Recruiting Teachers for the 21st Century: The Foundation for Educational Equity

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Over the next decade, the United States will need to hire 2 million teachers due to rising enrollments, growing retirements, and high rates of attrition for beginning teachers. Although only half to two-thirds of these hires are expected to be newly prepared teachers (with the remainder from a reserve pool of teachers who are returning to the classroom), this period represents one of the largest periods of increase in teacher demand in the past century. By 2005, America's schools will be serving more children (54 million) than ever before, and the total number of teachers will grow to over 3.5 million (up from 2.5 million in 1980). In some communities, especially in high-poverty urban and rural locations, schools already report difficulties in recruiting qualified teachers in critical subject areas such as physical science, mathematics, bilingual education, and special education, and across the nation there is a need for far more teachers of color to meet schools' desires for a teaching force that reflects the growing diversity of America (Darling-Hammond, 1997a).

As the 21st century approaches, it is increasingly clear that schools must become dramatically more successful with a wide range of learners if many more citizens are to acquire the sophisticated skills they need to participate in a knowledge-based society. Most reformers now agree that increasing teachers' expertise and effectiveness is critical to the success of ongoing efforts to reform American education. The kind of pedagogy needed to help students to think critically, create, and solve complex problems as well as to master ambitious subject matter content is much more demanding than that needed to impart routine skills. And teachers are being asked to achieve these goals for *all* children, not just the 10 or 20% who have traditionally been selected into "gifted and talented" or "honors" programs. Only very knowledgeable and skillful teachers who are able to respond appropriately to students' needs can enable diverse learners to succeed at these much more challenging learning goals.

As a consequence of these trends, teacher recruitment is an increasingly important issue for school systems. If students are to be well-served, schools must be able to recruit teachers who will be effective in the classroom and who will stay in teaching over the course of a career. None of these issues is nonproblematic in the United States. Research on teacher education, licensing, and hiring practices reveals the use of idiosyncratic criteria, highly variable standards, and cumbersome procedures that can discourage the selection and placement of the best

candidates (Wise, Darling-Hammond, and Berry, 1987; Darling-Hammond, Wise, and Klein, 1999). Similarly, the extent to which teachers are well-prepared and the degree to which newly hired teachers are supported and assessed in their initial years of teaching can determine whether or not they remain in teaching and whether they are able continuously to develop their knowledge, skills, and dispositions (Bolam, 1995). Recent research suggests, for example, that, while as many as 30% of new teachers leave within five years of entry (NCES, 1997), high quality preparation, induction and mentoring programs lower attrition rates for new teachers and can enhance teacher effectiveness (Darling-Hammond, 1997a).

Although the United States faces many challenges in terms of recruiting, selecting, and inducting qualified teachers for all of its communities, many promising programs for recruiting and retaining well-prepared teachers have been launched across the country. There are a variety of innovative programs for meeting classroom diversity challenges, scores of universities working with professional development schools that offer markedly improved preparation for new prospective teachers, and a growing number of model peer assistance and evaluation programs for novice teachers.

As a nation we excel at initiating innovative demonstration programs. However, useful experiments frequently remain as exceptions to the norm, rather than as vehicles for broader reform. What has been lacking in most districts, states, and at the national level is a framework for policy that creates a coherent infrastructure of recruitment, preparation, and support programs that connect all aspects of the teacher's career continuum into a teacher development system that is linked to our education goals and ensures an adequate supply of high-quality teachers. This paper outlines the elements of such a framework.

The National Commission on Teaching and America's Future (1996) summarized the dimensions of this challenge, pointing to deficiencies in the way the nation develops education's human resources, its teachers and other education personnel: Recruitment is ad hoc; teacher preparation is uneven and often insufficiently aligned with the needs of contemporary classrooms and diverse learners; selection and hiring are too often disconnected from either specific school district goals or a more complex and rigorous image of quality teaching; induction and mentoring are frequently scattershot — and likely to be the first programs to be eliminated when districts cut their budgets. The Commission argued that, given growing teacher demand, changing student

demographics, and more ambitious school improvement goals, the country needs more thoughtful, sustained, and systemic approaches to teacher recruitment, development, and support.

The elements of a systemic approach include revamped pre-service preparation programs; more innovative and coordinated approaches to teacher recruitment, selection and hiring; a national system for licensing and distributing teachers; and more supportive induction in the early years of teaching. (NCTAF, 1996). Policies that reinforce well-grounded conceptions of teaching and help teachers acquire the teaching knowledge implied by such standards would allow policy makers and practitioners to use common measures in making decisions about who will teach and how they will be prepared and supported. This would also create a more coherent training and hiring system that enables teachers to get from the places they are prepared to the places where they are needed. It would also heighten the overall competence of the teaching force by arming teachers with the kinds of knowledge and skills they need in order to succeed once they are hired.

Teacher Recruitment and Educational Equality

Few Americans realize that the U.S. educational system is one of the most unequal in the industrialized world, and students routinely receive dramatically different learning opportunities based on their social status. In contrast to European and Asian nations that fund schools centrally and equally, the wealthiest ten percent of school districts in the U.S. spend nearly ten times more than the poorest ten percent, and spending ratios of 3 to 1 are common within states. Poor and minority students are concentrated in the least well funded schools, most of them located in central cities and funded at levels substantially below those of neighboring suburban districts. (Taylor & Piche, 1991; Kozol, 1991). In combination, policies associated with state school funding, district resource allocations, and school-level tracking leave minority students with fewer and lower quality books, curriculum materials, laboratories, and computers; significantly larger class sizes; less qualified and experienced teachers; and less access to high quality curriculum (for a review, see Darling-Hammond, 1998).

The fact that the least qualified teachers typically end up teaching the least advantaged students is particularly problematic. Recent studies have found that differences in teacher quality may represent the single most important school resource differential between black and white children, and such differences explain at least as much of the variance in student achievement as

socioeconomic status. In fact, disparate educational outcomes for poor and minority children are much more a function of their unequal access to key educational resources, especially skilled teachers and quality curriculum, than they are a function of race or class. Thus, the question of how to recruit, prepare, and retain a highly-qualified, diverse teaching force for all schools is critical for both educational equity and excellence.

Recent studies of teacher effects at the classroom level have found that differential teacher effectiveness is a strong determinant of differences in student learning, far outweighing the effects of other classroom variables (Sanders and Rivers, 1996; Wright, Horn, and Sanders, 1997; Jordan, Mendro, and Weerasinghe, 1997). These studies also find troubling indicators for educational equity, including indications that African American students are nearly twice as likely to be assigned to the most ineffective teachers and about half as likely to be assigned to the most effective teachers.

In an analysis of 900 Texas school districts, Ronald Ferguson (1991) found that teachers' expertise - as measured by scores on a licensing examination, master's degrees, and experience - accounted for about 40% of the measured variance in students' reading and mathematics achievement at grades 1 through 11, more than any other single factor. The effects were so strong and the variations in teacher expertise so great, that, after controlling for socioeconomic status, the large disparities in achievement between black and white students were almost entirely accounted for by differences in the qualifications of their teachers. In a similar analysis in Alabama, Ferguson and Helen Ladd (1996) found that, together, teacher qualifications and class sizes accounted for more of the predicted differences between districts scoring in the top and bottom quartiles in mathematics than the combined effects of poverty, race, and parent education.

In North Carolina, Strauss and Sawyer (1986) found a similarly strong influence of teacher quality. After taking account of community wealth and other resources, teachers' scores on the National Teacher Examinations had a large effect on students' success on the state competency examinations: A 1% increase in teacher quality (as measured by NTE scores) was associated with a 3 to 5% decline in the percentage of students failing the exam. The authors' conclusion is similar to Ferguson's:

> Of the inputs which are potentially policy-controllable (teacher quality, teacher numbers via the pupil-teacher ratio and capital stock) our analysis indicates quite clearly that

> improving the quality of teachers in the classroom will do more for students who are most educationally at risk, those prone to fail, than reducing the class size or improving the capital stock by any reasonable margin which would be available to policy makers (p. 47).

Reviews of research over the past 30 years have concluded that both subject matter knowledge and knowledge of teaching are important to teacher effectiveness and that fully prepared and certified teachers are better rated and more successful with students than teachers without this preparation (Ashton and Crocker, 1986, 1987; Darling-Hammond, 1992, 2000; Druva and Anderson, 1983; Evertson, Hawley, and Zlotnik, 1985; Greenburg, 1983). As Evertson and colleagues conclude in their research review:

> (T)he available research suggests that among students who become teachers, those enrolled in formal preservice preparation programs are more likely to be effective than those who do not have such training. Moreover, almost all well planned and executed efforts within teacher preparation programs to teach students specific knowledge or skills seem to succeed, at least in the short run.

However, the number of newly hired teachers entering the field without adequate training has been increasing in recent years. In 1994, for example, 27% of new entrants to public school teaching had not completed the requirements for a state license in their main assignment field. The least qualified teachers were most likely to be found in high-poverty and predominantly minority schools and in lower-track classes. In fact, in schools with the highest minority enrollments, students had less than a 50% chance of getting a science or mathematics teacher who held a license and a degree in the field he or she taught (Oakes, 1990).

Studies of underprepared teachers – those who lack teacher education or who enter through short term alternative routes featuring only a few weeks of training -- consistently find that such teachers are less effective with students and that they have difficulty with curriculum development, classroom management, student motivation, and teaching strategies. With little knowledge about how children grow, learn, and develop, or about what to do to support their learning, these teachers are less likely to understand student learning styles and differences, to anticipate students' knowledge and potential difficulties, or to plan and redirect instruction to

meet students' needs. They are also less likely to see it as their job to do so, often blaming the students if their teaching is not successful (for reviews, see Darling-Hammond, 1992; 2000). Thus, policies that resolve shortages by supporting the hiring of unprepared teachers serve only to exacerbate the inequalities low-income and minority children experience.

Sources of School Staffing Problems

Historically, policies that govern teacher hiring and the knowledge and skills required of teachers have been strongly influenced by supply and demand. These have been framed by efforts to keep salaries relatively low and supply plentiful (Goodlad, 1990). In recent years, with growing demand, questions have resurfaced as to whether or not teacher shortages actually exist. Those who argue "yes" and those who argue "no" are both correct. In times of high demand in a labor market that operates with a variety of barriers and inequalities, overall surpluses can exist side-by-side with local shortages.

Despite reports of shortages in some areas, the United States annually produces many more new teachers than its schools hire. Only about 65 to 70% of newly prepared teachers enter teaching jobs after they graduate (NCES, 1986), and many report that they cannot find jobs. In recent years, about one-half of all newly hired teachers have been beginners, since many districts prefer to hire experienced teachers and fill vacancies with teachers transferring from other schools or returning to the profession. Meanwhile, however, significant apparent shortages exist by locality, subject field, school level, and quality (Boe and Gilford, 1992). For example the American Association of Employment in Education (AAEE, 1997) reports surpluses of teachers in most fields in the Northwest, Rocky Mountain, Northeast, and Middle Atlantic states alongside shortages of teachers in most fields in Alaska and a noticeable number of fields in the West and South. In its annual studies, AAEE finds that elementary education has been a field of national surplus for a number of years, along with fields like English, Art, Business Education, Health Education, Physical Education, and Social Studies. Fields like mathematics, physical science, special education, and bilingual education register mild to serious levels of shortage across different regions of the county. Difficulties in finding such teachers are most common in inner cities and in the rapidly growing South and West (Akin, 1989; Ingersoll, 1997; AAEE, 1997).

Although there are many new teachers who cannot find jobs, there are also many job openings for which schools have difficulty finding teachers. For example, in 1994, more than 40% of schools with vacancies in mathematics, special education, bilingual education or English as a second language, physical science, life science, or foreign languages had difficulty filling the positions. In addition, the proportion of minority teachers (about 15%) continues to be far less than the proportion of minority students (just over 33% in public schools) and far less than most school districts would like to hire. The sharp decrease in the number of college students of color choosing teaching during the 1970s and '80s, when other occupations with higher salaries became open to minorities, has been reversed in recent years, but not nearly enough to meet demand. In 1994, teachers of color comprised 15% of beginners with 1 to 3 years of experience. However, improvements in the recruitment of Native American, Asian, and Hispanic teachers were offset by continuing declines in the numbers of African American teachers entering teaching until well into the 1990s (Darling-Hammond, Dilworth, and Bullmaster, in press).

While teachers of color are in too-short supply, many teacher education candidates have had little first-hand experience with cultural diversity. Many students, both white and minority, still attend schools that are substantially segregated by race (Orfield, Monfort, and Aaron, 1989), and 44% of all American schools have no minority teachers (NCES, 1997). To a large extent, these are schools most prospective teachers attend. Although NCATE-accredited colleges must, as a condition of accreditation, seek to recruit diverse student bodies and attend to issues of cultural responsiveness in teaching, most schools of education are not accredited. Many continue to provide a curriculum and learning environment that mirrors the homogeneous environment in which future teachers grew up. In combination, these factors can leave teachers unprepared for the students and the settings where most job opportunities are and can exacerbate the recruitment and retention difficulties experienced by many urban school systems.

In almost every field, schools with the largest numbers of low-income and minority students are much more likely than other schools to report that they have difficulty filling vacancies (NCES, 1997). These schools are also much more likely than others to fill vacancies with unqualified teachers, substitutes, or teachers from other fields, or to expand class sizes or cancel course offerings when they cannot find teachers.

Shortages of qualified teachers translate into enlarged class sizes, lack of access to higher level courses, and poorer teaching. In the nation's poorest schools where hiring is most lax and teacher turnover is constant, the results are disastrous. Thousands of children are taught throughout their school careers by a parade of teachers without preparation in the fields they teach, inexperienced beginners with little training and no mentoring, and short-term substitutes trying to cope with constant staff disruptions. It is more surprising that some of these children manage to learn than that so many fail to do so.

These "shortages," though, are largely a problem of distribution rather than of absolute numbers. Wealthy districts that pay high salaries and offer pleasant working conditions rarely experience shortages in any field. Districts that serve low-income students tend to pay teachers less and offer larger class sizes and pupil loads, fewer materials, and less desirable teaching conditions, including less professional autonomy. In 1994, for example, the best-paid teachers in high-poverty schools earned 35% less than those in low-poverty schools (Darling-Hammond, 1997a). Teaching conditions are also distributed differently across different types of schools and students. The effects of lower salaries are further exacerbated by the non-professional working conditions many city schools offer, ranging dysfunctional organizational conditions to lower levels of teacher participation in decision making. Teachers in more advantaged communities have much easier working conditions, including smaller class sizes and pupil loads, and much more control over decision making in their schools (NCES, 1997).

Teachers in central city schools and those in schools with higher minority enrollments are least likely to report having influence on school policies in any category and most likely to believe that they have too little power at the school level (Metropolitan Life, 1993). Teachers in high-poverty schools are much less likely than others to say that they have influence over decisions concerning curriculum, texts, materials, or teaching policies. They are also much less likely to be satisfied with their salaries or to feel they have the necessary materials available to them to do their job (Darling-Hammond, 1997a). This compounds the other disincentives for teaching in these schools which feed, in turn, into the disparities in teacher qualifications and teaching quality that students in different schools experience. Not surprisingly, attrition rates are higher in high-poverty than low-poverty schools, and teachers who have left high-poverty

schools are more than twice as likely as those in low-poverty schools to leave because of dissatisfaction with teaching (Darling-Hammond, 1997a).

Administrative leadership also influences the supply and turnover of teachers. Principals' leadership has a great deal to do with which schools are hard-to-staff schools. Study after study has noted that good schools in low-income communities have strong principals who serve as instructional leaders. While resources and working conditions certainly matter, research suggests that teachers choose to enter and remain in schools where they feel well supported in their efforts to teach, irrespective of student wealth or poverty, and that schools with poor leadership typically have difficulty attracting and retaining teachers (Sclan, 1993; NCES, 1997). In national surveys of teachers about their decisions to remain in teaching, administrative supports matter far more than the characteristics of the student body or even variables like student behavior and parent involvement (Darling-Hammond and Sclan, 1996). Whether and how school principals provide opportunities for involvement in decision making, for collaborative work with other teachers, and for engagement in curriculum building and other professional tasks, strongly determine whether beginning teachers plan to remain in the profession (Sclan, 1993).

Finally, there is very different access to the kinds of mentoring supports that new teachers need, especially in challenging environments. Traditionally, the newest teachers are assigned to the neediest schools and students and are left, without mentoring, to sink or swim. Many leave after a short time, and others learn to cope rather than to teach effectively. Like all other education policies, however, access to high-quality induction programs varies widely across the country. More than 3/4 of beginners report having experienced induction supports in states that put such programs in place several years ago -- Connecticut, Florida, Indiana, Kentucky, Missouri, North Carolina, Oklahoma, and Pennsylvania. However, in states like Rhode Island and Massachusetts that have relied on local initiatives, fewer than 15% of beginning teachers have received any kind of systematic mentoring. Inner city schools that have stretched resources and disproportionate numbers of inexperienced teachers (and commensurately fewer expert veterans) are least likely to offer adequate mentoring supports.

State and district hiring practices matter, too. Some states and districts create their own shortages by implementing cumbersome licensing and hiring procedures that create extensive barriers and delays in the hiring of qualified people. Much hiring of unqualified teachers is a

function of hiring practices rather than labor market shortages (NCTAF, 1996). School districts do not always hire the most qualified and highly-ranked teachers in their applicant pools due to inadequate management information systems and hiring procedures that discourage good applicants by large numbers of steps in the application process, demeaning treatment, unreturned phone calls, and lack of timely action (Wise, Darling-Hammond, & Berry, 1987). Some prospective teachers report that they decided not to enter teaching at all after having their files lost, experiencing interviews in which their qualifications were barely reviewed, failing to receive responses to repeated requests for information, and receiving late notification of job availability.

These are particular problems in large urban districts. Reports of vacancies and information on candidates are not always accessible to recruits or to district decision-makers. Hiring procedures sometimes include 50 or more discrete steps and take many months to complete. Late budget decisions from state or local funders and union contracts requiring placement of all internal teacher transfers prior to hiring of new candidates can delay hiring decisions until late August or September, when well-qualified candidates have since decided to take other jobs. As a result of these inefficiencies, large urban districts often lose good candidates both to other districts and to nonteaching jobs. Thus, many districts that may have successfully recruited outstanding candidates do not actually hire them, resulting in a loss of the very teachers they so desperately need (National Commission on Teaching and America's Future, 1996; Wise, Darling-Hammond, & Berry, 1987; see also, Pflaum and Abramson, 1990).

Other state and school district practices can also undermine high quality teacher recruitment and development. For example:

- Most districts impose a cap on the salaries they offer experienced candidates; as a consequence, highly-educated and experienced teachers are forced to take a cut in pay if they move to a new locality and want to continue to teach. Many choose instead to change professions.
- States maintain varying requirements for licensure and few allow for reciprocity in licensing or the transfer of pension benefits.
- Few districts provide reimbursement for travel and moving expenses.

- Many districts place beginning teachers in the most difficult schools with the highest rates of teacher turnover, the greatest numbers of inexperienced staff, and the least capacity to support teacher growth and development. Without induction supports, many teachers leave.

Just as policies can create shortages, they can also eliminate them. Case studies of districts that are successful in hiring the teachers they most want and need have found that they have developed proactive outreach systems for recruiting from local colleges and from other regional and national sources, streamlined personnel systems that use sophisticated information technology to make information about vacancies available to candidates and information about candidates readily available to decision makers, and systems for projecting vacancies and making offers early in the spring, and strategies for ensuring that those who receive offers are made to feel welcome, wanted, and well-inducted into the school district (Snyder, 1999; Wise, Darling-Hammond, & Berry, 1987).

Proactive teacher compensation, licensing, and recruitment policies can help ensure an adequate supply of well-qualified teachers at the state level as well. For example, Connecticut took significant strides to recruit and retain qualified teachers in 1986. By raising and equalizing beginning salaries while simultaneously raising standards for teacher education and licensing and introducing a well-managed teacher induction program, the state eliminated shortages and created surpluses of teachers by 1990 (Darling-Hammond, 1997a).

Unfortunately, the responses of many governments continue to be to lower or eliminate standards for entry rather than to create incentives that will attract and retain an adequate supply of teachers. As a consequence, this era is developing an even more sharply bi-modal teaching force than ever before. While some children are gaining access to teachers who are more qualified and well-prepared than in years past, a growing number of poor and minority children are being taught by teachers who are sorely unprepared for the task they face. This poses the risk that we may see heightened inequality in opportunities to learn and in outcomes of schooling -- with all of the social dangers that implies -- at the very time we most need to prepare all students more effectively for the greater challenges they face. If the reforms of schooling that are emerging are to succeed, and if students are to have a fair shot at meeting the high standards states and districts are increasingly insisting they meet, teaching as an occupation must be able to recruit and retain able and well-prepared individuals for all classrooms, not just the most affluent.

What are the alternatives?

While there are many challenges, policy can make a difference. For example, in the post-Sputnik years, highly focused teacher recruitment programs created new pathways for attracting and preparing teaching talent (e.g., National Defense Education Act of the 1950s and the Education Professions Development Act of the 1960s). During the early 1970s, the federal Career Opportunities Program provided a total of $129 million to support 15,000 teacher aides on pathways into teaching and the Urban Teachers Corps, along with federal support for MAT programs, supported pathways for college graduates into teacher preparation and teaching. National Science Foundation initiatives targeted the preparation and recruitment of mathematics and science teachers. In part because of these programs, shortages of teachers that began to appear in the 1960s were eliminated by the mid-1970s. Such financial incentives offered by federal and state governments have also ameliorated shortages of physicians at several points in recent decades. In more recent years, many states and districts have overcome shortages even in central cities. Proactive policy can make a difference in the availability of qualified teachers to all schools.

Salaries and Supports

Clearly, recruitment into teaching is substantially a function of the competitiveness of wages and other attractions to the job. In fact, based on his research in Texas, Ron Ferguson (1991) argued that districts with greater numbers of low-income students would need to pay a higher salary to attract the same quality of teachers as would districts with a more advantaged student body. A few districts have experimented in recent years with bonuses or salary increments to attract recruits for shortage fields or hard-to-staff schools, although the number trying any of these strategies still represents only about 10% of all school districts.

There is little evidence about the effectiveness of most of these targeted efforts. In his research on what are sometimes called "combat pay" programs, James Bruno (1986) found that incentives such as paying bonuses to teachers in hard-to-staff schools are not sufficient to retain teachers or enhance their teaching. Rather, they "tend to be superficial approaches to a problem that demands careful study to determine why teachers are leaving certain schools in the first place." Bruno identified several problems that have resulted from this strategy: draining teachers

from similar schools that do not qualify for combat pay; district difficulty maintaining the financial obligation over time (particularly once special funding has expired); and short-sightedness that leaves teachers, once hired, on their own in classrooms with little support or supervision to ensure that the goals of the program -- instructional improvement -- are being met. He concluded that if retention and classroom performance are not also addressed, combat pay or similar compensation-incentive programs will not be successful in improving students' education.

A more systematic approach seeks to address teacher salaries and supports through reallocation of state resources. One major cause of teacher shortages in cities and poor rural districts is that few states have equalized school funding or teachers' salaries so that districts can compete equally in the market for well-prepared teachers. In 1986, Connecticut sought to rectify this situation, having experienced severe shortages of qualified teachers in its cities for more than two decades. With a major investment through its Educational Enhancement Act, Connecticut spent over $300 million in 1986 to boost minimum beginning teacher salaries in an equalizing fashion that made it possible for low-wealth districts to compete in the market for qualified teachers. This initiative eliminated teacher shortages in the state, even in the cities, and created surpluses of teachers. At the same time, the state raised licensing standards, instituted performance-based examinations for licensing and a state-funded beginning teacher mentoring program, required teachers to earn a master's degree in education for a continuing license, invested in training for mentors, and supported new professional development strategies in universities and school districts. Since then, Connecticut has posted significant gains in state rankings, becoming one of the top scoring states in the nation in mathematics and reading, despite an increase in the proportion of students with special needs during that time. Both majority and minority students in Connecticut score significantly above their counterparts in other states in reading achievement by 1998. Equalization of salaries and improvements in teacher education and induction have led to similar reductions in teacher shortages and improvements of teacher qualifications in states like Kentucky and North Carolina as well, also accompanied by significant improvements in student achievement (Darling-Hammond, 2000).

Teacher Recruitment

It is also important to create viable pipelines into teaching. Successful strategies include pathways at the precollegiate, community college, college, and post-college levels.

Precollegiate Pathways. While there are many factors that motivate young people to stay in school, graduate, and enroll in an institution of higher learning, some studies suggest that career choices are often made at a much younger age than previously thought (Page and Page, 1982; and Metropolitan Life, 1989) and that teachers play an important role in determining whether young people consider entering the teaching profession (Lortie, 1975; Berry, 1985). Partly as a result of these findings, literally hundreds of programs have been initiated by school districts, colleges, professional associations, regional collaboratives, and states to interest young people in teaching. These offer teaching, tutoring, and mentoring experiences in a variety of settings. Many are designed to identify high ability students and promising students of color in order to interest them in teaching careers. Many directly confront images of teaching as low status by developing messages that emphasize the importance as well as the intellectual complexity of teaching.

A 1995 national survey of pre-collegiate teacher recruitment efforts located 253 programs serving over 50,000 students, 64% of whom were young people of color (Recruiting New Teachers, 1996a). Among the more well-known of these programs are South Carolina's Teacher Cadet Program, Teach Boston, and the Summerbridge National Project.

The most successful such programs -- as defined by students' positive views of teaching, college-going rates, and rates of choosing teaching as a career -- possessed some common characteristics. They:

- developed clear entrance requirements and employed high expectations for their participants;
- used "apprenticeship"-style activities to prepare and motivate their students for teaching;
- developed curriculum that taught and modeled a conception of the teaching profession emphasizing teacher leadership and school reform;
- helped prospective teachers make the transition to college and teacher education;
- developed the capacity to track their students and submit the program to an ongoing evaluation; and

- made a long-term commitment to their students (Recruiting New Teachers, 1993).

Community College Articulation Programs. There are many sources of prospective teachers aside from students who are currently entering or enrolled in 4-year undergraduate colleges. For example, approximately 5 million students are enrolled in the nation's community colleges, 23 percent of whom are students of color and most of whom are first-generation college attendees, a traditional source of recruits into teaching. This represents 40 percent of the nation's post-secondary enrollment. Given the numbers of two-year college students and the rather meager policy attention directed toward this potential pool of teachers, it is not surprising that community colleges have been called "a missing rung" on the teacher education ladder (Anglin et. al., 1993).

In several states, 4-year colleges have worked to create articulation agreements with community colleges so that students can begin taking some of the appropriate coursework for a teaching credential in their first two-years of college, and be assured that it will apply to their college degree when they transfer. Such programs may include a special sequencing of coursework (including basic skills, subject matter content and introductory education courses) and on-the-job training. Much more needs to be known about the characteristics and outcomes of such programs and about strategies associated with successful models.

Paraeducator Pathways into Teaching. The nation's nearly 500,000 paraeducators, commonly known as teachers' aides, represent another promising source of prospective new teachers who are representative of and rooted in the communities in which they serve. In 1995, one survey identified more than 149 programs for preparing paraeducators for teaching nationwide. Of nearly 9,000 current participants, 67% were prospective teachers of color. This figure represents nearly half the number of minority teachers hired annually in the United States — and nearly as many minority recruits as the nation's annual production of minority bachelors degrees in education (Recruiting New Teachers, 1996b).

Paraeducator programs appear to attract highly motivated individuals already familiar with challenging classroom environments. Programs provide their candidates with a range of supports required to help them succeed in collegiate programs, ranging from tuition aid and stipends to mentoring, advisement, and tutoring assistance. Some bridge the community college to 4-year college divide. Others operate within the context of traditional undergraduate

programs. Still others carry candidates from college through graduate level teacher education programs. Perhaps because these graduates possess a high degree of readiness, are already involved in schools, and are well-supported, they are highly likely to enter and stay in teaching. The paraeducator programs identified exhibit significantly lower rates of attrition than many traditional teacher education programs. While attrition estimates from traditional undergraduate preparation programs can average about 30%, the median attrition rate from paraeducator programs is only 7 percent (Richburg, et al, forthcoming).

Nearly half of the surveyed programs indicated a significant focus on special education while almost two-fifths of all programs reported bilingual teacher preparation as an area of focus — two fields in which many schools report shortages of qualified candidates. Three-quarters of all paraprofessional programs serve urban school systems, where the demand for a more qualified, diverse, and culturally responsive teaching force is particularly acute.

One example of a promising paraeducator pathway program is the Latino Teacher Project, which is designed to increase the number of Latino teachers by creating a career track for practicing teacher assistants in the Los Angeles Unified School District. In 1996, the LTP enrolled approximately 81 paraeducators. These participants must be above average students, are prepared in cohort of peers in a mix of school- and university-based experiences, and are assigned a mentor. They also receive a small stipend. This program emphasizes several key factors associated with effective teacher education by selecting teacher candidates on the basis of their prior success with students and extending preparation through an "elongated teaching practicum" (Hentschke, 1995).

Collegiate Recruitment. During the 1960s and '70s, the federal government created a wide arrray of recruitment initiatives to entice college students into teaching. These included scholarships and forgivable loans for students who prepared to teach, along with innovative preparation programs, such as the Urban Teachers Corps and Master of Arts in Teaching programs, to help them do so. Although the funding for these programs was discontinued in the early 1980s, some states created their own recruitment incentives when demand for teachers began to grow again in the late 1980s.

One such initiative is the North Carolina Teaching Fellows program. The Fellows program, funded by the state legislature at $8 million a year, provides $20,000 in service

scholarships to 400 high-ability high school seniors a year who enroll in intensive teacher education programs throughout the state that include special coursework and summer programs in addition to the usual preparation teaching entrants would receive. The Fellows do not have to pay back their scholarship if they teach for at least four years in North Carolina schools. The program has recruited more than 4,000 Fellows to teaching – a disproportionate number of whom are teachers of color and male teachers and many of whom teach in high-need fields like math and science and in urban school districts.

When the program was recently studied, 75% of all Fellows had completed their four year obligation and were still teaching in the public schools (Norris, 1998). In a recent evaluation, principals reported that the Fellows' first year classroom performance far exceeded that of other new teachers in every area assessed. The Fellows, who had had far more extensive preparation than most other new teachers in areas relating to student diversity and assessment, felt that their teacher education programs had prepared them well for the multiple and demanding roles they play as teachers. They pointed to the importance of this preparation and also noted their desires for additional learning opportunities (Berry, 1995).

Several other states have instituted scholarship programs similar to the Fellows program, and at least sixteen other states offer some form of loan forgiveness for prospective teachers. A few offer added incentives – such as shorter payback periods or specifically earmarked scholarships -- for those who prepare to teach in high need fields or in high need locations.

Post-baccalaureate Alternatives. There has been a dramatic increase in the number of post-baccalaureate alternatives that function outside the parameters of the traditional 4-year undergraduate teacher education program. Typically, such programs are designed to expedite the licensure process for teacher candidates who already have bachelor's degrees and subject-matter expertise, but there is wide variation in their quality, and considerable controversy regarding their impact. More than 40 states have created alternative routes to teaching with requirements ranging from a few weeks of training in the summer before full-time teaching (what are called here "short-term routes") to a full master's degree with extensive supervision and support in learning how to teach. A few states have authorized programs offered by school districts or the state itself; these typically require little formal preparation and rely instead on on-the-job supervision. However, studies of such programs have found that this supervision rarely

materializes as intended, so that many such recruits must learn to teach by trial-and-error largely on their own (Darling-Hammond, Hudson, and Kirby, 1989; Gray and Lynn, 1988; Smith, 1990a, 1990b; Wright, McKibbon, & Walton, 1987). These quick-entry alternatives generally serve urban areas and their recruits disproportionately work with low-income and minority students.

In a RAND Corporation study of nontraditional recruits into teaching, the experiences of candidates from these two types of alternatives were compared. The RAND study, like others, found that the candidates who were prepared in the more extensive programs were much more satisfied than those in the short summer programs with the amount and quality of preparation they received, reported fewer difficulties when they entered classroom teaching, and were more likely to say they planned to stay in the profession (Darling-Hammond, Hudson, & Kirby, 1989).

Project Promise — a ten-month alternate route program for mid-career professionals — is one example of the higher quality extended program. The program recruits a small cohort of career-changers from fields ranging from engineering and the health professions to journalism and the liberal arts. Candidates bring bachelor's degrees and substantial professional experience in other careers to a competency-based program which combines course work and field experiences rural and urban high schools. An integrated approach to theory and practice is emphasized; both college faculty and school-based mentors regularly visit (and coach) program graduates in their initial teaching assignments, creating an extended preparation/induction period that is both school- and university-based. Evidence suggests that all of the program's graduates readily find teaching jobs; their evaluations are remarkably strong; and virtually all have remained in the profession (Richburg, et al., forthcoming). Teachers for Chicago is another high-quality pathway that provides systematic support for recruits into Chicago schools from a number of universities that provide systematic coursework toward a masters degree in education linked to supervised internships mentored by expert veteran teachers. After several years of operation, retention rates exceed 75 percent, far above those of less thoughtful pathways.

By contrast, studies of teachers admitted through quick-entry alternatives note that their generally high attrition rates are partly a function of the lower commitment to teaching required by such programs and partly caused by inadequate preparation that causes many candidates to find teaching too stressful (Lutz and Hutton, 1989; Roth, 1986; Stoddart, 1992). Nationally, such

recruits are less likely to stay in teaching, but more likely to be teaching in inner-city schools that serve economically disadvantaged students (Shen, 1997). For example, Teach for America statistics show that of those who started in New York City in 1990, 58% had left by the third year. The Maryland State Department of Education reported that 62% of TFA members who started in Baltimore in 1992 had left within two years. Among recruits to Los Angeles' Teacher Trainee Program , a state evaluation found that 20 percent dropped out before completing the training, 20 percent left within the first two years, and 20 percent more were not deemed ready for employment within two years (Wright, McKibbon, and Walton, 1987). Of those who entered teaching, 53 percent had left within six years of program operation (Stoddart, 1992). In an evaluation of Dallas alternative certification program, only 54 percent of recruits had successfully "graduated" to become full-fledged teachers after their first year as interns, and only 40 percent of these interns said they planned to stay in teaching, as compared to 72 percent of traditionally trained recruits (Lutz & Hutton, 1989).

Recruits from short-term alternative certification programs have been found to have difficulty with curriculum development, pedagogical content knowledge, teaching methods, classroom management, and student motivation (Lenk, 1989; Feiman-Nemser and Parker, 1990; Grossman, 1989; Mitchell, 1987). These findings are reflected in a study of alternative certification candidates in New Hampshire, who receive three years of on-the-job training in lieu of college preparation, which found they were rated by their principals significantly lower than university-prepared teachers on instructional skills and instructional planning, and they rated their own preparation significantly lower than did the university candidates (Jelmberg, 1995). Similarly, several evaluations of the Teach for America program that provides recent college graduates with 3 to 8 weeks of summer training prior to placing them as teachers in urban or rural classrooms found that the recruits lack instructional skill and tend to engage in practices that are developmentally and cognitively inappropriate for their students (Grady, Collins, and Grady, 1991; Roth, 1993; Texas Education Agency, 1993).

These difficulties affect teachers' students as well. Gomez and Grobe's (1990) study of the performance of alternative certification candidates in Dallas who were prepared in a summer program prior entering teaching found that candidates were rated lower than traditionally trained new teachers on such factors as their knowledge of instructional techniques and instructional

models. A much greater share -- from 2 to 16 times as many -- were rated "poor" on each of the teaching factors evaluated. The effects of this unevenness showed up most strongly on student's achievement in language arts, where the achievement gains of students of alternatively certified teachers were significantly lower than those of traditionally trained teachers.

Alternative routes to teaching represent a significant policy challenge and opportunity. On the one hand, thoughtfully designed post-baccalaureate and mid-career entry programs have proved successful in attracting a talented and diverse cadre of new recruits into teaching. Many are developing extended clinical preparation tightly linked to critical coursework for teaching and offer examples of improved induction. On the other hand, alternative licensure programs that short-circuit much of the coursework and supervised clinical experience needed to learn to teach may ultimately undermine the both the retention of teachers and their ability to teach well.

The Importance of Quality in Preparation. Nearly every aspect of teaching work has become more complex and challenging in recent years. New standards for students require that teacher have deep and flexible knowledge of their subject matter and wide repertoire of teaching skills to enable all of their students to learn to high levels. At the same time, today's teachers encounter a range of classroom and social conditions—multilingual classrooms, increased mainstreaming of special education students, growing numbers of students in poverty and from single-parent families—that compound an already complex set of professional challenges. Given these new challenges, it is imperative that society provide teachers with the much greater access to knowledge about teaching and learning before and during their careers.

One important consideration in solving problems related to the supply of qualified teachers is the fact that better prepared teachers appear more effective, and they enter and stay in teaching at much higher rates. For example, graduates of newly developed 5-year programs are more satisfied with their preparation and are viewed by their colleagues, principals, and cooperating teachers as better prepared than those who have pursued traditional 4-year programs (Andrew, 1990; Andrew & Schwab, 1995; Arch, 1989; Denton & Peters, 1988; Dyal, 1993; Shin, 1994). Studies show that these 5-year programs have entry and retention rates significantly higher than those of 4-year undergraduate programs, which in turn have retention rates significantly higher than those of short-term alternative certification programs or emergency routes. These differences are so substantial that it actually proves less expensive, once the costs

of preparation, recruitment, induction, and replacement due to turnover are taken into account, to prepare a teacher in a high-quality program than to train a teacher through a quick route that leads to high turnover. (See figure 1.)

[Figure 1: Average Retention Rates for Different Pathways into Teaching]

Analyses of these programs suggest that among the factors important to this outcome are the intensive supports for learning to teach provided by the joint acquisition of a disciplinary bachelors degree and masters in education plus a year-long student teaching experience, often pursued in a professional development school. This extended clinical experience, when interwoven coursework in teaching methods, allows candidates to develop greater levels of skill and experience a much less traumatic first year of teaching (Breidenstein, 1998; Andrew & Schwab, 1995). Thus, it is more sensible and cost-effective to recruit candidates into high-quality preparation programs that prepare them well than it is to recruit them via pathways that leave them underprepared and vulnerable to dropping out of the profession. Lowering the financial and opportunity costs of acquiring teacher preparation is one means to improve recruitment, particularly for minority students.

In contrast to most industrialized societies which ensure a common, rigorous preparation for their teachers substantially funded by their national governments, the United States currently leaves to chance or to the proclivities of individual teachers and schools how much education of what kind candidates will undertake. This tradition, which appears to assume that teacher knowledge is an individual rather than a social good, is no longer supportable given the demands of schooling and its centrality to individual and societal success. A set of policies that would ensure access to a core of knowledge for all teachers would include common standards for schools of education to ensure that they offer a comprehensive professional curriculum, required preparation for all candidates to ensure that they encounter the knowledge their students need for them to have mastered, and incentives to draw individuals into the field – including subsidies for preparation and competitive salaries. As other countries (France, Germany, Denmark, Sweden, Luxembourg, Japan, and others) are extending teacher education to the graduate level and incorporating extensive clinical experiences with more rigorous education coursework, their governments are investing heavily in colleges and universities that prepare teachers. As the National Commission report (NCTAF, 1996) demonstrated, such investments are possible in the

U.S. as well if funds are reallocated from the non-teaching functions that dominate the budgets of American schools to functions that support teacher recruitment and investments in expertise.

Streamlined Selection and Proactive Recruitment

Once teachers are well-prepared, it is also critically important that they be able to find their way to the jobs that are available. As noted earlier, many large districts have had hiring procedures that are so cumbersome and dysfunctional that they chase the best-prepared candidates away instead of aggressively recruiting them. Large districts like New York City, Chicago, and Los Angeles with underfunded, non-automated personnel offices fail to hire hundreds of qualified candidates annually because their files are lost, their calls are not returned, or they become discouraged after waiting weeks to get an interview.

New York City's efforts to address these problems have made a major dent in the shortage problem. Over the past three years, New York -- once a hiring source for thousands of unlicensed teachers annually-- has worked to ensure qualified teachers for all of its students by streamlining hiring procedures and aggressively recruiting well-prepared teachers through partnerships with local universities. In 1997, the city filled two-thirds of its 5500 vacancies with fully qualified teachers, whereas in 1992 it had filled only one-third of a smaller number of positions with qualified teachers. Meanwhile, during these years, the number of uncertified teachers in the city was decreased by more than half.

Key to this success are a series of efforts that bring the city's recruiters directly to students in local preparation programs each spring; offer interviews and tests on-site at college campuses; recruit teachers in high-need areas like bilingual and special education by offering them scholarships and forgivable loans to complete their training; work with universities and local districts to bring well-trained prospective teachers into hard-to-staff schools as student teachers, interns, and visitors; make offers to well-qualified candidates much earlier in the year; and streamline the exchange of information and the processing of applications. More efforts are underway to create automated systems for projecting vacancies and processing information, decentralize interviews to principals and committees of teachers in local schools, and strengthen partnerships with local colleges (Darling-Hammond, 1997a).

A glimpse of the possible can be seen in the New Haven Unified School District, which serves approximately 14,000 students from Union City and south Hayward, California, ¾ of

whom are students of color, most of them low-income and working class. Twenty years ago, the district was the lowest wealth district in a low wealth county, and it had a reputation to match. Today, New Haven Unified School District, while still a low-wealth district, has a well deserved reputation for excellent schools. Every one of its 10 schools has been designated a California Distinguished School. All have student achievement levels well above California norms for similar schools. These accomplishments are directly linked to the district's investments in teaching.

When school districts across California scrambled in recent years to hire qualified teachers, often failing to do so, New Haven had in place an aggressive recruitment system and a high quality training program with local universities that allowed it to continue its long-term habit of hiring universally well-prepared, committed, and diverse teachers to staff its schools (Snyder, 1999). One factor in this success is that, despite its lower per pupil expenditures than many surrounding districts, New Haven spends the lion's share of its budget on teachers' salaries. For example, while nearby Oakland spends substantially more money per pupil, New Haven's beginning teacher salaries are nearly one-third higher. And while Oakland's personnel system hires many uncredentialed teachers while ignoring qualified applicants, New Haven's personnel office uses technology and a wide range of teacher supports to recruit from a national pool of exceptional teachers. Its website posts all vacancies and draws inquiries from around the country. Each inquiry receives an immediate e-mail response. With the use of electronic information transfer (for example, the personnel office can send vacancy information directly to candidates and applicant files to the desktop of any administrator electronically), the district can provide information to people urban districts might never think would be available to them. Viable applicants are interviewed immediately in person or via video-conference (through a local Kinko's), and it they are well-qualified with strong references, they may be offered a job that same day. New Haven's credential analyst hand-holds out-of-state teachers through California's credentialing maze.

Among the many factors contributing to the district's success in recruiting teachers and serving students, one significant strategy is the district's long-term investments in teacher education. The district was one of the first in the state to implement a Beginning Teacher Support and Assessment Program that provides support for teachers in their first two years in the

classroom. All beginning teachers receive such support from a trained mentor who has release time for this purpose. Many beginning teachers report that they chose to teach in New Haven because of the availability of this strong support for their initial years in the profession. In addition, with the support of California State University, Hayward, the district designed an innovative teacher education program that combines college coursework and an intensive internship conducted under the close supervision of school-based educators. Because interns function as student teachers who work in the classrooms of master teachers, rather than as independent teachers of record, the program simultaneously educates teachers while protecting students and providing quality education. The fruits of these efforts show in New Haven's steadily increasing student achievement as well as its success in finding and keeping good teachers.

Mentoring and Induction for Beginning Teachers

New Haven's investment in beginning teacher mentoring is increasingly being replicated elsewhere, with similar results. The number of teachers who participated in formal induction programs almost doubled during the decade 1981 - 1991 and more than tripled since the early 1970s (Choy et al., 1993). By 1991, 54% of public school teachers had experienced some kind of induction program during their first year. Depending on the nature of the programs -- including the extent to which they focus on support as well as evaluation and the extent to which they help teachers address real problems of practice -- these induction initiatives can make a substantial difference in teacher recruitment and retention.

The importance of mentors to new teachers is now well documented in the research literature on induction and on learning to teach (Huling-Austin, 1990). Teachers of all experience levels agree on the importance of supervised induction. In a Metropolitan Life survey of teachers, when asked what would have helped them in their first years of teaching: 47% felt that a skilled, experienced teacher assigned to provide advice and assistance and 39% felt that more practical training, such as a year's internship before having their own classroom would have been most helpful (Metropolitan Life, 1991). In addition to providing vital guidance for new teachers, research suggests that teacher mentoring reduces the early attrition of beginning teachers from the profession, while improving their feelings of efficacy and their range of instructional strategies (California Commission on Teacher Credentialing, 1992; Colbert and

Wolff, 1992; Huling-Austin and Murphy, 1987; Karge and Freiberg, 1992; Odell and Ferraro, 1992) .

The probability that mentor programs will have these positive effects depends on how they are designed. Across the country, mentor programs vary in the amount of resources they provide for participating teachers. Some are voluntary and mentors and participants consult on their own time, while others provide compensation for the mentor in the form of additional pay and release time. In some districts, being a mentor is a full-time job, entailing release from classroom responsibilities for one or two years. In other districts, mentors and rookies are provided a limited amount of release time using substitute teachers so they can visit and observe in each others' classrooms.

Previous research on teacher induction programs shows that there are major differences in the strategies adopted by states during the 1980s. While places like California and Connecticut funded mentor programs, many of the first wave induction programs focused more on evaluation than mentoring. They required new teachers to pass an observational evaluation prior to receiving a continuing license. Though these were called induction programs, most did not fund the work of mentors, and the mandated evaluation strategies typically looked for the demonstration of predetermined generic behaviors rather than for the development of contextually-appropriate good practice. Some analysts have found that support tied to assessments focused on simplistic teaching formulas can inhibit effectiveness by discouraging teachers from paying attention to student needs and preventing the use of strategies that are more responsive to real problems of practice (Macmillan and Pendlebury, 1985; Darling-Hammond and Sclan, 1996). Since then, more states and districts have sought to create programs that support new teachers in the development of guided, collegial practice and inquiry likely to promote higher levels of efficacy and effectiveness.

One element of a successful program is that it allows flexibility in the methods of addressing the individual needs of each new teacher. New teachers report very different needs for assistance regarding classroom procedures, planning lessons, teaching methods, and decisions about discipline (Wilkinson, 1994). Instead of a prescriptive induction program, Wilkinson recommends programs that are designed to "accommodate beginning teachers who are developmentally at different stages, who have different needs and require various types of

assistance" (p. 59). This recommendation is supported by Wildman and colleagues (1992), who found after studying 150 mentor-beginner dyads that the diversity of contexts for mentoring requires flexibility in mentors' roles. They conclude that, "Mentoring, like good teaching, should be defined by those who carry it out."

While there is no one formula for mentoring, there are a number of successful models worth examining. Connecticut's statewide induction program, Beginning Educator Support and Training (BEST), which began in 1986, was designed with a thee-tiered training model for mentors to accommodate their different degrees of prior mentor experience. The BEST program also includes an assessment component – a portfolio based on the INTASC standards and modeled on the portfolios of the National Board for Professional Teaching Standards – which determines licensure for new teachers. From the beginning, BEST involved classroom teachers in the planning and development of the program. Though both the mentoring and evaluation are facilitated mainly by teachers, mentor and evaluation roles are separated and different people serve each function. Mentors and assessors are carefully selected for their expertise and are in the same teaching field and level as the beginning teachers they serve (Hofmann and Feldlaufer, 1992). Mentors, like assessors, are trained in the use of the state assessment.

Mentoring in the BEST program provides many different kinds of assistance to new teachers. Mentors conference with beginners, demonstrate lessons, model strategies, and observe and are observed by their beginners. University-based seminars designed to help each new cohort of beginning teachers understand the state standards and assessments – and the teaching they call for – are now also a part of the beginning teacher program. In all of these contexts, an emphasis is placed on reflection. Hofmann and Feldlaufer (1992, p. 102) found that "the thinking of both the beginning teacher and the mentor is enhanced as they 'puzzle about' and discover reasons for classroom decisions together." The BEST program serves a vital role for the mentors as well as the beginners: "New opportunities for professional growth, specifically in developing analytical reflective, and communication skills, have been cited by nearly all mentors as having had a major impact on their perception of themselves and as having improved their teaching" (Hofmann and Feldlaufer, 1992, p. 102). Extremely low attrition of beginning teachers in Connecticut contributes to continuing surpluses: the state does not have to replace a revolving door of teachers leaving in large numbers each year.

Connecticut's approach illustrates several features of effective induction programs: the creation of cohort groups allows novice teachers to work with other beginners to confront and solve problems collaboratively and to develop a sense of solidarity with others in similar circumstances; opportunities for beginning teachers to observe skilled veterans as well as to be observed by develop skills while fostering norms of collegiality and continual learning; opportunities for mentors to discuss their practice with novices allows them to make their thought processes explicit; pairing new teachers with mentors of the same grade level or subject enables new teachers to pursue specific questions about content (Huling-Austin, 1992).

Another program that includes these features is the Los Angeles Unified School District's (LAUSD) partnership with California State University, Dominguez Hills (CSUDH) which focuses on retention of new teachers in two low-income regions of the school district that suffered from high annual teacher attrition rates, often in excess of 50 percent. After three years of this program, over 95 percent of the beginning teachers who participated were still teaching, and 89 percent remained in their original districts (Colbert and Wolff, 1992).

In this program, lead teachers were selected based on experience, excellence in teaching, and leadership. They were also selected on the basis of their abilities to be nurturing and nonjudgmental. These lead teachers were trained in observation and coaching and were able to provide feedback and support confidentially, as they did not have an evaluative role. Each lead teacher was matched with two to four new teachers (teachers in their first or second year) based on grade level and subject area, as well as classroom proximity. The teams met every week to plan together, and problem solve collaboratively. Teacher teams, including the lead teacher, enrolled together in specially designed university classes; lead teachers were thus able to help the new teachers implement the strategies they learned there.

This program provided stipends to all participants for work during non-contract hours; the costs of the university courses were also covered for each participant. The program costs were justified by research that has shown that "the most cost effective projects provided high-intensity assistance by experienced teachers who were paid for their time." In addition to the high teacher retention rate achieved by this program, the quality of teaching among new teachers was positively affected. An evaluation of the project found that "project beginning teachers used more effective instructional planning practices, provided more learning opportunities for

students, and had higher student engagement rates than non-project participants" (Colbert and Wolff, 1992, p. 197).

Several urban districts have created models of beginning teacher induction and career-long learning that have been replicated with significant success in other urban settings. Peer review and assistance programs initiated by AFT and NEA locals in Toledo, Cincinnati, and Columbus, Ohio; Rochester, New York; and Seattle, Washington, have been successful in helping beginners learn to teach and in helping veterans who are having difficulty to improve their teaching or leave the classroom without union grievances or delays. A governing panel of teachers and administrators selects consulting teachers through a rigorous evaluation process that examines teaching skills and mentoring abilities. The panel approves assignments of tenured teachers to intervention status (through self-referral or referral made by principals) and oversees appraisals of intern (beginning) and intervention teachers. Consulting teachers are released half- to full-time to mentor beginners or veterans who are placed in "intervention" due to difficulties in the classroom. Consulting teachers work in the same subject area as those they are assisting. They visit, observe, and consult with the teachers they serve at least weekly, and they meet regularly with one another to develop their skills as mentors and to share resources and ideas. Since the program began, overall attrition of beginning teachers has decreased and beginners become much more competent sooner. In Rochester, for example, retention of beginning interns is 90%, as compared with only 60% before the program was put in place. In Cincinnati, attrition of beginning teachers has been closer to 5% annually since the program was put into effect (NCTAF, 1996).

When teachers take on the task of professional accountability, it not only improves instruction but it profoundly changes the roles of teachers' unions. "We can't legitimately protect teachers who are not performing," says Denise Hewitt, director of Cincinnati's Peer Review Panel. At the same time, the improvements in teaching can sometimes be striking. According to Cincinnati consulting teacher Jim Byerly: "We had a teacher who was in intervention ten years ago, who . . . had considerable skills and experience but she had gotten lazy. . . . She needed to start planning the lessons and stick to them and do the hands-on stuff that was needed. . . . Her final appraisal was strong, better than average. I think she felt empowered by the outcome. She went on to be a lead teacher" (NCTAF, 1996). In addition, the chance to

contribute to the profession in this way gives lead teachers a new lease on their own professional lives while their work improves teaching quality throughout the district. The result is a career in teaching that recruits and retains talented teachers while increasing profession-wide knowledge and skill.

Redesigning Schools to Support Teaching and Learning

A final critical area for recruiting and retaining excellent teachers is the restructuring of school organizations and of teaching work, including a reallocation of personnel and resources so that teachers have time to work intensively with students and collaboratively with each other. Teaching in large, bureaucratic settings that do not enable teachers to come to know their students well or to work and plan with other teachers is exhausting, non-rewarding work. It is especially counterproductive in urban areas where students face a great many challenges and need a great deal of personal attention. Large warehouse high schools in which teachers see 150 or more students daily, cycling anonymously though the classroom in fragmented 45 periods, create alienation and anomie because they support neither learning nor teaching well.

For more than thirty years, studies of school organization have consistently found that small schools (with enrollments of roughly 300 to 600) promote higher student achievement, higher attendance, lower dropout rates, greater participation in school activities, more positive feelings toward self and school, more positive behavior, less violence and vandalism, and greater postschool success (Green and Stevens, 1988; Haller, 1993; Howley, 1989; Lindsey, 1982; Pittman and Haughwout, 1987). These outcomes are also found in settings where students have close sustained relationships with a smaller than average number of teachers throughout their school careers (NIE, 1977; Gottfredson and Daiger, 1979). This can be achieved when teachers can work for longer periods of time with smaller total numbers of students either by teaching a core curriculum to one or two groups of students rather than a single subject to several groups or by teaching the same students for more than one year. Schools in which students remain with a cohort of their peers also foster a sense of community and a set of continuing relationships that are important to learning and to the affiliations needed to sustain trust and effort.

Evidence shows that better outcomes are achieved by "personal-communal" school models that foster common learning experiences, opportunities for cooperative work and continual relationships, and greater participation of parents, teachers, and students (Lee, Bryk,

and Smith, 1993). A recent study of 820 high schools in the National Education Longitudinal Study database found that schools that had restructured to personalize education and develop collaborative learning structures for adults and students produced significantly higher achievement gains that were also much more equitably distributed (Lee and Smith, 1995). Their practices included keeping students in the same homeroom or advisory group throughout high school, establishing smaller school units through school-within-a-school structures, forming interdisciplinary teaching teams, giving teachers common planning time, involving staff in schoolwide problem solving, involving parents, and fostering cooperative learning. Not incidentally, schools with these features have lower turnover and are easier to staff, regardless of the neighborhood or students they serve, since they provide teachers the opportunity to be successful.

Developing such schools requires rethinking organizational forms and norms that have developed over many decades. Successful urban schools have not only changed curriculum, assessments, and schedules to focus on providing longer periods of time for in-depth learning and teaching, they have also developed new patterns of staffing and resource use, including greater investments in teaching and technology rather than nonteaching functions (Darling-Hammond, 1997b). In order to afford both smaller pupil loads for teachers and greater time for collegial work, more of the staff who are now working in pull-out programs, administrative roles, and support offices are working in the classroom, as they do in most other industrialized countries. For example, in contrast to European and Asian countries that allocate 60 to 80% of their education personnel to classroom teaching, the extremely bureaucratic organization of U.S. schools means that only about 43% of education staff are regularly assigned as classroom teachers. This allocation of staff and resources to the periphery of the classroom maintains high class sizes and pupil loads for teachers and reduces their opportunity to plan and work together.

The strategies described above have been used in the more than 100 new, small restructured high schools in New York City that have been created since 1990 to replace failing comprehensive high schools. The new schools often create interdisciplinary teams of teachers who share students, and they establish block schedules that reduce teachers' pupil loads while creating more shared planning time. In one model, each teacher teaches two classes (either humanities or math/science) that meet for nearly two hours daily, four times per week. With

class sizes of around 20, this results in a total pupil load of 40 instead of the 160 or more most New York City high school teachers face. Virtually everyone in the school teaches: about 70% to 75% of all staff are engaged in classroom teaching as compared with the usual 50% to 55%. Teachers have about seven hours a week to plan together in addition to five hours of individual "prep" time. The codirectors teach some classes and counsel students in advisories -- small groups of students who meet weekly with teacher advisers. There are no guidance counselors, attendance officers, assistant principals, supervisors, or department heads, and few security guards are needed because students are so well known. Studies have found that attendance, grades, graduation rates, and college-going rates are all higher in these restructured schools than in the traditional schools they are replacing (Darling-Hammond, 1997b). In addition, teachers want to teach in these restructured schools. Whereas traditionally structured schools in these inner-city neighborhoods remain difficult to staff, these schools have a surplus of new and experienced teachers eager to teach in settings where they and their students are likely to learn.

Putting it all together: How all students can have access to competent teachers

The goal of offering caring, competent, and qualified teachers to all students in all communities is one that requires systemic strategies for improving the functioning of schools and school systems and the preparation of individuals for the real demands of the work. Quick fixes like truncated training and combat pay have been tried for many decades without addressing the conditions that would prevent shortages in the first place: competitive salaries, proactive and streamlined recruiting that values teachers, preparation and professional development that enables success on the job, and supportive working conditions.

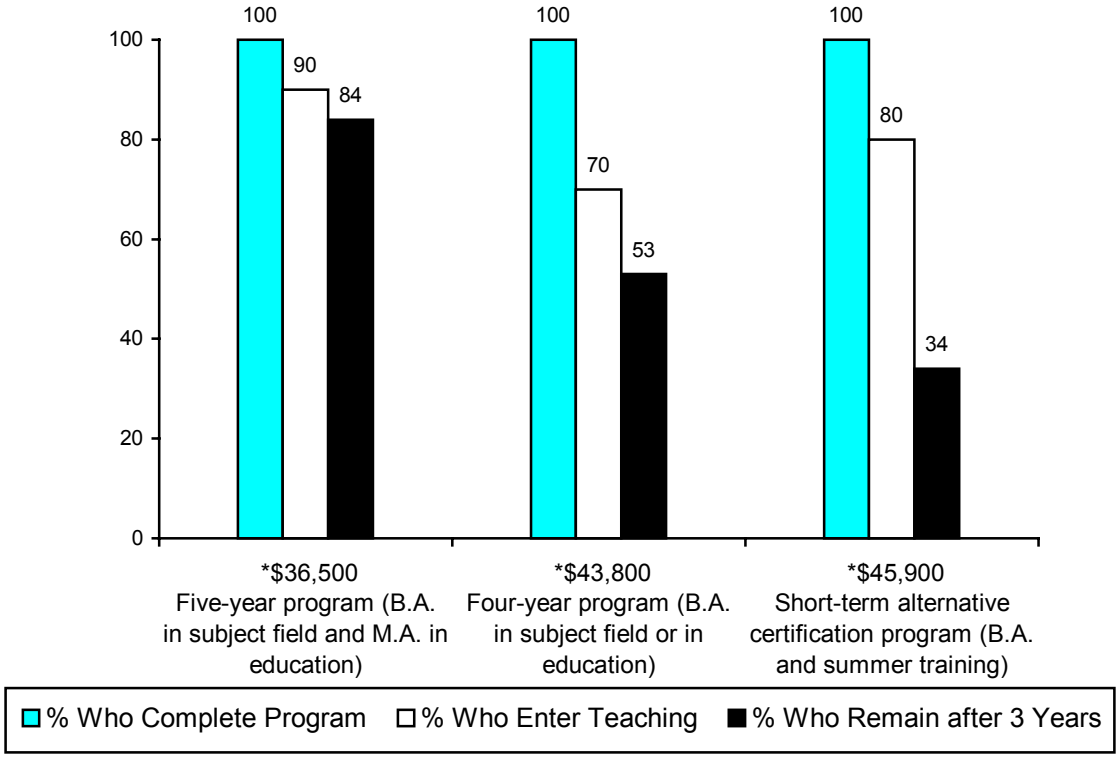
Governments are not powerless in the face of these challenges. The federal government can provide high leverage incentives to recruit and train individuals for the fields in which they are needed as it did for teaching in the 1960s and '70s and as it has for medicine and the military for the last thirty years. A key element of such an initiative should be service-linked college scholarships for capable candidates who prepare to teach. A large share of these scholarships can be targeted for teachers who prepare to teach in high-need teaching fields and agree to serve in "hard-to-staff" school locations. Federal and state governments can also provide incentives, through training grants to institutions, to encourage schools and universities to build upon the more successful efforts to create new pathways into teaching for mid-career entrants,

paraprofessionals, and other nontraditional recruits, as well as college students. And all parts of the education system can engage in outreach efforts that counter the common myth that "anyone can teach" and market teaching as a valuable, knowledge-based profession.

Assembling and targeting the resources needed to produce the well-prepared, diverse, and culturally sensitive teacher workforce that today's and tomorrow's classrooms demand, is likely to rest on a recognition of the fact that teaching is the profession that shapes America's future. Few other tasks are of greater importance to the nation.

Figure 1

AVERAGE RETENTION RATES FOR DIFFERENT PATHWAYS INTO TEACHING



*Estimated Cost Per 3rd Year Teacher

Estimates based on costs of teacher preparation, recruitment, induction, and replacement due to attrition. L. Darlir Hammond (2000). Solving the dilemmas of teacher supply, quality, and demandNY: NCTAF.

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