negotiate complex policy contexts. States, which set requirements for certification, and national organizations that accredit teacher education, such as NCATE and Teacher Education Accreditation Council (TEAC), are main players in these contexts and, depending on perspective, either enable or constrain the work of teacher education. In addition to these formal policies, professional norms regarding what teachers should know and be able to do also shape the structure and content of teacher education. Such requirements and norms set the parameters for how programs prepare preservice teachers, whether these are college-recommending programs or early-entry programs. At the same time, programs are constrained by a finite number of credits they can devote to teacher preparation. Graduate programs in childhood education require a mean of 40 credits, and the NYC Teaching Fellows programs require 36 credits. Given this context, teacher education programs often find themselves negotiating a fundamental tension: how to cover more and more required topics without substantially increasing the length of the program.

In New York, the State Education Department (NYSED) sets general requirements for licensure. A number of the institutions in our sample were either accredited or in the process of applying for accreditation through NCATE, which sets its own requirements, or TEAC. Although multiple pathways into teaching exist in New York City, New York State requires candidates to fulfill a very similar set of requirements for licensure, as mentioned earlier. One of the major differences between early-entry programs and college-recommending programs is not the opportunities they provide to learn similar content and curriculum but the timing of those opportunities. Given the difference in time allotted for preservice education, we expected to see the greatest variation in programs when comparing the preservice college-recommending programs to the preservice summer preparation offered by TFA and the NYC Teaching Fellows.

We examined the formal curricular requirements for elementary teachers, looking at the kinds of courses teacher education programs (both college recommending and early entry) require as part of preservice preparation and examining similarities and differences across programs in terms of courses offered and the topics covered.[16] To address these questions, we analyzed documents, such as accreditation reports and course catalogs, and interviews with key administrators and faculty to understand program requirements. We focused particularly

on three areas of the curriculum that are foundational to elementary teacher preparation (cf. Darling-Hammond & Bransford, 2005): preparation on learning and learners, in which we included preparation to teach culturally and linguistically diverse learners; preparation for teaching reading; and preparation for teaching mathematics. In the sections that follow, we first consider the number of courses programs offered in the areas of learning and development, multicultural foundations, the teaching of English language learners, and classroom management. We then turn to a similar analysis of teachers' opportunities to learn to teach about ELA and mathematics.

Themes and Variations in Preparation to Learn About Learners and Learning

In addition to courses on learning and development, we also include courses on multicultural foundations that addressed the needs of ethnically or racially diverse students, as well as courses on teaching English learners, special education, and classroom management. We found that traditional college-recommending programs offered more courses across the board during preservice preparation than the early-entry programs. This difference is not surprising, given the limited time—approximately 6 weeks—in which the preservice early-entry preparation occurred. Interestingly, despite the press to prepare teachers with practical strategies for beginning to teach at summer's end, many of the early-entry programs did offer foundational courses in learning and in purposes of schooling. We did find some variation in emphasis, particularly in those courses focused on learning and development. In early-entry programs, these courses tended to focus on issues of classroom management rather than broader theories of learning and development. Below, we provide greater detail of the similarities and differences between college-recommending and early-entry programs.

The vast majority of college-recommending programs (24 out of 26) offered at least one course in learning and development, and 10 of the programs offered courses in multicultural education,[17] 12 offered special education, and 11 offered a course in classroom management. In contrast, only 2 college-recommending programs in our sample offered a course focused on the teaching of English language learners. The overall lack of specific course work focused on preparing teachers to teach English learners is surprising, given the language diversity found in New York City public schools.[18] We found very little variation in requirements among college-recommending programs, particularly in the areas of learning and development and the teaching of English learners. More variation exists in the areas of diversity, special education, and classroom management. Arguably, teacher education faculty may see these courses as "electives" or at least more so than courses in learning and development, which have a long history in teacher education.

Our analysis of early-entry programs' preservice preparation suggests a similar trend, with three of the five programs offering a course in learning and development, whereas none offered a course in the teaching of English learners during preservice preparation. When compared to college-recommending programs, however, early-entry candidates were more likely to have had a separate course in classroom management than their counterparts in college-recommending programs. Three of the five campuses providing early-entry programs required course work in classroom management the summer before the students began teaching, compared to fewer than half of the college-recommending programs.

In sum, our analysis of course requirements and descriptions suggests that prospective teachers in college-recommending programs have more opportunities to consider learning and development and special education, whereas prospective teachers in early-entry programs may have more opportunities to consider issues of classroom management. This difference in emphasis was reflected in survey responses from participants as well, as was the relative lack of attention paid to the teaching of English learners.

To give a sense of how programs varied with regard to preparation in learning and development, we highlight two college-recommending programs at the same private institution; one is an undergraduate program and the other is a graduate program. Both emphasize preparation in the area of learning and development. For these two programs, the learning and development credits

TABLE 4
Comparisons of Survey Responses for Opportunities to Learn About Learning and Development

How much opportunity did you have to . . .	College-recommending *M* (*SD*)	Early-entry *M* (*SD*)
Study stages of child development	3.57 (1.02)	2.34 (1.18)***
Follow a student throughout the day	3.44 (1.40)	2.69 (1.48)***
Develop curriculum that builds on students' experiences	3.73 (1.13)	3.22 (1.12)***
Develop strategies for handling misbehavior	3.42 (1.19)	4.10 (0.90)***
Develop strategies for setting classroom norms	3.37 (1.14)	3.86 (0.98)***
Develop strategies for working with parents and families to better understand students and their learning	2.98 (1.19)	3.45 (1.03)***
Gain knowledge about the communities of students you are likely to teach	2.99 (1.23)	3.36 (1.09)***
Develop strategies for teaching English language learners	2.58 (1.21)	2.42 (1.13)*

Note. Significance indicates *t* tests between college-recommended and early-entry respondents' responses.
*$p < .05$. ***$p < .001$.

required are approximately 17% and 16% of their credits, respectively. Of the two programs, the graduate program also stood out in that it addressed the concepts of learning and development in a variety of courses in the program in a way that one might suggest is more "integrated." Although concepts of learning and development were not mentioned in ELA or special education course work, they are mentioned in three other courses: the required classroom management course, the mathematics and science course, and the culminating seminar. Furthermore, the graduate program requires a course in learning and development to be taken before student teaching, which the undergraduate program does not. This program also required a total of 135 hours of fieldwork attached to courses in learning and development—by far, the most hours required of all the programs. Thus, of all the programs, this graduate program seems to place the greatest curricular emphasis on issues of development and learning, as viewed through this perspective. This kind of analysis, however, cannot reveal the quality of the experiences provided to students, only that they were available.

In addition to examining course requirements, we surveyed graduates about their opportunities to study issues of learning and development. As Table 4 suggests, graduates of college-recommending programs are much more likely to report having had opportunities to learn about child development. Although the mean response for this item (3.57) is ranked as one of the highest for respondents from college-recommending programs, the same item has the lowest mean response among respondents from early-entry programs (2.34). However, respondents from early-entry programs are significantly more likely to report greater opportunities to learn about strategies for handling misbehavior and for setting classroom norms, both aspects of classroom management. In addition, candidates in the early-entry programs report significantly more opportunities to learn how to work with families and to learn about the communities in which they will be working.

The differences in responses may suggest that students in college-recommending programs may be encountering more opportunities to engage with "foundational" knowledge, such as studying stages of child development, following a student throughout the day, and perhaps developing curriculum that builds on students' experiences and interests and prior knowledge. On the other hand, students in early-entry programs seem to feel that they have had more opportunities to develop practical strategies, such as setting classroom norms and handling misbehavior. These reports from students support what we found in program documents, suggesting that early-entry students may be spending more time (at least relatively speaking) on issues of classroom management than college-recommending students.

Themes and Variations in Preparation to Teach Reading or ELA

Given the enormous importance of reading to school success, policy makers are paying increasing attention to the teaching of reading in the elementary grades. Despite this attention and recent reports on how teachers should be prepared to teach reading (International Reading Association, 2003; Snow, Griffin, & Burns, 2006; Walsh, 2006), we still know relatively little about what characterizes the preparation most teachers receive about teaching reading or how preparation for teaching reading varies by program and pathway.[19] In this section, we detail what preservice teachers in the programs we studied encountered with regard to the teaching of reading.

The NYSED requires a minimum of six credits in language and literacy for a childhood education certificate. Reflecting these requirements, most college-recommending programs offer two three-credit classes on reading, one in emergent or beginning literacy, and one focused more on intermediate grades. However, some variation exists, with one program requiring one six-credit course whereas another required four three-credit courses; in other words, at least one program provides twice the amount of time on reading or ELA instruction as the average program in our sample. Early-entry programs generally incorporate issues of literacy into the summer preservice course work, although only two of the five campuses offering childhood education explicitly required a three-credit course in literacy. The other campuses offered a version of a general methods course, with varying degrees of emphasis on the teaching of literacy.

Based on our analyses of syllabi from these classes, topics in the beginning literacy classes included attention to issues of phonological awareness, print-rich environments, assessment, comprehension, and the reading–writing relationship. Topics in the intermediate literacy classes included children's literature, assessment, vocabulary, and reading in the content areas. In a number of instances, issues of inclusion or diversity were woven into these classes. A few programs seem to focus explicitly on interventions for struggling readers, but this was the exception rather than the rule. Despite the common topics, none of the courses for which we received syllabi required the same textbook for teaching reading. However, there were some common assignments, including conducting an informal reading assessment with a child and designing a lesson based on what was learned and designing a thematic unit for language arts.

To glimpse a sense of the variation among programs, we provide a brief overview of two contrasting programs. One program in our study required 12 credits in the teaching of reading. These credits were organized into what appears to be a coherent sequence of four courses that focused on early literacy and language acquisition, assessment and instruction, interventions for at-risk readers, and strategies for inclusive classrooms as well a course on children's literature. Each of these classes required field experiences that were directly tied to the goals for the course. Students began by observing reading lessons, progressed to assessing and developing lessons for a beginning reader, and ended by developing a full unit of instruction. This program also focuses explicitly on interventions for struggling readers. Almost all of the courses in literacy are taught by tenure-line faculty, all of whom have K–12 teaching experience, according to state documents. In contrast, another program in our study required only one course that included literacy; in this class, literacy was combined with other subject areas and with issues of diversity. There were no courses solely focused on reading or literacy and relatively little attention to early reading. The course required students to work with children, but neither the nature of the work nor the number of hours was specified. The instructors were predominantly adjuncts and did not hold doctorates.

Our survey results confirm that those enrolled in early-entry programs report fewer opportunities in general to learn about issues related to teaching literacy (see Table 5). Because those enrolled in early-entry programs have more limited time for preservice preparation, it is not surprising that there are differences in their reported opportunities to learn about teaching reading. However, the topics that are given most attention and least, according to the respondents, seem similar. Other than children's literature and teaching metacognitive strategies, the topics that received the most attention were similar across both college-recommending and early-entry programs. Survey responses from participants

TABLE 5
Comparisons of Survey Responses for Opportunities to Learn About Teaching Reading

How much opportunity did you have to . . .	College-recommending *M* (*SD*)	Early-entry *M* (*SD*)
Learn about characteristics of emergent readers	3.85 (1.02)	3.19 (1.13)***
Study or analyze children's literature	3.90 (1.11)	2.81 (1.32)***
Learn ways to build student interest and motivation to read	3.90 (1.06)	3.33 (1.11)***
Learn how to help students make predictions to improve comprehension	3.80 (1.03)	3.38 (1.14)***
Review the topics covered in New York State's ELA exam for fourth graders	2.70 (1.40)	1.90 (1.16)***
Review New York City's reading curriculum	2.80 (1.40)	2.57 (1.2)**
Learn how to support older readers who are learning to read	2.89 (1.06)	2.20 (1.17)***

Note. ELA = English and language arts. Significance indicates *t* tests between college-recommended and early-entry respondents' responses.
**$p < .01$. ***$p < .001$.

across pathways suggest that most programs emphasize the teaching of early reading and that there is little variation across pathways in this area. Across pathways, respondents also reported relatively little emphasis on opportunities to explore the New York State standards assessments and the New York City curricula in ELA as well as on supporting older readers struggling with literacy. So despite the differences in overall amount of opportunity to learn about teaching reading, what programs chose to emphasize, or ignore, was more similar than different.

Preparation to Teach Mathematics

For certification in childhood education, the NYSED requires programs to develop a content core that includes preparation for teaching mathematics as well as preparation for teaching social studies, art, music, and other elementary school subjects. Unlike the teaching of ELA, no minimum number of credits or courses is specified. The average number of credits on the teaching of mathematics offered by programs was three semester credits, which corresponded to a single course. However, there was also variation, ranging from several early-entry programs that offered no credits during preservice preparation to programs that required six credits in the teaching of mathematics. Again, given the limited number of credit hours available to graduate programs in teacher education, it is not surprising that most require one three-credit course in the teaching of mathematics. This analysis also shows that programs generally put twice as much emphasis, as measured by credit hours, on the teaching of reading and ELA as opposed to the teaching of mathematics.

However, our analysis suggests that some programs put more emphasis on mathematics and the teaching of mathematics than other programs. To get a sense of programmatic attention to mathematics, we looked at the relationship between the number of credits required in mathematics and the number of credits required in mathematics methods. Do some programs just generally require more mathematics overall? Or do some emphasize mathematics content over the pedagogy or vice versa? We found three programs that required both 9 to 12 credits in mathematics content courses and 4 to 6 credits in mathematics methods, higher than the average program in both areas. These included programs at both the graduate and undergraduate level. Only one of the five early-entry campuses required a course in mathematics prior to full-time teaching.

Course syllabi provided a richer understanding of what gets taught in mathematics methods classes across these programs. Of the 14 programs represented by this syllabus analysis, there was considerable variation in the focus on mathematical content within the mathematics methods courses. Some of the syllabi were designed around mathematical concepts and ideas, whereas others were more focused on

TABLE 6
Comparisons of Survey Responses for Opportunities to Learn About Teaching Math

How much opportunity did you have to . . .	College-recommending *M* (*SD*)	Early-entry *M* (*SD*)
Design math lessons	3.88 (1.08)	2.62 (1.36)***
Solve math problems for yourself	3.79 (1.03)	2.45 (1.29)***
Learn about different ways that students solve particular problems	3.67 (1.20)	2.41 (1.26)***
Work on math problems to understand the math	3.65 (1.11)	2.30 (1.21)***
Learn how to facilitate math learning in small groups	3.50 (1.17)	2.46 (1.25)***
Review the topics covered in the New York State math exam for fourth graders	2.75 (1.44)	1.6 (1.03)***
Review New York City math curriculum	2.89 (1.37)	2.14 (1.08)***

Note. Significance indicates *t* tests between college-recommended and early-entry respondents' responses.
***$p < .001$.

more generic issues of teaching and learning. One of the more mathematically rich syllabi was organized around mathematical concepts of numbers and operations and algebraic thinking. Students were asked to complete problem sets that included both mathematics problems and analyses of student work, which accounted for 30% of their grade. Students were also asked to plan both lessons and units around mathematical concepts and to try out ideas on teaching mathematics in their own student teaching placements and then to analyze their efforts with reference to student work. In contrast, another syllabus focused primarily on issues of learning and neuropsychology, with relatively little attention to mathematics. Only one of the mathematical topics included in the analysis, fractions, was explicitly mentioned in the syllabus, and students were not required to plan either lessons or units of instruction in mathematics.

The most common mathematical topic to be included in these syllabi was fractions (13 of 14), followed by geometry (10 of 14) and place value (9 of 14). Relatively few of these syllabi indicated that students had to complete assessments related to mathematical content; only 4 of the 14 indicated explicit assessments of mathematical work. Half of the syllabi, however, indicated at least one assignment connected to mathematical content, including keeping a mathematics journal and working problems sets. In contrast to the ELA methods classes, which had no textbooks in common, 5 of the 14 courses required the same textbook: Van de Walle's (2006) *Elementary and Middle School Mathematics: Teaching Developmentally*, published by Longman Press. An additional two syllabi listed this text as recommended, meaning that half of the courses either required or recommended the same textbook. Virtually all of the syllabi at least mentioned the NCTM standards (11 of 14), although only two syllabi included a requirement that students read the standards document itself. Relatively few of the mathematics methods syllabi explicitly focused on issues of diversity, with the exception of one that emphasized the needs of special education students and another that included equity as a major theme in the course.

Survey responses of program participants confirm that graduates of college-recommending programs report significantly greater opportunities to learn about teaching mathematics during their preservice education than do participants in early-entry programs (see Table 6). Despite these differences, there are similarities in what received the most attention. Participants in both early-entry and college-recommending programs reported that they had the most opportunities to design math lessons, followed closely by opportunities to learn about different ways that students solve particular problems. Graduates of college-recommending programs report spending a good deal of time doing mathematics, whereas participants in early-entry programs report significantly less opportunity to work on mathematics problems. Perhaps just as interesting is the fact that neither college-recommending nor early-entry programs emphasized explorations of the New York State mathematics standards and assessments or

the New York City mathematics curriculum, according to responses from participant surveys.

Curricular Contours

The curricular portrait that emerges from both program analysis and survey responses is one of constrained variation. Most college-recommending and early-entry programs offer a similar array of curricular options, organized around the requirements set by the state and accrediting organizations. A few programs place greater emphasis on the teaching of reading or the teaching of mathematics, or on preparing teachers to teach English learners, but the general terrain is more common than not. Given the relatively brief period of preservice preparation in early-entry programs, it is not surprising that these teachers generally report fewer opportunities to learn across a variety of topics in the teaching of reading and mathematics. However, there are no significant differences in their reported opportunities to learn about early reading, and they report significantly more opportunities to learn about classroom management and about working with families, suggesting that early-entry programs are making some strategic decisions about how best to prepare people for what they will encounter after relatively limited preparation. Despite these few key differences, there is remarkable similarity in what receives more or less attention across programs and pathways.

Let a Few Roses Bloom: Innovating on the Margins

Despite the dramatic increase in the number of alternative route programs and the growth of the NYC Teaching Fellows in the past 6 years, what is apparent from this vantage point is the lack of dramatically different arrangements for the preparation of teachers in New York City. No institution has radically restructured teacher education. From our aerial perspective, we saw programs that have a few distinctive features, analogous to looking at a sea of apartment buildings and finding one with a dome and another with an elegant spire. However, we saw no Guggenheims, structures that fundamentally reimagined what a building might look like. The overall structure of teacher education—foundations courses, methods courses, a variety of field experiences loosely linked to the university—was more similar than different across all of these institutions and pathways.

Overwhelmingly, we found that at least on the surface, teacher education programs of all stripes look very similar in terms of overall structure and the kinds of courses offered, countering widely held views of teacher education as a field in which the philosophy is to "let a thousand flowers bloom" (Shulman, 2005). This lack of structural variation is perhaps not surprising, given a stringent set of certification requirements from New York State as well as the impact of NCATE requirements.[20] Although accreditation requirements do not specifically state how programs should adhere to the standards, in many cases, programs develop specific courses to signal to accrediting agencies their compliance with the particular standard in question. For example, both New York State and NCATE require programs to prepare elementary education teachers with methods for teaching mathematics, and in turn, many programs comply with this standard by requiring a specific course in this area.

In contrast to the core areas of mathematics, literacy, and learning and development, we found greater variation in the areas of multicultural foundations and classroom management. Although accreditation agencies also require programs to address each of these areas, there is less consensus in the field about how programs should actually attend to such topics. For example, in the field of multicultural education, there is some debate as to whether such issues should be addressed in a stand-alone course, integrated across the curriculum, or both. One might argue that it is in these areas that programs are more likely to signal their own priorities.

Given the debates about alternative routes into teaching, some might have anticipated that we would find greater variation between college-recommending programs and early-entry programs. And given that early-entry programs must prepare teachers in a relatively brief period of time to take full responsibility for a classroom, we might expect a difference in emphasis in their preservice preparation. However, our analysis suggests otherwise. First, we found that the courses offered to preservice teachers enrolled in the early-entry programs were almost identical to those offered by the college-recommending

programs at the same institutions. Given a set of common requirements for course work across traditional and alternative routes in New York State, as well as a more or less common faculty teaching across pathways, the primary source of variation has to do with the timing of when those enrolled in programs take particular courses and, more importantly, the nature of their preservice field experiences.

What might explain this uniformity in the structural features of teacher preparation? Perhaps the similarities in curriculum and program structure are not surprising, given the regulation of teacher education, both by the state and by accrediting organizations. Given the mandate to cover a broad range of topics within a relatively brief period, teacher education programs have relatively little room to experiment with the contours of programs. And New York is perhaps to be commended for ensuring that alternative programs adhere to the same set of requirements that are mandated for existing, college-recommending programs. State requirements provide one possible explanation, but these requirements alone do not explain all the similarity. For example, programs have flexibility in how they respond to specific requirements, but they rarely seem to use that flexibility in innovative ways. In the following section, we draw on theories of institutional isomorphism to help explain the lack of curricular variation in teacher preparation.

What Is Institutional Isomorphism?

Institutional isomorphism focuses on the ways in which organizations within a field develop startling homogeneity in terms of their formal structure over time.[21] From this perspective, the similarities we find are relatively predictable. DiMaggio and Powell (1983) suggest that in the initial stages of an organizational field, there may be greater diversity in organizational structures, but over time, as a field becomes more established, there is an inexorable push toward homogenization. Institutional isomorphism results from formal and informal pressures placed on particular organizations by other organizations on which they are dependent for either legitimacy or resources. For instance, organizations may change or adapt formal structures as a direct response to government mandate, a form of *coercive* isomorphism. From this perspective, organizations develop similarly because they may face the same regulatory structures and standards (Scott, 1995). Institutions may also engage in *mimetic* isomorphism, in which organizations look for models as a response to uncertainty and are more likely to adopt common structures and practices in an attempt to look legitimate. Finally, DiMaggio and Powell (1983) identify *normative* pressures as a source of isomorphism, largely stemming from professionalization within an organizational field. Professionalization, in their view, represents the collective struggle of members of an occupation to define the content and jurisdiction of their work as well as a knowledge base for what constitutes their expertise.

Important to the process of isomorphism is the argument that although professionals in the same occupation may work across various organizational contexts, they tend to look quite similar in terms of their knowledge and practices (Meyer & Rowan, 1977; Morphew, 2000). For example, although assistant professors work at many different universities, the work of assistant professors across these organizations looks fairly similar, in part because of their professional affiliations. When faculty and staff are trained at the same universities and prepared with a common set of attributes, as is true for many of the faculty and instructors teaching in the programs we studied, they are likely to perceive problems and possible solutions in similar ways.

DiMaggio and Powell (1983) go on to identify a number of factors that predict greater degrees of institutional isomorphism. These include dependence on other organizations for legitimacy or resources, means–end ambiguity regarding the practice and its outcomes, high levels of uncertainty in the field, greater levels of professionalization, dependence on professional or academic credentials in hiring, and dependence on federal, state, and professional agencies. According to the theory, these types of influences are particularly powerful for organizations operating in the context of means–end ambiguity, when the relationship between a field's practice and outcomes are unclear. Organizations operating in this context experience greater pressure and incentives to develop formal structures

that resemble those of other organizations within the field (DiMaggio & Powell, 1983, pp. 147–160).

Seen from this perspective, teacher education is a field ripe for high levels of institutional isomorphism. For example, there is great uncertainty both within and beyond the field regarding the relationship between the practice of teacher education and the outcomes. In fact, the field is increasingly under tremendous pressure to demonstrate its efficacy by documenting how program practices connect to outcomes for teachers and students. Arguably, this increased pressure and focus will likely lead to even greater isomorphism, as programs are unwilling to risk legitimacy by trying out dramatically new structures or approaches.

Given the struggle for legitimacy, teacher education programs are also likely to be influenced by mimetic isomorphism. Programs are likely to look similar to one another because the field struggles to identify the core practices of the work and to provide evidence of program effectiveness in terms of either teacher practices or student learning outcomes (e.g., Cochran-Smith & Zeichner, 2005). In the search for legitimacy and with an absence of strong evidence for more effective ways to prepare teachers, teacher education programs are likely to model themselves after other programs, particularly those that are widely acknowledged to be successful and reputable. The mimetic process might help explain the rapid diffusion of new pedagogies in teacher education, such as case methods, uses of portfolio assessment, and so on. Despite the absence of hard evidence that such approaches are more effective (e.g., Grossman, 2005), teacher education programs are quick to emulate the practices of highly visible, reputable programs.

Our analysis of the local nature of the teacher educator labor market may provide another explanation for the relative similarity we found across programs and pathways in terms of curriculum and structure. The tenure-line faculty at these institutions come predominantly from only a few local universities; as a result, their training may be more or less similar. They may have worked in the teacher education program at one institution as part of their graduate work before taking a position at another of these institutions; in this sense, they carry the practices of one local institution to the next and then go on to prepare the next generation of teacher educators. The system is a relatively hermetic one, which in turn creates greater homogenization of practice and what others refer to as academic drift (Morphew, 2000).

Finally, accreditation by organizations such as NCATE that employ a common set of standards will inevitably lead to less variation across programs. Many of the programs in New York City we studied belong to NCATE, and others were in the process of applying for accreditation. NCATE, in turn, relies on other professional organizations in developing standards. For example, the greater similarity in mathematics methods courses than in ELA methods classes may reflect, in part, the success of the NCTM in providing and disseminating widely a set of professional standards—another move toward professionalization.

It is also possible that the aerial perspective we have adopted is partially responsible for the resulting portrait of teacher education that highlights similarity and downplays difference. A different kind of study, one that looked more deeply into how programs actually function, including the character of interactions among faculty, students, and cooperating teachers, might have found considerably more variation in the preparation of teachers.

In addition, although we have focused on the lack of variation in curriculum and faculty across these programs and institutions, important variation very likely lurks beneath the surface of the more formal structures of teacher education programs. From the perspective of institutional theory, formal organizations are often loosely coupled; structural elements such as course requirements are loosely connected to the activities and practices actually implemented in classrooms (March & Olsen, 1976; Weick, 1976). Although the formal curriculum of teacher education is relatively similar across programs and pathways, the quality of instruction within these programs may, in fact, vary in important ways. In an initial analysis of syllabi, for example, we have found dramatic differences in the nature of the assignments given to preservice teachers. For example, in some methods courses, students were asked to review articles on the teaching of reading or mathematics and then write an academic paper summarizing their findings, whereas in others,

students were required to engage in extended interactions with children, paying careful attention to student thinking and then to build instructional plans based on what they learned from listening to students. These assignments represent qualitatively different opportunities to learn to teach, with the latter representing opportunities grounded in the actual practice of teaching. Such differences in instructional approach are not generally legislated by the state or profession but may help distinguish among programs that are more and less effective at preparing novices for the classroom. Future analyses will look at the variation in the nature of assignments given to program participants as one window into instructional variation.

Changing the Landscape

If we were satisfied with the current preparation of teachers for urban schools, the lack of innovation might not be as critical. But given the sharp criticisms of teacher education, we might want to encourage true alternatives, programs that are both freed to experiment and held accountable for tracking their impact on teachers and students over time. Given this press toward institutional isomorphism, how might we take advantage of the changing landscape of teacher education to create fundamental change in the preparation of teachers for urban schools?

First, institutions may be offering too many programs, particularly given the number of institutions coexisting in the same geographic area serving the same large school district. In offering so many different programs, institutions may find it difficult to control the quality of all of their programs. As we suggest in our analysis, the problem of staffing all of the required courses for multiple programs almost certainly leads to hiring teachers who are not closely connected to the institution. Rather than trying to cover all possible certification areas, institutions might choose to specialize and deepen their resources in a particular area, in special education, for example, or in secondary mathematics. This is particularly true of multicampus institutions. Rather than trying to offer essentially the same programs at multiple campuses, each campus might focus on a particular area and dedicate its resources to both active, targeted recruitment of students and faculty and strong preparation.[22]

Right now, the teacher education landscape might be compared to a kind of urban sprawl, in which expertise and resources are diffusely scattered across the local geography. You need not travel far to find either a Starbucks or a teacher education program in New York City. By concentrating resources for the preparation of secondary mathematics teachers at fewer campuses, for example, institutions might have the resources to create more powerful interventions for teacher education. And if, in turn, these same institutions also became the venues for preparing future mathematics educators, they could affect the preparation of mathematics teachers at other institutions as well.

The local nature of the teacher educator workforce suggests another lever for change. Because a full third of the tenure-line faculty teaching the methods courses come from two institutions in New York City, strengthening the preparation of teacher educators at these institutions would have a ripple effect on multiple institutions in the area. The serious, rigorous preparation of future teacher educators might include opportunities to observe and to engage in supervised practice in local teacher education programs, to engage in course work specifically focused on design and conduct of teacher education, to practice designing syllabi and assignments for use in teacher education, to analyze the work of novice teachers, and to participate in the supervision of novice teachers. Such preparation might affect the variation that may matter most—the variation in instruction that occurs within the required course work.[23]

Finally, given the press toward isomorphism, the field may need to develop greater incentives for experimentation. As organizational theory suggests, although institutions must balance experimentation with conservation to flourish, many of the existing incentives favor the more conservative course (March, 1991). This may be particularly true in the highly regulated context of teacher education. The current effort to evaluate teacher education programs through their impact on graduates' impact on student learning, however, may represent one opportunity to link experimentation with accountability through the design of more imaginative programs that

are carefully studied in terms of impact.[24] Programs might be freed from state regulations, much as charter schools are, to develop experimental models that systematically vary features of preparation and study the results. For example, teacher educators might create some dramatically different versions of the preservice summer component of early-entry routes with regard to the design of both field experiences and course work and then follow teachers across the first few years of teaching. Similarly, teacher educators might develop innovative college-recommending programs as part of a design experiment, in which variations in format are carefully planned and then studied systematically across several years. Such design experiments could make use of the proliferation of programs that already exist to learn more about how best to prepare teachers for particular contexts, students, or subject areas.

This study also suggests a different way of looking at teacher education, looking not at individual programs nor at national samples but rather at the range of programs that serve a common school district or labor market. Similar studies are currently investigating teacher education for entire states (cf. Ohio's Teacher Quality Partnership and studies of teacher education in Florida and Louisiana). Such approaches allow researchers to describe more clearly both who enters teaching and the range of preparation options that exist within a single geographic region or labor market as well as how these factors interact. Such approaches also respect the local nature of teacher education. What is true of New York, a highly regulated context for teacher education, is not necessarily true of Florida, where less regulation exists. This local perspective is critical in understanding both the constraints and possibilities facing teacher educators and school districts that seek to prepare and hire the next generation of teachers.

Notes

1. See Levine (2006) for a counterexample.

2. This is probably less true of elite programs that may be more likely to compete with other elites for students than with local universities. However, elites represent a small proportion of teacher education programs nationwide.

3. For a lengthier description of pathways into New York City, see Boyd, Grossman, Lankford, Loeb, and Wyckoff (2006).

4. *Preservice* refers to the courses, fieldwork, and other components of programs that are required of a prospective teacher before he or she becomes a teacher of record.

5. We began the study by identifying the 20 institutions that prepared the majority of teachers for New York City schools and inviting their participation in the study. Two institutions declined, leaving us with 18 institutions. Of these 18, 16 offer certification programs in childhood education, the focus of this analysis.

6. Because those enrolled in early-entry programs had only the summer to complete course work prior to becoming full-time teachers, we did not expect that they would have the same opportunities to learn about teaching reading and math as those enrolled in more traditional graduate programs. Although some might argue that it is inherently unfair to compare those who are at the beginning of a 2-year program with graduates of college-recommending programs, we believe it is important to know what kinds of opportunities teachers have had to learn about teaching reading prior to becoming a full-time teacher of record. We have continued to survey this cohort of teachers during their first 2 years, so we will track their continuing preparation over time and compare what graduates of early-entry programs receive during the 2 years with what graduates of college-recommended programs received as preservice education.

7. Although our focus is specifically on the preservice preparation of candidates in these programs, at times, we take a broader perspective that includes the overall requirements for teachers affiliated with Teach for America (TFA) and the New York City Teaching Fellows (NYC Teaching Fellows), including the courses and supervision that are offered once candidates are the teacher of record. We try to make clear in the text when we refer to the broader set of requirements beyond the preservice component.

8. Response options for all "opportunity to" questions include *none*, *touched on it briefly*, *spent time discussing or doing*, *explored in some depth*, and *extensive opportunity*, which we equated with a numerical scale of 0 to 4 for our analyses.

9. Only one early-entry program required a math methods class as part of the preservice summer experience, and we did not receive this syllabus for analysis.

10. One of the first indicators of this challenge was the difficulty we had in determining the actual number of students enrolled in any individual program as well as information regarding number of applications and acceptances. Most institutions could not tell us exactly how many students were enrolled in their

programs; although this reflects the complexity of how to count part-time students or enrollments that go across multiple years, it also suggests that institutions find it difficult to keep track of basic data, such as number of applications, matriculations, and graduations, for each of its many programs.

11. To clarify, the NYC Teaching Fellows preservice summer experience is designed and implemented by university partners. These same university partners also provide the NYC Teaching Fellows program once candidates have become the teacher of record. This differs from TFA. TFA designs and implements the preservice summer experience and then partners with universities to offer TFA corps members course work once they have become teachers of record.

12. There is also a Mid-Year Fellows program, in which fellows enter during the school year. They still complete 5 weeks of preservice preparation, including field experience, prior to entering the classroom as the teacher of record.

13. Respondents enrolled in early-entry programs applied to a mean of 1.01 programs; of the 7.34% of those who also applied to a college-recommending program, they reported applying to 1.2 college-recommending programs (1.4 standard deviation). Survey respondents from college-recommending programs reported applying to a mean of 1.57 programs.

14. We were unable to ascertain the status of a number of instructors from program and state documents. Although this group could include a wide variety of possibilities, including graduate students, recently hired adjuncts who did not yet appear on any program documents, or people who were hired on an ad hoc basis who had no connection to the larger program, we make the assumption that these are probably either part-time adjunct faculty who are only loosely connected to the programs or, in some cases, graduate students. In this analysis, we include them as part of the adjunct faculty.

15. The higher incidence of adjunct faculty in schools of education may not be surprising, given the nature of professional schools, although we are not aware of separate analyses of faculty status in professional schools or in education schools in particular.

16. As noted, this includes only the summer component of alternative certification programs.

17. In this analysis, we included courses titled Multicultural Education or Multicultural Foundations as well as courses in which we could determine from the course description that the main emphasis of the course was on issues of race, culture, ethnicity, and class and their relationship to learning to teach.

18. This study confirms the work of Lucas and Grinberg (2008), who suggest that teacher education programs across the country pay very little attention to issues of preparing teachers to teach English learners.

19. Several recent studies have examined the preparation teachers receive in reading. For example, the International Reading Association studied the preparation for teaching reading at exemplary undergraduate programs of teacher education (Hoffman et al., 2005; International Reading Association, 2003). Although this study provided examples of what researchers considered exemplary preparation, it cannot tell us what preservice teachers more typically encounter in their teacher education programs. Walsh (2006) examined syllabi for reading methods courses from a national sample of teacher education programs, concluding that relatively few programs were covering the "science of reading," as described in national reports.

20. During the period of this study, nine of the institutions had already received National Council for Accreditation of Teacher Education (NCATE) accreditation and seven were in the process of applying for NCATE accreditation.

21. Meyer and Rowan (1991) provide the following definition of formal structure:

> Formal structure is a blueprint for activities which includes, first of all, the table of organization: a listing of offices, departments, positions, and programs. These elements are linked by explicit goals and policies that make up a rational theory of how, and to what end, activities are to be fitted together. (p. 42)

In the context of teacher education, such formal structures would include, for example, the courses offered, the organization of field experience, candidate admissions, and faculty hiring policies.

22. Such specialization is more difficult in undergraduate programs, in part because many undergraduates do not enter colleges or universities with a specific intention of becoming teachers.

23. The composition and structure of teacher preparation programs that supply teachers to New York City public schools and the local nature of the teacher educator workforce may differ from what exists in other parts of the United States and could well be different from what exists for other large urban areas. Because this study is the first of its kind, we have little basis for comparison or generalization. We believe that many of the relationships discussed may well generalize, and we look forward to research that explores these questions in other regions. So although we raise important policy questions, we believe there is still too little research on which to base any meaningful policy changes. Future research could replicate the kind of research we have done in New York to other large urban centers.

24. The next stage of this work will explore how programs can make a difference to outcomes for teachers and students by linking features of programs

to value-added measures of student achievement and to teacher retention.

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