



UNITED STATES DEPARTMENT OF EDUCATION
OFFICE OF ELEMENTARY AND SECONDARY EDUCATION

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9/8

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SUBJECT AND COMMENTS:

*Sorry for the delay; we were
called into a planning session
for the Reading Summit.*

Joyce

*We're bringing other papers
& data sources with us at
1:00*

REAUTHORIZATION PROFESIONAL DEVELOPMENT COMMITTEE BIBLIOGRAPHY/REFERENCES

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Sorry for the delay; we were
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Strategies for the Professional Development Options

Both Legislative and Non-Legislative

Powerful teaching is central to student learning. A critical opportunity to improve the quality of teaching will occur in the next decade with the demand for 2 million new teachers. The reauthorization of the Elementary and Secondary Education Act of 1965 provides the opportunity to focus our efforts in support of developing teacher and principal quality. The Department's vision of nationwide standards-based reform requires the best teachers and principals possible, particularly in the challenging areas of high poverty schools. The following are strategies that could be employed through either legislative or non-legislative means to support high quality professional development. The infrastructure of the teacher development continuum provides the framework for the recommended strategies below.

Strategy	Legislative	Non-Legislative
1. Recruitment/Retention		
Offer incentives to recruit and retain excellent teachers in high poverty schools (excellent teachers could be those who are National Board for Professional Teaching Standards (NBPTS) certified, have taught students who demonstrate significant achievement gains, or have otherwise demonstrated mastery of the content, pedagogy and dispositions essential for quality instruction). Incentives could include "signing bonuses," student loan forgiveness programs, incentive pay for master teachers who mentor new teachers, etc. (Darling-Hammond; Atlanta Hearing; Focus Group, 1998)	✓	✓
Develop a national placement clearinghouse to address the teacher distribution problem (e.g., teacher shortages in some parts of the country/high need fields, surpluses in others) and support the development of computerized placement systems in large, high poverty schools. (Darling-Hammond, 1998)	✓	
Provide incentives for teachers who go into math, science and other high need fields. (Darling-Hammond, 1998)	✓	✓
Provide incentives to minority students who become teachers to enhance the diversity and quality of the urban teaching corps and to ensure that teachers reflect the racial/cultural composition of their classrooms and the language background of their students. Provide ongoing academic support to members of under represented groups (e.g., tutoring to prepare for licensure exams, etc.). (Darling-Hammond; Focus Group, 1998)	✓	✓
Create career paths for paraprofessionals who seek to obtain a teaching degree. (LeTendre, 1998)	✓	✓

Strategy	Legislative	Non-Legislative
Require schools that receive federal program funds to hire only qualified, licensed staff as a condition of funding and/or reduce the funding level or impose other sanctions on schools that don't comply with this provision. Exceptions can be made for staff who have high-demand skills or who work in a non-instructional capacity (e.g., bilingual aides who work in predominantly monolingual communities, aides who perform non-instructional support functions which enables the teacher to provide direct instruction, etc.). (Darling-Hammond, 1998)	✓	
Establish a staffing comparability requirement to ensure that Title I schools have staff that are comparable to staff in non-Title I schools (e.g., have commensurate teaching experience, content specialties, academic preparation, performance). (New, 1998)	✓	
Provide incentives to reduce the ratio of non-teaching staff to teaching staff and to provide additional time for teachers to work and learn together. (Darling-Hammond, 1998)	✓	✓
2. Teacher/Administrator Preparation		
Provide incentives for States/districts to develop meaningful partnerships with Institutions of Higher Education (IHEs) (e.g., align teacher preparation programs with K-12 content standards, support professional development schools, conduct action research, develop professional communities) (McLaughlin, 1996)	✓	✓
Provide incentives for IHEs to better prepare education students to work in challenging, high poverty schools through culturally relevant training on reaching diverse populations and guided field-based clinical learning experiences in restructured schools. (Darling-Hammond, 1998; McLaughlin, 1996)	✓	✓
Provide incentives for IHEs to provide education students with classroom experience earlier in their academic career and for a longer time period (e.g., 5 year models and professional development schools with rigorous content requirements, pedagogical seminars, classroom observations, and intensively supervised extended practice teaching with a master teacher). (Darling-Hammond; Atlanta Hearing, 1998)	✓	✓
Support the development of external standards for content knowledge for new teachers and for teacher educators (these could be tied to licensure exams described later). Teachers need to be well versed in content knowledge, pedagogy, curriculum strategies, assessment, working with children with learning disabilities, and literacy and language development (both for children whose primary language is English and for other language learners). (Darling-Hammond; Loucks-Horsley; ATE; AACTE; NPEAT; NCATE; INTASC; 1998)	✓	✓

Strategy	Legislative	Non-Legislative
Provide incentives to IHEs that provide leadership development and prepare administrators to become instructional leaders in their schools/districts in high poverty areas (e.g., increase administrators knowledge on modeling/coaching/mentoring/collective problem-solving and on how students learn). (McLaughlin, 1996; Darling-Hammond; Focus Group; CCSSO; Sparks, 1998)	✓	✓
3. Licensure		
Provide incentives for: • States that adopt teacher standards such as those developed by the Interstate New Teacher Assessment and Support Consortium (INTASC). • States that adopt rigorous professional tests that assess new teachers' content and pedagogical knowledge and have rigorous teacher licensure requirements. Encourage using exams that include a structured portfolio-based performance assessment as a tool to support growth and continuous improvement. • Teachers that seek National Board Certification. • Districts to hire secondary teachers who have an academic major in the subject area they will teach (to address the problem of the high number of teachers, particularly in high poverty schools, who teach out of their field of expertise) • States that develop reciprocal licensure arrangements. (Darling-Hammond, 1998)	✓	✓
4. Induction of New Teachers		
Provide incentives: • to States that support new teachers in high poverty schools through strategies like reducing their teaching load, providing quality mentoring, professional networks and other professional learning opportunities. • to master teachers in high poverty schools who mentor new or struggling teachers and provide ongoing advice and feedback (incentives could be financial, additional training, release time or some combination).	✓	✓

Strategy	Legislative	Non-Legislative
5. Ongoing Support and Professional Development		
Build a professional support infrastructure that is largely peer-based, covers the professional development continuum, is culturally relevant and has strong technical assistance to ensure informed choices (Knapp, Florio, 1998; McLaughlin, 1996). Professional development must be sustained, high-quality, research-based, tied to high standards, link instruction with student performance, and be built into teachers' ongoing work with colleagues. (Darling-Hammond, 1998) For example, increase investments in subject matter networks, peer coaching, vertical/cross-curriculum study/workgroups, teacher academies, curriculum writing groups (align curriculum with State standards), and standards-setting bodies (e.g., teachers might spend time reviewing student work, developing scoring matrices and other strategies for developing accurate, consistent and appropriate ways of grading student work). Other areas for exploration could include reconfiguring the school day to provide time for teachers to engage in planning/professional development/reflection and nurturing cross-school learning communities at the local and regional level. (Knapp/Florio; Dacia Toll; Darling-Hammond; Focus Group; Education Trust, 1998; McLaughlin, 1996).	✓	✓
Require States to provide a specific professional development plan that incorporates all federal programs as part of their State Consolidated plan; encourage districts to use the State plan as a model in developing parallel local consolidated/schoolwide/school improvement plans(s). State plans might focus on comprehensive statewide efforts to increase knowledge of the state's reform efforts and state standards and assessments, guidance for locals on blending funds, and strategies for providing technical assistance. Plan requirements should be simple and straightforward.	✓	

Strategy	Legislative	Non-Legislative
Offer incentives to focus professional development on helping teachers align their curriculum with the State's standards and use assessment data to improve the quality of teaching and learning, particularly for targeted populations. <i>Discussion:</i> "Districts with high levels of poverty and small, isolated districts have the most difficulty...aligning curriculums and assessments with standards and with providing technical assistance to schools not making progress. They are also most likely to request waivers from federal requirements, but are making the least progress in developing or reconfiguring accountability frameworks so that they are aligned with state (or even local) content and performance standards. Small districts are not well connected to sources of information and support, and report making the least progress in implementing accountability linked to student performance." (Knapp, Florio, 1998) <i>Pros:</i> This approach gives States a great deal of flexibility and supports their reform efforts. Acknowledges that States are in different places with their reform efforts and have different needs. There is no federal role in reviewing the quality of state standards. <i>Cons:</i> Not all States have rigorous standards and aligned assessments in place. Not all students are included in every State's accountability system. (Dacia Toll, 1998)	✓	✓
Provide incentives to encourage teachers to obtain National Board Certification. Possible incentives could include fellowships, sabbaticals, and/or post-doctoral training with additional incentives for commitment to teach in high poverty schools (NPEAT; NCATE, 1996, 1998).	✓	✓
Provide incentives to build capacity among <i>all</i> staff, particularly regular classroom teachers, to work with targeted populations (e.g., children who are economically disadvantaged, children with disabilities, migrant children, Indian children, limited English proficient children, homeless children, etc.) and improve the technical assistance infrastructure. (White, Focus Group, 1998)	✓	✓
Provide incentives that encourage the integration of technology into regular classroom instruction and that require that professional development and ongoing support for teachers and equipment accompany the introduction and classroom use of technology. (Lovett; New, 1998)		
Provide incentives to States and districts in collaboration with IHEs develop strong data collection efforts and analysis and improve the dissemination of effective research-based practices. Identify the best practices in teacher education, particularly those related to preparing teachers to teach in high-poverty schools, and aggressively disseminate information on successful programs/strategies.	✓	✓

Strategy	Legislative	Non-Legislative
Require States and districts to support data-driven professional development that is results-based (e.g., based on disaggregated State data), draws on local political will, and is targeted to those areas with the greatest need and greatest potential for impact. (Sparks; Focus Group, 1998)	✓	✓
Support evaluations that have a clear purpose, are linked to data-driven program development/ improvement, build staff capacity in evaluation, and are done in conjunction with IHEs or other outside support (e.g., evaluation fellowships, mentor professors and graduate students who work in tandem to provide evaluation support, IHEs that mentor new/struggling evaluators). (Focus Group; CPRE; Loucks-Horsley; NCTAF, 1998)	✓	✓
Provide research grants to teacher educators to research best practices for educating teacher candidates to teach in high poverty areas with racially and culturally diverse populations. Evaluate these practices to demonstrate their effectiveness and potential for replication. (ATE; et al)	✓	✓

Professional Development Options for Reauthorization

The Vision: To ensure that all teachers and school leaders in every State and local school district are provided access to powerful professional development opportunities in order to support challenging, standards-based teaching and learning by all students, pre-K through 18.

This vision that supports teacher quality is based on the body of knowledge presented repeatedly by practitioners, researchers, policy-makers, professional association leaders, and service providers.

I. What do we know about professional development?

Compelling findings about teacher learning and professional development provide guidance for conceptualizing reauthorization language. As Florio and Knapp (1998) concisely summarize the research findings, powerful professional development:

- (1) Focuses on challenging, standards-based teaching and learning in particular subject areas and is guided by a vision of how all students can engage in that learning.
- (2) Embeds professional learning in the context of the school and the needs of each school as a system with its own integrity.
- (3) Balances individual and organizational priorities in determining the content of professional development activities.
- (4) Is grounded in principles of adult learning within professional, collegial communities.
- (5) Supports and reinforces new roles and responsibilities for teachers and principals, as learners, leaders, designers, team players, managers of change, and master coordinators.
- (6) Supports educators' learning through an infrastructure that is more peer-based than hierarchical and, whenever possible, at the work site.

B. Why hasn't our knowledge of professional development more effectively supported standards-based reform?

Recent emerging evidence tells a story about why the standards-based reform supported by Federal and State education leaders has moved far more slowly than anticipated. The "lessons learned" (Florio and Knapp, 1998) include these poignant ones:

- (a) Local policy leaders greatly underestimate what it takes to provide learning opportunities grounded in challenging standards for all.

- (b) In particular, they **underestimate the amount of new learning educators (including themselves) must do**, and the extent of support or technical assistance entailed.
- (c) Local and state incentive structures, not to mention those built into Federal programs (e.g., within accountability systems), have yet to focus on the importance of professional learning and the **allocation of effort or resources** that are needed to provide for this ongoing need.
- (d) Local, regional, and State capacities for providing the requisite support for educators' learning is often **inadequate**.
- (e) The needs are especially acute in districts serving the most vulnerable children.
- and
- (f) A serious and entrenched **disconnect** between preK-12 systems and higher education continues to be reinforced by Federal legislation and funding. The divisiveness conceived by the first ESEA in 1965, mitigates against "shared responsibility" for teacher quality, and indeed, against the alignment of content standards at all education levels. . (Hawley, [NPEAT]; AACTE; ATE, 1998)

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"In short, Federal programs have yet to send a compelling message to the local level about integration of effort across programs and about the nature and support of professional learning in pursuit of standards-based reform goals. Moreover, there is little evidence that, as currently configured, Federal investments in professional learning help to amass a sufficient pool of resources...in the most productive ways possible." (Florio and Knapp, 1998)

C. What critical issues must be considered for Professional Development?

Make Professional Development a major purpose of Federal investment in ESEA and in all Departmental Offices. Professional development is cross-cutting and must be supported in all programs in order to achieve implementation of standards-based reform. This will require planning and coordination among Departmental principal offices in yet unprecedented ways. For example, it is time for technology to merge with professional development to improve teaching and learning. *What Federal program design could foster greater focus on P.D. across all POCs?*

Provide Incentives for Accountability in Professional Development. Districts and schools should be encouraged to develop processes for assessing the link between professional development and student achievement. It is exceedingly difficult to create and conduct a research study that convincingly links staff development and student achievement. So many factors can affect achievement—such as physical conditions of schools, economic conditions of the community, the number of schools a student attends—that singling out the effects of staff development is almost impossible. (Killion: National Staff Development Council, 1998) Linking teacher preparation to student achievement presents an even more complicated dilemma. (Darling-Hammond, 1998)

What incentives could be used to have districts focus on P.D. accountability? > good question

Support Capacity Building through Increasing Standards-focused Technical Assistance. Teacher and principal quality is dependent upon a larger technical assistance system which includes capacity building of both school-based and university-based educators and those persons who design, create policies for, and provide funds for professional development. (Loucks-Horsley, 1998; Sparks, 1998; Darling-Hammond, 1998; Florio and Knapp, 1998; and others) If Federal dollars are to reach the high poverty classroom in order to support teacher networks, partnerships, teacher research, National Board Certification, and school improvement teams involved in indepth discussions about student work, then we must focus the Federally supported efforts. Incentive structures and related technical assistance must be improved to meet the serious demand for qualified teachers and principals in schools for high poverty. ***What program incentives can support technical assistance for professional development in high poverty schools?***

Scale up Activities that Improve the Infrastructure for Teacher/Principal Quality. Most important will be the critical need to attend to the infrastructure that supports professional learning. Without a coherent infrastructure, Federal efforts will continue to be inadequate for implementing a challenging, standards-based educational system. As "research has shown...teacher and principal performance has a profound effect on student learning, so reform efforts should concentrate on improving teacher performance. The continuum of teacher education must be considered in order to affect teacher performance. This continuum includes recruitment, initial teacher preparation, beginning teacher needs, and continuing professional development." Academic and professional standards must include knowledge about best practice and current research. (Association of Teacher Educators [ATE], 1998) The same recommendation was forwarded by the National Commission on Teaching and America's Future, 1996. Data from a variety of sources spanning over decades have shown that a fragmented approach to teacher/principal quality have little impact. ***How could the programs be designed so that the infrastructure needs are addressed in multiple ways?***

Use New Program Strategies to Ensure Greater Equity It is well documented that schools in high poverty areas with concentrations of special needs students consistently have the least experienced teachers, and the greatest attrition of educators (e.g., high number of out-of-field teachers and unlicensed teachers; lowest salaries, few opportunities for high quality professional development, lack of mentoring, coaching, access to networks, and fewer resources.) Statistics also show that recruitment needs to be focused not only on ensuring that we have enough teachers, but on also on recruiting a diverse teaching force that represents the American population if majority and minority students are to experience diverse role models.(NCTAF, 1997) The need to focus professional development, preservice and inservice, on high poverty areas and special needs students is urgent. ***How should programs funds focus the greater portion of Professional***

Development monies on districts and schools that serve the most vulnerable children (high poverty areas and special needs students)?

D. What Strategy should Elementary and Secondary Education use in its Continued Support of Effective Standards-Based Reform?

Background:

During 1994, educators committed funds and substantial effort to the standards reform agenda. Only four years later, there are numerous gains in this agenda; however, we recognize that much remains to be done to impact teaching and learning at the classroom level. We know that change takes time, moves through different phases, and requires new learning by all the people involved. Therefore, there is consensus that the OESE will continue to be guided by the goals of 1994. The mission remains the same, but the reauthorization strategies need reshaping. Findings from evaluation of professional development in the Eisenhower program, for example, indicate that the funds were too limited, too unfocused, and dispersed too broadly to have the needed intensive effect on standards-based professional development. It is clear that in most cases the funds are not reaching the targeted groups with the most urgent needs (teachers in high poverty schools, especially beginning teachers and their mentors, and university faculty preparing teachers and principals.)

What we know

“As set forth in its 1994 reauthorization, ESEA already places clear emphasis on standards-based teaching and learning. With appropriate adjustments in the reauthorizing legislation, these programs collectively could offer schools a major professional development resource, far beyond what they use at present. In so doing, these programs would go a long way towards achieving not only their particular legislated purpose, but also the larger goal of offering a high-quality, challenging education to all students in the nation’s schools.” (Florio and Knapp, 1998)

Insert- How ~~proposed~~ proposed options complement the proposed Title V?
The Options

The four issue areas discussed above set the base for the following options. The proposed legislative options frame the actions to be taken by the State and local levels, as well as the Federal level. The options will be organized around two major concepts (also proposed by Florio and Knapp, 1998):

- 1) *Concentration of Resources for High Poverty Areas***
- 2) *Enhancement of the Infrastructure for Teacher/Principal Quality***

These two organizing concepts respond to the unanimous comments from the field, from educational experts in professional development, and an intensive review of current literature and evaluations. To avoid a continued “stovepipe” configuration by ESEA programs and fragmented policies and funding regarding professional development, the Professional Development Reauthorization (PDR) group recommends that each Option presented in this paper be organized around a **Comprehensive Unit**. The proposed Unit would combine Goals 2000 and selected ESEA programs around a common vision. Each Option suggests which programs might best comprise the Comprehensive Unit. Two of

the proposed Options recommended would merge the programs into a different configuration. One Option recommended would maintain current program identity.

Option 1.

Retain current individual program statutes and create legislation to require each program to allocate 50% - 60% of funds to standards-based professional development. Funds will be both formula and discretionary.

What is the structure and purpose of the unit in Option 1?

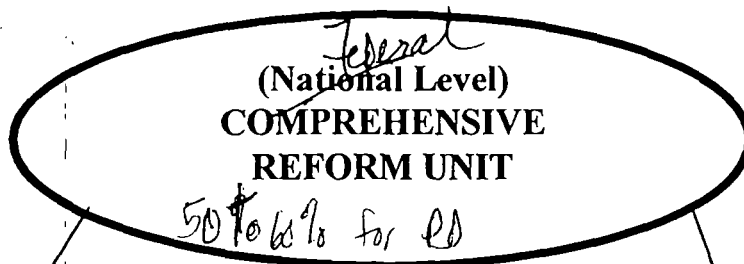
- 1.1 Create a comprehensive standards-based reform unit, combining several ESEA programs with common purposes to ensure that the vision of powerful professional development opportunities is achieved for educators **who currently are working with or aspire to work with high poverty schools and special needs students.**

The purpose of the comprehensive reform unit would be to provide oversight of standards and assessment development, making professional development the majority portion of the Federal investment. While each program in the unit would continue to operate with broad program statutes, the comprehensive reform unit would provide direction to meet national priorities. Funds (50 – 60%) would be earmarked from these selected programs to foster integrative mechanisms and incentives for professional learning in the implementation of standards.

What programs would comprise this unit under Option 1?

Within this Option, the comprehensive unit would be comprised of the following programs: Title I, Title II, Title VI, Goals 2000, TLCF, CSRD, and would use 40 – 50% of their funds to carry out their specific statutory requirements other than professional development. The exception would be the Title II program, which would devote 100% to P.D.

PROPOSED PROFESSIONAL DEVELOPMENT OPTIONS FOR ESEA REAUTHORIZATION



Titles I, II, & VI,
Goals, TLCF
& CSRD

Titles I, II, &
VI, Goals, TLCF
& CSRD

Titles II, & VI,
Goals, TLCF
& CSRD

OPTION 1

Retain current program
Statutes and create legislation
To require each program to
Allocate *50%* of funds to
Professional Development for
Educators for high poverty
Schools. [formula and
Discretionary]

OPTION 2

Allocate small % to SEA and
provide funding directly to
districts with greater percentage
flow through to high poverty
schools.
[formula and discretionary]

OPTION 3

Allocate total funding to state, flow through
with $\frac{1}{2}$ to local school districts for PD in
high poverty areas, and
 $\frac{1}{2}$ to universities/colleges who prepared teachers
to work with high poverty students.
[formula and discretionary]

SEA 10%

Admin.;
Initiatives:

- Alignment of licensure to K-12 standards
- Research on best Practices

LEA 45% (or RESA's)
10% LEA

Admin.;
Initiatives:
Developing
Results-based P.D.

35% to High Poverty Schools:
for Inservice,
including , principals
for Induction- new
teachers, mentors

Higher ED 45%

Teacher preparation &
faculty development;
Principal preparation;
Induction
Recruitment

SEA 10%

Admin.;
Initiatives:

- Alignment of licensure to K-12 standards
- Research on best Practices

LEA 90% (or RESA's)
10% LEA

Admin.
Initiatives
Developing
Results-based P.D.

80% directly to high pov. schools:
for Inservice,
including school leaders
(networks, partnerships,
teacher research,
NBPTS certification)
for Induction-new
teachers (with mentors)
Partner with IHEs to
influence prep programs
& recruitment, induct.

SEA 10%

Admin.;
Initiatives:

- Alignment of licensure to K-12 standards
- Research on best Practices

LEA 45% (or RESA's)
10% LEA

Admin.
Initiatives
Developing
Results-based P.D.

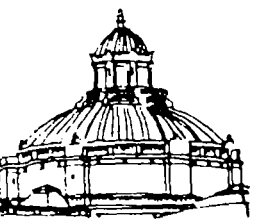
35% to High Poverty Schools:
for Inservice,
including , principals
for Induction- new
teachers, mentors

Higher ED 45%

Teacher preparation &
faculty development;
Principal preparation;
Induction
Recruitment

FEDERAL EFFORTS TO IMPROVE AMERICA'S TEACHING FORCE

AKS info
from Susan
(odd pages included)



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ABSTRACT

The current interest in reform of public elementary and secondary schools has resulted in renewed attention being focused on pre-service and in-service training for elementary and secondary school teachers. This paper reviews past and current Federal programs providing such assistance and summarizes current program options.

SUMMARY

Various Federal programs provide funds for training elementary and secondary school teachers, but the principal Federal efforts to upgrade the overall quality of America's teaching force have been the Teacher Corps and Teacher Centers programs and the Education Professions Development Act. None of these programs is currently authorized. The first two were consolidated into the chapter 2 State Education Block Grants in the Education Consolidation and Improvement Act of 1981. Authorization for the third program lapsed in 1976.

Some observers contend that current conditions justify new Federal action. For example, programs for preparing teachers have come under severe criticism; teacher shortages exist in critical areas such as science and mathematics; pressures are mounting for education reforms; and staff development programs are widely advocated for current teachers. Other observers agree that the problems exist, but contend that resolution of such matters should be the responsibility of States, localities, or institutions of higher education, rather than the Federal government.

Summary evaluations have not been made after the completion of past Federal programs, but the following general observations may be made. First, support appeared to decline when teacher shortage problems no longer existed. Second, innovations in teacher training were introduced, but institutions of higher education were less flexible than local school districts in accepting changes in preservice and in-service teacher education programs. Third, in the Teacher Center projects, teachers preferred more emphasis on pedagogy than subject areas

being taught. Fourth, Teacher Corps projects appeared to have been successful in efforts to prepare new teachers and retrain experienced teachers to work in poverty areas.

In considering a Federal teacher improvement initiative, policy issues include the scope of the program, i.e., types of school districts, students, and subject areas; participating agencies; composition of the governing body; and evaluation requirements.

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FEDERAL EFFORTS TO IMPROVE AMERICA'S TEACHING FORCE

Federal support for programs to improve America's elementary and secondary school teaching force has been limited and of relatively short duration, except for programs restricted to specific groups of teachers. For example, activities funded through such legislation as the Vocational Education Act and Federal programs for special populations such as the handicapped, disadvantaged, and non-English speaking students have had teacher training components. Even though the purpose of these measures has been to provide programs and services for particular groups of students, some teacher training activities have been viewed as essential for the effective operation of the program.

Other examples may be found in programs authorized under the National Defense Education Act (NDEA) and activities conducted by the National Science Foundation. Following the enactment of the programs in 1958 and their subsequent amendment a few years later, Federal grants were provided to colleges and universities for teacher institutes to improve the skills of current teachers. Initially, the institutes were limited to guidance and counseling personnel and teachers of science, mathematics, and foreign languages. A few years later, the NDEA was amended to authorize programs for library and media personnel and also for teachers and supervisors of history, geography, modern foreign languages, reading, English, and disadvantaged youth. 1/

1/ Jordan, K. Forbis. Precollege Science and Mathematics Education; Experiences with the National Defense Education Act and the Teacher Institutes Conducted by the National Science Foundation. CRS Report No. 82-214S. December 15, 1982.

The three most comprehensive efforts to address teacher education and staff development problems have been the Teacher Corps, Teacher Centers, and the Education Professions Development Act (EPDA). Teacher Corps were first authorized in the Higher Education Act in 1965, EPDA was enacted in 1967, and Teacher Centers in 1976. As indicated in later discussion, the programs had mixed success and all had been terminated by the end of 1981.

Each of these Federal efforts emphasized the importance of "hands-on" experiences and the integration of research and practice. Serious questions were being raised about the effectiveness of traditional modes of training teachers and administrators for the Nation's elementary and secondary schools. Concerns included the lack of field experiences in teacher education programs, the shortage of teachers trained to work with special needs students, and the desirability of greater parity between local educational agencies (LEAs) and teacher education programs in institutions of higher education (IHEs) as decisions are made about teacher education pre-service and in-service programs. These justifications for the earlier actions may also be relevant in the 1980s during an era when the concern about decline in elementary and secondary education has resulted in increased emphasis being placed on the need for excellence in education and improvements in the quality of America's teaching force.

The three major previous Federal efforts in teacher education are discussed in the remainder of this paper. For each program, the discussion includes an overview, summary of the legislative history, funding level, and principal findings and recommendations in evaluations of each program. Following these discussions, a series of Federal options will be presented.

TEACHER CORPS

The National Teacher Corps, part B, title V of the Higher Education Act, was the first Federal legislation to place special emphasis on the role of teachers in helping to educate children from low-income families. As originally envisioned, the Teacher Corps was to strengthen the educational opportunities available to children living in high poverty areas and at the same time to encourage LEAs and IHEs to broaden their teacher education programs. In a statement introducing the Teacher Corps legislation, Senator Gaylord Nelson explained that:

this proposal aim(ed) at dramatizing the ideal of domestic service, and would offer young men and women an opportunity to begin to teach in difficult and challenging situations at home as the Peace Corps (had) done abroad The Teacher Corps would develop skilled and mature teachers at the same time it begins to meet the educational problems of our most deprived schools. 2/

To achieve these goals, the Teacher Corps program recruited and trained qualified teachers (team leaders) and inexperienced teachers (interns) for service in areas with high percentages of low income families. During their time in service, team leaders and interns (one leader and several interns per team) worked together in participating schools, and simultaneously Teacher Corps interns completed the required courses leading to a college degree and qualifications for a State teaching certificate.

Because of a teacher shortage during the mid-1960s and early 1970s, in its early years the Teacher Corps primarily focused on recruiting and preparing new teachers to teach in poverty areas. In fact, part of the initial impetus behind the Teacher Corps movement was the perceived need to address the teacher shortage problem. By the mid 1970s, with the development of a teacher surplus, the

2/ Congressional Record, February 11, 1965. S 2575.

Teacher Corps refocused its activities and became primarily an in-service program designed to retrain experienced teachers to teach in areas of high poverty.

Teacher Corps regulations required that local projects incorporate into their curriculum those characteristics that reflected current educational concerns, priorities, and strategies identified by researchers as essential to effective educational personnel and school improvement programs. For example, "individualized instruction, multicultural education and education which complied with . . . P.L. 94-142 (Education of All Handicapped Children Act of 1975) (were) seen as major educational priorities by Teacher Corps." 3/

Teacher Corps regulations also required that guidelines and frameworks for training educational personnel were expected to "evolve" at the individual project sites. This resulted in predominately two types of in-service efforts. One provided all educational personnel from each of the designated project sites with (1) an understanding of their project site (e.g., socioeconomic conditions, diversity of cultural life-styles, and community expectations); (2) the Teacher Corps educational philosophy (e.g., strategies reflective of current educational theory such as curriculum geared toward multicultural and individualized instruction practices); and (3) curriculum improvement focused on establishing continuity from the early elementary grades through senior high school. Regulations concerning the Teacher Corps in-service effort also required the local school staff to determine its own needs for school improvement and staff development and then to design a comprehensive and systematic program to meet those needs. To satisfy

3/ Olivarez, R. D. Teacher Corps and Inservice Education: A National Experiment. Journal of Research and Development in Education. Vol. 14, no. 2, 1981. p. 94.

this requirement, local school sites translated the Teacher Corps educational philosophy into programs relevant to their local needs. 4/

Legislative History 5/

The concept of a National Teacher Corps was first proposed on February 11, 1965, by Senators Edward Kennedy and Gaylord Nelson as an amendment during subcommittee consideration of S. 370. Senator Nelson pointed out that his proposal for a National Teacher Corps was not a new concept, but one that had been tried and proven successful in Cardoza High School in Washington, D.C. Senator Kennedy, testifying before the same committee, cited an example of a similar program that had been tried at the Free School of Prince Edward County, Virginia.

When the subcommittee reported S. 370 without the Teacher Corps amendment, on February 19, 1965, Senator Nelson introduced S. 1172, a bill to establish a National Teacher Corps.

In the same session of Congress, during committee consideration of the Higher Education Act, Senator Nelson, on April 29, 1965, and later Senator Kennedy, on May 19, again introduced their respective proposals for a National Teacher Corps as amendments to the higher education legislative proposal.

On July 2, 1965, President Johnson, speaking to the Annual Convention of the National Education Association, announced his support for a National Teacher

4/ Ibid, p. 95.

5/ Data for this section were drawn from: National Advisory Council on Education Professions Development. Teacher Corps: Past or Prologue? A Report With Recommendations. Washington, July, 1975; Marcia Scott. Teacher Corps Legislation: History and Selected Program Information. Washington, CRS Multilith 77-104 ED. April, 1977; Anne Stevens and Mark Wolfe. A Comparison of the Teacher Corps and Teacher Center Programs. CRS Memo, February 1980; and Annual Evaluation Report. Volume II. FY 1981. Washington, U.S. Department of Education, 1982.

Corps and the provisions for fellowships for elementary and secondary teachers. Following this address, on July 14, 1965, Representative Carl Perkins introduced H.R. 9833 for the purposes of establishing a National Teacher Corps.

On July 16, 1965, Senators Nelson and Kennedy combined and revised their two previous amendments in an amendment to S. 600 for the establishment of a new title V dealing with "teacher programs" to be added to the Higher Education Act of 1965. A few days later, on July 19, 1965, Senator Wayne Morris, for himself and Senators Nelson and Kennedy, and Representative Perkins, introduced President Johnson's Teaching Profession Act (S. 2302 and H.R. 9928). This proposal provided for:

1. creation of a National Teacher Corps to serve in city slums and areas of rural poverty;
2. establishment of a program of fellowships for experienced and inexperienced teachers; and
3. aid to IHEs for improvement of teacher training programs.

On August 30, 1965, the House passed H.R. 9567, higher education amendments. On September 2, 1965, the Senate passed an amended version of H.R. 9567 containing the language of S. 600, which included provisions authorizing the establishment of the National Teacher Corps. The Conference Committee adopted the Senate version of Title V, Teacher Programs, with amendments, and reported H.R. 9567 on October 19, 1965. The conference report subsequently was adopted, and the National Teacher Corps was first enacted under the Higher Education Act of 1965 (P.L. 89-329).

Initially, the legislation authorized the Commissioner of Education to select participants; to provide, through a grant or contract with IHEs, State educational agencies (SEAs), or LEAs for the training of Teacher Corps recruits; and upon the request of an LEA, to assign Corps members to serve in that LEA.

The Commissioner was also responsible for providing funds directly to the LEA to cover salary expenses of Teacher Corps participants.

In 1967, the Teacher Corps program was extended through fiscal year (FY) 1970 as part of the Education Professions Development Act (EPDA) (P.L. 90-35). Several changes were incorporated into the legislation, the most significant of which was the de-emphasis of the Federal role. For example, LEAs and IHEs now had the responsibility for recruitment, selection, and enrollment of Corps members; SEAs were authorized to approve the LEAs' requests for recruiting and training arrangements, and in most cases the Federal share toward salary reimbursement for Corps participants was limited to 90 percent. The 1967 amendments also included other changes such as that Indian and migrant children be included in the program, that only experienced teachers serve as team leaders, and that the name, "National Teacher Corps," be changed to "Teacher Corps."

In 1971 the EPDA legislation was amended and extended as title V of the Higher Education Act of 1965. In addition to authorizing programs to attract and train experienced and inexperienced teachers, the Teacher Corps now provided for volunteers to serve as part-time tutors or full-time instructional assistants, and for educational personnel to provide relevant remedial, basic, and secondary educational training, including literacy and communications skills, to juvenile delinquents, youth offenders, and adult criminal offenders.

The Education Amendments of 1972, P.L. 92-318, extended authorizations through fiscal year 1972, established a minimum authorization of not less than 25 percent of the funds appropriated for EPDA, or \$37.5 million, whichever is greater, and authorized the Commissioner of Education to delegate duties to the Director of the Teacher Corps.

The Education Amendments of 1974, P.L. 93-380, amended the purpose of the Teacher Corps by encouraging IHEs and LEAs to improve their programs of training

or retraining of teachers and teachers aides; and by supporting demonstration projects for the training or retraining of teachers and teacher aides in LEAs. Because of the overall surplus of teachers at this time, the purpose of the legislation was changed to address the need for more teachers in low-income areas and to retrain educational personnel. Thus, under the 1974 amendments the Teacher Corps' focus shifted from pre-service training of new recruits to in-service training and retraining of experienced personnel. The 1974 amendments also increased the set-aside for Teacher Corps teams assigned to Puerto Rico and the Virgin Islands, Guam, American Samoa, and the Trust Territories; teacher-intern compensation was also increased.

Under the Education Amendments of 1976, P.L. 94-482, the Teacher Corps was moved from title V of the Higher Education Act to the new title V (Teacher Corps and Teacher Training) of EPDA. The provision to authorize not less than 25 percent of the funds appropriated for EPDA, or \$37.5 million, whichever was greater, was repealed and replaced with authorizations of \$50 million for FY 1977; \$75 million for FY 1978; and \$100 million for FY 1979. Also repealed were provisions authorizing (1) National Advisory Council on Education Professions Development, (2) grants to encourage individuals to pursue education careers, (3) programs to attract and qualify teachers to meet critical teacher shortages, (4) fellowships for teachers and related educational personnel, (5) funds for training programs for those in education programs other than higher education, and (6) training programs for higher education personnel.

Other major changes under the 1976 Amendments included the requirements that (1) LEAs provide training not only to new recruits but also to all Teacher Corps personnel; (2) the Commissioner of Education provide technical assistance and evaluation and dissemination services for arrangements made under title V;

and (3) all Teacher Corps projects include the participation of an elected council representative of the community in which the project would be located.

Teacher Corps legislation was further amended by the Education Amendments of 1978 (P.L. 95-561). The permissible project length was extended from 2 to 5 years, and the additional goals were included that stressed the importance of institutionalizing educational change and integrating change through dissemination and demonstration activities so that other teachers and educational institutions could benefit.

Under title V of the Education Amendments of 1980, P.L. 96-374, the Teacher Corps legislation also was amended to provide the following: (1) grants to schools, colleges, and departments of education in IHEs, and to LEAs with high concentrations of low-income students to develop curriculum and instructional materials to improve instruction in science and mathematics, and (2) training grants for mathematics and science teachers in the use and development of new curriculum and instructional materials.

Phased out under the Omnibus Budget Reconciliation Act of 1981 (P.L. 97-35), the final year of funding for the Teacher Corps program was FY 1981.

Funding History

Funds first were appropriated for FY 1966, with an appropriation level of \$9.5 million. The highest annual appropriation (\$37.5 million) was provided each year from FY 1973 through FY 1979; and the lowest level was in FY 1966. The last year of funding was FY 1981 with an appropriation of \$22.5 million.

Program Data

The scope of the program varied slightly from year to year depending upon level of funding and program emphasis. By FY 1972, programs were being conducted for over 113,000 school children 138 LEAs. Five years later, in FY 1977, continuing Teacher Corps activities were conducted through 117 operational projects in 109 LEAs, 108 IHEs, and 6 SEAs; in addition, 58 new projects were funded in 57 LEAs, 55 IHEs, and a State Department of Corrections. Over 700,000 school children were participating in Teacher Corps activities.

During the last two years of funding, FY 1980 and FY 1981, the Teachers Corps program had about 130 operational projects serving 123 LEAs, 130 IHEs, and 7 SEAs. Over 500,000 children and over 25,000 educational personnel were involved in Teacher Corps projects.

Program Evaluations

Several evaluations of the Teacher Corps program have been completed; the following findings and recommendations summarized from the major evaluations may provide some insights into the relative effectiveness of the program. One of the first evaluations was Watson's 1967 study of Teacher Corps programs in three midwestern cities. 6/ The results were reviewed and supported later by Graham, director of the Teacher Corps. 7/

6/ Watson, B. C. The Taming of a Reform. Phi Delta Kappan, October 1968. p. 99-104.

7/ Graham, R. A. Educational Change and the Teacher Corps. Phi Delta Kappan, February 1970. p. 305-309.

In 1972, several major evaluations of the program were conducted. The Resource Management Corporation surveyed 63 project sites. 8/ The General Accounting Office issued a report on projects at seven IHEs and the participating LEAs. 9/ Abt Associates conducted case studies of two Teacher Corps programs as a part of a larger study for the National Center for the Improvement of Educational Systems. 10/ Also in 1972, the Pacific Training and Technical Assistance Corporation, under a contract from the Office of Education, studied 20 elementary school projects. 11/ The purpose was to measure the impact and the effectiveness of the Teacher Corps program in terms of institutional change, enhanced teaching skills and behaviors, and improved classroom learning by students taught by Teacher Corps interns and graduates.

The National Advisory Council on Education Professions Development completed a report to the President and the Congress in 1975. The Council summarized the findings of nine previous evaluations and consulted with educators about the program. 12/ This report was followed by a review of evaluations of the Teacher Corps for the period 1970-75. 13/

8/ Crosby, R., et al. Full-Scale Implementation of a Process Evaluation for Programs of the National Center for the Improvement of Education Systems. Bethesda, Maryland, Resource Management Corporation. November 1972. Volume I.

9/ Comptroller General of the United States, Assessment of Teacher Corps Programs. Washington, General Accounting Office. July 14, 1972.

10/ Abt Associates. Innovation and Change. Volumes I, II, and III. Cambridge, Mass. 1972

11/ Marsh, David, et al. A Study of the Effectiveness of Sixth-Cycle Teacher Corps Graduates. October 1974; A Study of Teacher Training at Sixth-Cycle Teacher Corps Projects. Vol. I. July 1974; and Teachers Corps Graduates in Highly Innovative Roles in Education. Berkeley, Pacific Training and Technical Assistance Corporation. February 1975.

12/ National Advisory Council on Educations Professions Development.

13/ Steffensen, James, et al. Teacher Corps Evaluations. Omaha, The University of Nebraska at Omaha. 1978.

The last evaluation study was published in 1982 by the Stanford Research Institute. This three volume evaluation focused on staff development, policy determination, and educational change. 14/

1967 Evaluation. The following findings reflect the general observations of Watson 15/ and Graham 16/ about the early years of the Teacher Corps program:

1. In its early years, the Teacher Corps was not producing educational reform. Legislative changes implemented in 1967 which emphasized local control and, "in particular, local selection and assignment of Corps members . . . permitted school systems to co-opt their interns and team leaders and thus emasculate the program." 17/ Constructive change in educational systems was very difficult where leadership was vested in persons whose perspective and loyalties have been, at least in some respects, shaped by local norms and practices.
2. In the early years of the program, educational reform was discouraged further by the lack of clear program objectives or guidelines. In the early 1970s, though, guidelines were developed that made it clear that Teacher Corps resources only were to be available to those school systems which wanted to "undertake programs of significant change." 18/
3. Program planning and operation did not achieve the desired level because objectives were loosely defined. For example, an objective such as "strengthening educational opportunities" was interpreted in practice to mean providing extra services to the schools. Then, these extra services took the form of additional personnel in the form of student teachers or para-professionals. (This practice was considered by evaluators to be somewhat less radical than the type of educational change intended in the original legislation.)

14/ Stayrook, Nicholas, et al. Technical Status Report on Staff Development; Menlo Park, California, Stanford Research Institute International (SRI) January 1982; Beers, C. David, et al. Policy Frameworks for Local Action. Volumes I and II, SRI. 1982; and Bush, Robert and John Bock. Institutionalization of Educational Change. SRI. 1982.

15/ Watson, B. C.

16/ Graham, R. A.

17/ Ibid., p. 306.

18/ Ibid., p. 308.

1972 Evaluations. In 1967, the legislation was modified to shift primary responsibility for program decisions from the Commissioner of Education to local project personnel. In addition, regulations and guidelines were revised to clarify objectives and provide better direction for project managers. The impact of these changes may have been reflected in the following findings from three of the 1972 evaluations: 19/

1. The introduction, in the early 1970s, of measurable teacher competencies and a management and control system to monitor, direct, assess, and revise ongoing programs was an initial step in helping projects bring about more educational reform.
2. The principal focus of many Teacher Corps programs appeared to be on educational reform efforts to improve IHE training rather than to improve LEA programs.
3. Teacher Corps projects tended to operate within program guidelines and met the intent of the legislative mandate.
4. Many advisory councils and community patrons were only superficially involved in the program. Various reports noted poor communication between local schools and the community.
5. Educational opportunities for disadvantaged children were improved through the assistance provided to the regular classroom teacher by members of the Teacher Corps. The classroom teacher was able to provide more individualized instruction. Corps members used newer teaching methods and increased classroom and extracurricular activities.
6. A residual effect did remain in some schools after Teacher Corps members had completed their assignments. Teacher Corps approaches to educating children were continued by some LEAs after Corps members had completed their assignments, but others were discontinued because of lack of funds, insufficient staff, or the LEA's rejection of the teaching strategy.
7. A majority of the Teacher Corps interns continued their education careers after completing their Teacher Corps term of service by teaching in low-income areas.
8. At some participating IHEs, teacher preparation and training programs were broadened. In one study, all of the IHEs surveyed

19/ Abt Associates; Comptroller General of the United States; and R. Crosby, et al.

indicated that some changes had been made in their teacher preparation program as a result of the Teacher Corps, and most of the interns felt that their courses were relevant to their work. In another instance, Teacher Corps programs were perceived as offering the interns an inflexible academic training experience.

The Pacific Training and Technical Assistance Corporation evaluation 20/ focused on the characteristics of intern participants, content of the program, and the manner in which these were associated with exit skills of interns; summary observations from the report are as follows:

1. Neither the background characteristics of interns nor the characteristics of the Teacher Corps program were good predictors of intern exit skills. However, even though only to a limited degree, program characteristics appeared to have had a greater influence on intern exit skills than background characteristics.
2. Program characteristics most closely associated with exit skills were (a) the pattern of cooperative decision-making established at the project site; (b) the degree of program integration, i.e., the extent to which university coursework was implemented at the local school site; (c) the degree of personalization of the program for the interns; and (d) the success of the relationship established between the local school and the community and the degree to which the intern perceived that he or she had a role in this relationship.
3. Teacher Corps projects were effective when they included collaborative decision-making, integration between the training program and the schools, and tailoring of the program to the community.
4. When 84 Teacher Corps graduates who were first-year teachers were compared with a matched control group on the basis of how they worked with low-income/minority group children, Teacher Corps graduates:
 - a. were more likely to develop culturally relevant materials, use community resources, have positive attitudes about reading development and the causes of poverty, and have students whose self-concept was more positive; but
 - b. were not more likely to be a change agent in the school, have higher levels of interaction between teacher and pupils in the classroom, or improve a student's reading skills (the only cognitive skill measured).

20/ Corwin, R. G. Reform and Organizational Survival: The Teacher Corps as an Instrument of Educational Change. New York, Wiley-Interscience. 1973; and David Marsh, et al.

5. Teacher Corps graduates who excelled in utilizing community resources and in being a change agent in the school came from Teacher Corps projects with the following characteristics:
 - a. a small team leader to intern ratio;
 - b. a team leader perceived as having made a greater contribution to learning than other staff; and
 - c. projects in which team leaders and interns worked as independent teams and were directly responsible for the instruction of children.

1975 Evaluations. The National Advisory Council on Education Professions Development completed a report to the President and Congress in 1975 on the current status and prospects for continuation of the Teacher Corps program. 21/ In assessing Teacher Corps programs, the Council examined previous evaluations, made selected on-site visits, and consulted educators knowledgeable about the Teacher Corps. The following topics received specific attention:

1. Progress Toward Achieving Goals and Objectives. 22/ In efforts to achieve the program's original goal of (a) strengthening educational opportunities, and (b) broadening teacher training programs, the Council report indicated that IHEs were found to be less flexible than the local schools, and that, typically, little change had been made in curriculum and instructional procedures in the training institutions due to the Teacher Corps. Some IHEs tended to isolate the Corps projects from the traditional teacher training programs and showed little ability to coordinate and cooperate with the local project sites.

Evaluation of the success of facilitating the process of educational change suggested that, in some instances, interns did not become effective change agents, and that the more service oriented programs were less likely to result in educational change.

Efforts to involve Teacher Corps members in community-school activities resulted in their being more active in these activities than non-Corps members. Some participants reported, though,

21/ National Advisory Council on Educations Professions Development.

22/ This section of the National Council's report appeared to have relied heavily on an evaluation of nine Teacher Corps projects by Thomas Fox and the 1972 report from the General Accounting Office.

that the "activities were of little or no benefit because of poor planning and lack of community support." 23/

The content and activities of the program were perceived as placing extreme demands on the Teacher Corps interns. The program was considered to be a very demanding 2-year experience.

More careful monitoring of the Corps was needed from the Federal level, both in terms of providing insight into technical assistance needs and guidance regarding funding decisions.

Program success depended on (a) project goals and strategies being clearly identified and then funded accordingly, and (b) more on management abilities of project staff and the relationship established between participant organizations than on a commitment to the ideals of the program or hard work and intelligence.

2. Comparison With Conventional Teacher Education Programs. The Council reviewed the comments of critics of conventional teacher education programs, identified four categories perceived to be "problem" areas by the critics, and used these as the basis for comparing "conventional" programs with Teacher Corps programs. The four "problem" areas and the Council's assessment of how the Teacher Corps responded to each follows:

- a. Problem--Conventional education programs generally neglected the continuing professional education needs of their graduates.

Response--The Teacher Corps, under the Education Amendments of 1974, was mandated to emphasize the retraining needs of teachers, thus it was expected that this would at least, to some extent, "redress the need for in-service education." 24/

- b. Problem--Professional teacher education programs did not adequately prepare teachers for the "real" world of the classroom.

Response--Unlike traditional education programs, the "Teacher Corps was based on a philosophy of combining learning with doing." 25/

- c. Problem--Due to a weak base of theory and research in teacher education, teacher education was particularly susceptible to "faddishness."

23/ National Advisory Council on Education Professions Development, p. 17.

24/ Ibid., p. 19.

25/ National Advisory Council on Education Professions Development, p. 19.

Response--Early on, the Teacher Corps advocated competency-based teacher education, but its "research efforts (were) far from optimal." 26/ The next cycle of the Teacher Corps program was to attempt to correct this by coordinating with the National Institute of Education to disseminate curriculum materials previously validated through research efforts.

- d. Problem--Teacher education was a matter of low priority on many college campuses.

Response--Teacher Corps was able to offer new "vitality" to teacher education.

3. Cost Effectiveness. The Council reported that assessments could not be made because satisfactory data were not available on either the conventional teacher education programs or Teacher Corps pre-service or in-service programs.
4. Program Flexibility. The issue was whether the Teacher Corps could adapt to changing needs and circumstances, or could not respond and might become obsolete as societal conditions change. Initially, one of the driving forces behind the Teacher Corps legislation was a shortage of qualified teachers. By the early 1970s, though, the employment picture had changed, but the Corps was still training new recruits. The original mission to recruit minority youth into teaching remained because of a continuing need for teachers in selected poverty areas, but the 1974 amendments mandated that the Corps change its focus to the re-training needs of those already in the teacher workforce.
5. Efficient Management. The Council contended that improvements should be made in the monitoring and management of the program, and that the Corps could benefit from more technical assistance. Sufficient attention had not been given to encouraging and managing experimentation. Project personnel tended to embrace premature conclusions about their program.
6. Comprehensiveness. The Council observed that programs were more effective when staff at the school site were involved and efforts had been made to provide in-service education for all teachers and the school principal in a project school.
7. Summary. The Teacher Corps was perceived as having "demonstrated its usefulness (and that it functioned) well above average as a teacher education program," 27/ and that the program could be an initial step to future improvements in educational personnel training.

26/ Ibid.

27/ National Advisory Council on Education Professions Development, p. 21.

1982 Evaluations. The Stanford Research Institute, International, published the results of a 3-year evaluation of the Teacher Corps in 1982. The study, begun in the summer of 1978, reviewed different aspects of the Teacher Corps projects at 30 sites during the 1979-80 academic school year. 28/ Findings were published in a series of reports, including a set of final reports, focused on the following:

1. The characteristics and effectiveness of the Teacher Corps staff development program;
2. The process of educational change, including an examination as to why some changes become institutionalized while others fail to do so; and
3. A descriptive and analytical discussion of how federally-defined guidelines influence federally-supported project activity at the local level.

The major findings concerning the characteristics and effectiveness of staff development efforts were as follows: 29/

1. Even though the general policy findings were that the Federal rules and regulations were sufficiently flexible to permit local interpretation and adaptation to satisfy local needs, the ambiguity of the rules and regulations presented some problems.
2. Among the projects, the interpretation of the requirements varied greatly from site to site, and the training procedures also varied. This variety resulted in different levels of importance being given to each requirement, depending, to some degree, on the attitude and experiences of the project staff and the problems that developed.

Field-based training (both in-service and pre-service) was generally valued by all sites. 30/ Community-based training, when

28/ The 30 Project sites were representatively selected (out of a total population of 132) on the basis of prior Teacher Corps experience, urbanization, and dominance of the IHE v. the LEA. For particular substudies the number of sample sites sometimes varied from the original pool of 30.

29/ Stayrook, Nicholas, et al.

30/ The field-based training requirement was implemented in a variety of ways; for example, some sites changed little in the way of the IHE's approach to training except the location, but other sites made major changes in course content, attitude and manner of delivery.

distinguished from field-based training, generated less support. When interpreted as community education, for example, the requirement was considered of no value; this position largely was due to the difficulties in establishing long-lasting community/parent participation and the view that community education is "unimportant" and a "passing fad." 31/

3. Project sites appeared to have great difficulties in translating the rules and regulations regarding training content into effective practice. When perceived by the teachers to be important, the task was easier. The report indicated that the sites had a much easier time delivering in-service training to the teachers than the teachers did in translating what they had learned into classroom practice.

Efforts to document evidence that Teacher Corps projects had made contributions to improved staff development practices faced some difficulty because documentary evidence is limited when the participant sites are only in their first or second year of training. Thus, findings are based on "proximate" impact rather than "ultimate" impact. The general findings were as follows:

1. In those schools with little or no previous systematic in-service training programs, staff development efforts had substantial impact on local school sites.
2. Differential effects of programs in feeder system schools were a recurring theme. 32/ In-service efforts appeared to work more effectively at the elementary level. Problems with high school programs may have been attributable to newness of the high school component of the program, the size and fragmented nature of the high schools, attitudes of high school teachers, or other problems unique to high schools. On the other hand, some sites used the feeder system as an opportunity to gain more by sharing resources and training experiences.
3. Efforts to analyze the impact on IHEs suggested that sufficient local-level persistence eventually overcame the initial resistance to field-based training. Faculty members developed a sensitivity toward the problems and educational needs of teachers teaching in poverty areas, and a "critical mass" of educators became oriented toward the problems of contemporary schools and the potential values of in-service support to schools.

31/ Stayrook, Nicholas, et al. p. 29-30.

32/ In this context, feeder system schools are those in a particular system which start at the elementary level and feed into the junior high level or from the junior high into high school.

Efforts to determine the degree to which Teacher Corps projects contributed to institutionalization of educational change were limited to an 18-month study of IHEs in four projects. 33/ The focus was on the extent of lasting change that occurred in IHEs as a result of participating in the Teacher Corps program. More specifically, the study attempted to "investigate educational changes attempted by the projects and trace them on their way to institutionalization or to oblivion." 34/ Project sites were selected on the basis of an expressed desire to implement change at their IHE, and from those sites "perceived by Teacher Corps educators to have high potential for change."

1. Major changes, consistent with the intent of the Teacher Corps legislation, had taken place in the participating IHEs and the potential for continued change appeared to be great. Furthermore, much of the change that had occurred was expected to remain beyond the life of the Federal grant. (These positive results are contrary to the contention that Federal program interventions typically are ineffective. Many have contended that the program vanishes when Federal grants stop, that funds are not spent on what was intended, or that, even when funds are spent as intended, the results are negligible.)
2. The Teacher Corps had been in existence for 15 years, had used evaluation results to improve the program, and had responded to evaluations and other changes during that period. Program improvement was credited to the successful application of the evaluation process that placed great reliance on indepth, longitudinal case studies.
3. Administrative and leadership factors also were credited with producing lasting changes. As might be expected, changes were more likely when the values of the grantor and the IHE were congruent. Impact was more likely when a strong project director had been appointed from the faculty ranks, when the project leader used a "low-key" style of leadership, and when the leader was persistent and maintained the primary focus of the project.
4. Lasting changes were more likely when strong support was received from those controlling institutional resources. Impact was also more likely when technical assistance had been provided.

33/ Bush, Robert and John Bock.

34/ Ibid., p. xix.

The third phase of the SRI study sought to determine the influence of Federal rules and regulations in defining and directing the program in diverse project settings. 35/ Data were collected through field interviews, analysis of documentation essays, and field visit observations. The data were collected during the first 3 years of the 5-year Teacher Corps funding cycle. The following provisions in the Federal rules and regulations appeared to have facilitated policy implementation:

1. the 5-year authorization cycle;
2. time available for planning and development;
3. required collaboration between the IHE, the local school site, and the associated community; and
4. the opportunity to have locally defined project objectives and program strategies.

These factors were reflective of the contentions of Berman and McLaughlin that the overall key to implementation success can be achieved through a process called "mutual adaptation." The underlying assumption is that guidelines, in this case Federal guidelines, can contribute to improved practice at the local level, but that guidelines must be adapted to the local context in order to do so. Likewise, in designing a project around local needs, participants will be required to direct their efforts toward the goals and activities set out in the Federal and/or agency policy. 36/

35/ Beers, David L. et al.

36/ Berman, P., and M. McLaughlin. "Implementation and Sustaining Innovations," vol. VIII of Federal Programs Supporting Educational Change. Santa Monica, California, The RAND Corporation. 1978.

Comments

In the Federal effort to address the educational needs of disadvantaged students in poverty areas, Teacher Corps programs were designed to train new teachers and retrain experienced teachers to teach in poverty area schools. Initially, during a teacher shortage, the focus was on training new teachers, but later, with the development of a teacher surplus, was on retraining experienced teachers.

The overall program design appeared to have been successful. Teachers with experience in poverty areas functioned well as team leaders. Interns (persons preparing to be teachers or teachers without experience in poverty areas) appeared to develop a better understanding of the educational needs of poverty areas and to attain the skills and knowledge needed to teach in those areas.

Several evaluations were conducted during the 15-year life of the program. Findings were used to identify amendments needed to improve the legislation. For example, amendments were enacted to provide for increased community participation in the governance structure. In the later years of the Teacher Corps program, funds were provided to develop curricular materials in science and mathematics and to train teachers in their use.

In summary, this model for using intensive field experiences in training teachers appeared to have been successful. In addition, LEAs increased the level of their staff development activities. Participating teachers appeared to have become more sensitized to educational problems in poverty areas, and to have benefitted from the interaction with others in the program. Teacher Corps projects appeared to have contributed to permanent change in IHE teacher education programs. Even though these comments are relatively positive, no assessments have been made of the longterm impact of the program because of the lack of

Federal research funds for education. Such funds typically are used for review of programs scheduled for reauthorization by the Congress.

TEACHER CENTERS

Programs to improve the skills and increase the knowledge of teachers have received increased attention in recent years. Teacher Corps programs focused on training teachers (either interns, new recruits, or experienced teachers) for poverty areas, while Teacher Centers sought to upgrade the skills of all experienced teachers regardless of teaching locale. Teacher Centers evolved primarily during the sixties, spurred by the 1957 launching of Sputnik that precipitated the national concern and the allocation of Federal funds for retraining teachers.

Various forces influenced the Teacher Center movement. They include the increased interest of the organized teaching profession in its own professional development, the potential for private and public support, and a strong United States interest in the development of national networks of teacher centers in the United Kingdom and Japan. Other factors include higher education's initiation of field-based training centers, dissatisfaction of local school officials about existing in-service education opportunities, and increased interest in related education concepts or approaches, e.g., open classrooms, competency-based education, alternative schools, and staff development as a means toward change. ^{37/}

No single definition of Teacher Centers has been accepted. They are distinct from in-service education, in that Teacher Centers refer to a particular set of structures that provide specific kinds of programs, while in-service

^{37/} Jordan, K. Forbis and Sharon Masanz. Teacher Centers. CRS White Paper. December 5, 1978. 7 p.

education refers to a "massive endeavor, and attempts to account for all training programs for educational personnel." ^{38/} Teacher Centers are actually a subset of in-service education. Teacher Centers, for example, most often focus on providing one or two types of services that are most often highly job-related, while in-service education generally refers to a wide diversity of training activities that are not necessarily directly related to improved instructional practices, such as professional development activities and training leading to job diversification and/or upward mobility. A major distinction between in-service education and Teacher Centers is the role traditionally held by IHEs. In Teacher Centers, teachers have greater control over their in-service programs.

Teacher Centers have been defined in terms of their conceptual basis, organizational structure, and stated function. Conceptually, most Teacher Centers were designed with a consistent underlying premise--that teachers should play a more active role in efforts to improve their teaching performance. ^{39/} Teacher Center advocates often have perceived this shared premise differently and/or attempted to achieve this end in a variety of different ways. At one end of the continuum, Teacher Centers were viewed as programs for the training of all educational personnel in which the participants would have the opportunity to share successes and resources while receiving training directly related to their day-to-day experiences in the classroom. At the other end of the continuum, the Centers were seen as programs for practicing teachers (mostly elementary) which aimed to be responsive to each teacher's own definition of his or her learning

^{38/} Yarger, Sam. Inservice Education and Teacher Centers (in) Commissioner's Report on the Education Professions, 1975-76. Teacher Centers. Washington, Department of Health, Education, and Welfare. 1977. p. 30.

^{39/} Feiman, Sharon. Evaluating Teacher Centers. School Review, May 1977. p. 395-411.

needs rather than to an administrator's or a curriculum committee's imposed agenda. 40/

Organizationally, Teacher Centers were generally defined in terms of their governance structure or affiliation. For example, some Centers were affiliated with a particular IHE or educational association, others were part of a consortium and still others functioned independently. As part of a consortium, Centers were often established between one or more LEAs and an IHE at either a statewide or intrastate level. Some institutions chose to enter into a consortium relationship willingly, while other such relationships were prescribed by State-level legislative mandate or political influence. 41/

Functionally, Teacher Centers have been defined as a set of shared educational practices and beliefs. Yarger and Schmieder describe four types of Teacher Centers: facilitating, advocacy, responsive, and functionally unique. 42/ The "facilitating" Center does not offer a particular program, but rather functions to meet the needs of each individual and to facilitate a teacher's personal development. Yarger and Schmieder describe facilitating centers as those which "serve a heuristic, 'colleagual,' almost social-educational function." 43/

The "advocacy" Teacher Center is characterized by a particular educational philosophy or programmatic commitment. Such Centers, for example, may advocate a particular form of instruction or school organization such as open education,

40/ Jordan, K. Forbis and Sharon Masanz, p. 2.

41/ Yarger, Sam and Allen Schmieder. Understanding Existing Teacher Centers (in) Commissioner's Report on the Education Professions, 1975-76. Teacher Centers. Washington, Department of Health, Education, and Welfare. 1977. p. 43.

42/ Ibid., p. 44-45.

43/ Ibid., p. 44.

competency-based instruction, or differentiated staffing. These Centers usually limit their focus to one educational philosophy or orientation.

"Responsive" Teacher Centers either respond to the specific needs of the individual teacher or to the specific needs of an educational institution. In both cases there is an implied needs assessment and an agreement to design an in-service program in line with mutually determined objectives.

"Functionally unique" Centers serve a rather limited and unique function. The Teacher Center, for example, may focus on materials development, research, and/or field testing of available materials. In some situations these Centers may have evolved into an in-service program as a result of the perceived need and interest from the field in the original service provided. Thus, a program originally designed to address the needs of a particular type of child may ultimately become an in-service program if teachers start to visit it regularly and begin to seek instruction regarding a Center's classroom practices and materials.

Others have functionally defined Teacher Centers as either behavioral, humanistic, or developmental. Behavioral Centers focused on specific teaching behaviors and techniques designed to improve teacher performance. Humanistic Centers focused on increasing a teacher's sense of control over professional growth and development. Developmental Centers focused on programs to "stretch teachers beyond their own starting points to new levels of understanding and to encourage teachers to reflect on their teaching" and on the assumptions teachers held. 44/

Grants to establish Teacher Center projects were made by the Teacher Center Office of the Department of Education to LEAs and/or IHEs to plan, establish, and operate the Centers. All Teacher Centers were governed by a policy board consisting of primarily elementary and secondary teachers. Funded projects were

44/ Jordan, K. Forbis and Sharon Masanz, p. 5.

authorized to offer a wide range of training opportunities in curriculum development and dissemination, and the improvement of teaching skills.

Summary of Legislative History 45/

Teacher Center legislation was signed into law as part of the Education Amendments of 1976 (P.L. 94-482). Actual program funding began in FY 1978.

Title V of the Education Amendments of 1980 (P.L. 96-374) amended the original Teacher Center legislation to provide for at least one Teacher Center grant in each State for each funded fiscal year. The 1980 legislation also provided for the governing board of the Teacher Center to include bilingual education teachers among its members when appropriate.

Teacher Centers were phased out by P.L. 97-35, with final funding in FY 1981.

Funding History

Appropriations were first provided in FY 1978 at the level of \$8.3 million. The highest level (\$13 million) was in FY 1980; and the lowest level was in FY 1978. In FY 1981, the final year of funding, \$9.1 million was appropriated.

Program Data

The program was funded from FY 1978 through FY 1981. In FY 1979, 89 grants were funded in 41 States. These project grants supported a total of 130 separate Teacher Centers. By FY 1979, all States had appointed coordinators to sponsor teacher center activities.

45/ Stevens, Anne and Mark Wolfe; and Annual Evaluation Report.

During FY 1980, the year with the largest appropriation, 89 Teacher Centers were operated in 42 States. These programs typically involved one or more IHEs and one or more LEAs. Funding was also being provided for 10 planning grants.

Evaluations

Despite recommendations by the Teacher Center staff in the Office of Education, a national evaluation of the Teacher Center program was not mandated in the legislation. During the program's 4-year history, though, a variety of attempts were made to document activities at regional "clusters" of Teacher Center programs. The most comprehensive documentation activity, conducted at Syracuse University, was a national effort involving the review of 37 Federal Teacher Center programs between January 1 and August 31, 1980. 46/

The purpose of the Syracuse effort was to describe the activities and functions served by the Centers and to use the knowledge gained to improve future in-service education efforts. This type of activity is distinct from summative evaluation efforts because documentation activities, unlike summative evaluations, do not set out to judge the value of the program or to consider the program in terms of its strengths and weaknesses. Documentation efforts instead set out simply to describe and document what exists. For the most part, the findings presented below are based on self-reported data collected by the Syracuse University project staff via telephone interviews with on-site Teacher Center documentors. 47/

46/ Mertens, Sally K., and Sam J. Yarger. Teacher Centers in Action. Syracuse, New York, Syracuse Area Teacher Center. Syracuse University. January 1981.

47/ Participating Teacher Centers volunteered to participate in the documentation study.

1. In contrast to the contentions of some critics, the "new style" of governance structure used for the Teacher Centers was not a major "stumbling block" in the decision-making process. The new dimension was that the majority of the members of the governing body were to be teachers. This arrangement was considered to have been important to the future development of in-service education.
 - a. Teacher Centers were not designed to be run by teachers, but rather by policy boards that were to provide teachers with greater influence in the decision-making process than historically had been the case.
 - b. Administrators in LEAs and administrators and faculty at IHEs also served on the boards, but in fewer numbers than the teachers.
 - c. The majority of the LEAs and IHEs that housed Teacher Centers reported that they were able to "handle the supervisory power embedded within the policy board with little or no trouble." 48/
2. In general, classroom teachers determined the substance, structure, and delivery mode of the services and resources provided in the Center.
 - a. Nearly 60 percent of participant time in the Centers was spent on activities related to pedagogical skills. "This means that teachers, when they have a voice, clearly ask for new and better ways to instruct children in classrooms." 49/ In contrast, in-service offerings generally available in IHEs typically did not approach that level of time allocated to pedagogical activities. Furthermore, teachers generally were not looking for elaborate and "exotic" curricular activities, but rather were interested in basic and practical skills and techniques that would enhance their teaching abilities.
 - b. Teacher Center activities were not heavily focused on helping teachers develop skills to work with special needs populations, i.e., handicapped, gifted and talented, and economically disadvantaged. The reasons for this were not clear, i.e., teachers may have viewed good instruction as applicable to all children, or may have perceived that this is someone else's job (i.e., those who run programs for special needs children). Nevertheless, the study reported that if teachers

48/ Mertens, Sally K. and Sam J. Yarger, p. 158.

49/ Ibid., p. 146.

needs are to be reflected, there should be minimal emphasis on developing curriculum for special needs populations. 50/

- c. The content of Teacher Center activities was generally sharply focused, narrowly targeted, and of short duration. Apparently, teachers "clearly prefer in-service programs that attempt to reduce the complexity of the world they live in." 51/ In contrast to what some critics of Teacher Centers had predicted, Teacher Center activities generally did not focus on personal aspects of a teachers life, i.e., stress management or the effects of teaching on a teacher's life.
3. Teacher Center activities contributed to the development of a diverse and creative set of in-service delivery mechanism. The Centers focused on providing individual in-service assistance by branching beyond the notion of person to person contact.
- a. Teacher Centers provided individualized training through the traditional means (i.e., Center staff working individually with teachers) and by more unusual means such as Center staff becoming "linking agents," essentially serving to link teachers with needed human and technological resources.
 - b. Individualized services were designed to be accessible. Materials and equipment centers were created with which teachers could work independently without Center staff.
 - c. A reported key to the success of in-service programs was that they be supported by strong promotional efforts, and that they maintain a two-way communication channel between clients being served and those providing the service.

Comments

In-service education through Teacher Centers was different from traditional patterns. Practicing teachers were placed in a decision-making role about programs. Rather than in-service programs being collegiate courses packaged by

50/ Most often, an underlying theme of Teacher Centers was that teachers should decide for themselves what their training needs are and then should develop inservice offerings to meet those needs. One might argue, for example, in the case of special needs populations, that this philosophy is not in the best interest of their students, i.e., either "normal" or special needs children.

51/ Mertens, Sally K., and Sam J. Yarger, p. 148.

faculty members in IHEs, programs were more individualized in terms of identified needs of the participating teachers. The increased interaction between teachers and those providing the service may have contributed to the perception that the programs were more relevant.

Programs tended to be focused on skills and techniques to enhance teaching abilities; however, typical programs were not heavily focused on helping teachers work with special needs students. Except for this latter point and the fact that the program funds were awarded through discretionary grants, the general observation from the available evaluative material appears to be that the programs were successful in achieving their goals of providing local school personnel with a greater voice in decisions about teacher in-service programs and of providing teachers with relevant inservice training. Concerns about the relatively small percent of LEAs that participate in categorical discretionary grants and the desire to decentralize decisions about educational priorities likely contributed to the Teacher Center program being consolidated into the Education Consolidation and Improvement Act of 1981 (P.L. 97-35). Because of the lack of national reporting requirements concerning the uses of funds under the State Education Block Grant, no information is available concerning the use of funds.

EDUCATION PROFESSIONS DEVELOPMENT ACT (EPDA)

The Education Professions Development Act (EPDA) was passed into law in 1967. Historically, the program's beginnings may be traced to the post-Sputnik era which produced the National Defense Education Act (NDEA), the Cooperative Research Act (the first major Federal support for educational research), and institutes for teachers established under the NDEA and the National Science Foundation (NSF).

In 1966, the Commissioner of Education, Harold Howe II, called for a task force to look at educational manpower needs. The task force concluded that new legislation was needed for teacher training because: (1) a teacher shortage existed; (2) current Federal programs authorizing teacher training were scattered, excessively categorical, and inflexible; (3) no mechanism was available to assess teacher needs; and (4) existing legislation provided little leverage to encourage teacher education reform in schools of education. 52/

Prior to enactment of the EPDA, an agreement was reached that all of the existing educational manpower programs would not be replaced by EPDA. In the end, the final legislation included several already operating programs (i.e., Teacher Corps and teacher fellowship programs), but excluded at least 15 existing programs (specialized programs such as those for training of teachers for the handicapped). 53/

Despite much dissension within the Office of Education (OE), a new bureau, the Bureau of Education Personnel Development (BEPD), was created in OE to oversee administration of the Act. From the beginning, program implementation was hampered by internal battles in the BEPD and considerable disagreement between Congress, the OE staff, and the education community in general, regarding the purposes and major objectives of EPDA. Various observers contended that the program's primary purposes and objectives were:

1. primarily a means to satisfy the teacher shortage;
2. a way to encourage the reform of schools of education;
3. a program focused on the problems of poverty-area schools; and
4. an all-encompassing combination of the above.

52/ Davies, Don. Reflections on EPDA. Theory Into Practice. Vol. XIII, no. 3. summer, 1974. p. 210.

53/ Ibid.

"Some called for aggressive OE leadership in setting priorities, writing tough guidelines, closely monitoring, and rigorous evaluation; others hoped that the (OE) would primarily be responsive to the needs of the field." 54/

According to Don Davies, former EPDA Director, the most controversial aspect of the program had to do with BEPD's policy to give grants for personnel development projects directly to LEAs, "making it possible for them to negotiate from a position of strength with colleges and universities, while requiring them to include the community in their decision-making processes." 55/ The intent behind this strategy was to encourage schools of education to reform and share some of their power with the local schools.

Another controversial aspect of the program, which ultimately may have contributed to the program's legislative demise, was referred to as the "Renewal Scheme." Sidney P. Marland, Jr., at the time Commissioner of Education, planned to consolidate all of OE's discretionary authority to set up comprehensive teacher retraining centers across the country. Key members of Congress perceived the "renewal" effort as an attempt by OE to change the congressional intent of the EPDA legislation. During Senate debate of the renewal proposal, Marland was accused of "misrepresentation" and as a result OE "lost much of its discretionary authority and incurred the wrath of Congress." 56/

54/ Ibid., p. 211.

55/ National Issues in Education Professions Development: fall, 1976. Washington, National Council on Education Professions Development. p. 5.

56/ Ibid., p. 6.

Legislative History 57/

H.R. 10943, a bill to amend and extend title V of the Higher Education Act of 1965, was introduced in the House of Representatives on June 19, 1967, by Congressman Carl Perkins and others. The bill was referred to the Committee on Education and Labor.

A similar bill, S. 2028, was introduced in the Senate on June 27, 1967, by Senator Wayne Morse. This bill was referred to the Committee on Labor and Public Welfare.

H.R. 10943 was reported on June 20, 1967 (H. Rept. 90-373) and passed the House of Representatives on June 27, 1967. S. 2028 was reported out on June 27, 1967, and the Senate passed H.R. 10943 in lieu of S. 2028. The bill was signed into law on June 29, 1967, as P.L. 90-35.

This new legislation amended and extended title V of the Higher Education Act of 1965 by:

1. establishing a National Advisory Council on Education Professions Development to review and advise on the operation of this title and related programs;
2. authorizing a program to encourage qualified persons to enter the field of education;
3. extending and amending the Teacher Corp program; 58/
4. extending the teacher fellowship program to include graduate study in vocational, preschool and adult education, educational television and radio, child development, and school administration;

57/ Dorko, Kathryn. P.L. 90-35--Education Professions Development Act, as amended. CRS Multilith 71-134 ED, May 18, 1971; Katherine Montgomery. Background and Summary of the Education Professions Development Act. CRS Multilith 73-74 ED, March 22, 1973; and United States Code, 1970, Education Supplement V, 1975. Titles 20-41, p. 1570-1576.

58/ Amendments made to Teacher Corps program are described in detail in the section of this report entitled: TEACHER CORPS, Legislative History.

5. authorizing programs for advanced training and retraining of elementary and secondary education personnel;
6. authorizing fellowships for the training of education personnel in institutions of higher education; and
7. providing training and development for vocational education personnel.

EPDA was amended by P.L. 90-247, the Elementary and Secondary Education Act Amendments of 1967, P.L. 90-575, the Higher Education Act of 1968, P.L. 90-576, the Vocational Education Amendments of 1968, P.L. 91-230, the Elementary and Secondary Education Amendments of 1970, P.L. 92-318, the Education Amendments of 1972, and P.L. 93-380, the Education Amendments of 1974.

The EPDA, with the exception of the Teacher Corps, was repealed under the Education Amendments of 1976.

Funding History

The first EPDA appropriation was in FY 1969 at the level of \$4.7 million. From FY 1970 through FY 1972, the appropriation was \$5.0 million; the high year was FY 1973 with an appropriation of \$5.132 million. No funds were appropriated in FY 1974, and the final year of funding was FY 1975 with an appropriation of \$1.57 million.

Program Data

During FY 1973, the peak year of funding, the following programs were funded under the EPDA legislation:

<u>Program</u>	<u>Projects</u>	<u>Participants</u>
Teacher Corps	395	4500
Educational Leadership	19	796
Career Opportunities	130	8400
Early Childhood	5	72
Exceptional Children	29	1322
Training of Teacher Trainers	29	10000
Pupil Personnel Services	8	1000
Urban/Rural School Development	41	6500
Teacher Training in Developing Institutions	35	1250
Vocational Education Personnel	200	n/a

Evaluations

In fall 1976, the National Advisory Council on Education Professions Development released a special report which contained a summary evaluation of EPDA. In general, the Council's findings supported those of Davies, the former EPDA director. He believed that some good had resulted from the Act, but that, because of the conflicts in EPDA purposes, it was next to impossible, and possibly meaningless, to attempt to evaluate the Act in terms of its successes and failures. From the beginning "everyone in the field--from classroom teachers to school board members and education faculty--saw EPDA as a pie-in-the-sky for his or her own pet idea for reform or renewal of American education." 59/ This confusion in purpose, along with planning and evaluation done "too little, too narrow and too late," produced a situation in which EPDA "satisfied some people and groups not at all and some people and groups only partially . . . (and) for nearly everyone much of the dream ended in frustration." 60/

Davies contended that the positive results of EPDA included:

1. more teacher training was done in schools and communities,
less in college classrooms;

59/ National Issues in Education Professions Development, p. 4.

60/ Davies, Don, p. 211.

2. communication was improved, i.e., administrators, college faculty, teachers, and community representatives talked and listened to one another;
3. change was made in staff development activities at the school district and university level; and
4. mechanisms were designed to give teachers and parents more decisionmaking authority. 61/

Major flaws cited by Davies included:

1. too many EPDA programs, resulting in a diffusion of limited resources;
2. numerous other similar grant programs in the Office of Education at the time. Each had its own guidelines, time schedules, and differing relationships with different universities; consequently, the institutional impact on any one college or school was weak; and
3. inadequate "formative" evaluation so that EPDA could not improve as it evolved. 62/

Consistent with the Davies analysis, the Advisory Council also cited historical factors that influenced EPDA. For example, even though the original EPDA legislation called for improvements in the quality of teachers, congressional debates (prior to adoption) and the actual language of the statute indicated that the teacher quantity was a major reason for enacting the legislation. 63/ By 1970-71 the teacher supply and demand ratio had begun to balance out, thus those that originally viewed EPDA essentially as a means of increasing the number of teachers in the workforce now saw EPDA as unnecessary.

The Council's analysis of individual EPDA evaluations shows that they were often "irrelevant" because of (1) an insufficient period of operation for EPDA programs for the results of the evaluations to be useful; (2) a conflict between

61/ Ibid., p. 212.

62/ Ibid., p. 212-213.

63/ National Issues in Education Professions Development, p. 9.

the Nixon Administration and the Congress; (3) inadequacies of the evaluation design or processes, and (4) a lack of concern. 64/

Comments

Efforts to determine the effectiveness of the EPDA program are hampered by the relatively short period of operation, inadequate data collection procedures, and the lack of follow-up information on the activities of the program participants. Most evaluations were conducted after the program had terminated, and evaluation findings could not be used to improve programs. In contrast to the Teacher Corps and Teacher Center programs, EPDA encompassed a range of activities and did not have a single focus. As noted in the previous discussion, some observers contended that interest in the program appeared to decline with the emergence of a teacher surplus.

The repeal of the EPDA may have been the result of a variety of factors including the end of the teacher shortage, the lack of a systematic evaluation plan, and the "cloud" of controversy that surrounded the program from the beginning. Senate testimony and committee recommendations suggest that the decision to repeal EPDA did not reflect a negative judgement on the effectiveness of the individual EPDA programs, but rather reflected a negative judgement regarding program leadership and administration. 65/ On July 17, 1975, the chairman of the National Advisory Council testified that the Council supported

64/ Ibid., p. 10; and further evidence of evaluation weaknesses as cited by R. Anderson, and W. Salter. A Study of the Education Professions Development Act Training Programs for Higher Education Personnel, Volume I: Introduction and Summary of Findings. Final Report. Abt Associates, Inc. Cambridge, Ma. 1973. p. 26.

65/ United States Code Congressional and Administrative News, 1976. Vol. 4. 94th Congress, 2d Session. St. Paul, West Publishing Co. pp. 4745-4748.

the "concept" of the EPDA legislation, but (1) was "not overjoyed with it's administration" and (2) felt that "there is little to be said for a demonstration project (that did not) figure out what it demonstrated." 66/ Even though EPDA was not reauthorized in the Education Amendments of 1976, the Teacher Corps component was retained as a separate program , and Teacher Centers were authorized as a new Federal program.

FEDERAL OPTIONS

Consideration of Federal options is difficult without resolving the issue of the appropriate Federal role. If one accepts the position that there is an appropriate Federal role, then the issue becomes what primary problems should be addressed by the Federal Government. For example, should the quality of America's teaching force be a matter for Federal action, or left to resolution by States and localities? Are current quality and quantity concerns about America's teaching force of sufficient magnitude to warrant Federal action? Are conditions roughly similar, or different, across the Nation? Should some type of Federal action be taken to encourage school districts to raise the motivational levels and improve the status of teachers? Should a Federal program be started that will assist school districts in their efforts to seek the best teachers and dismiss the worst? Is the primary goal to improve the performance of current teachers, upgrade the skills of current teachers, recruit the "best and the brightest" high school graduates into teaching, or improve teacher education programs? What currently funded Federal programs might be used to redress teacher problems?

66/ Hearings Before the Subcommittee on Education of the Committee on Labor and Public Welfare. U.S. Senate. 95th Congress. 1st Session. July 17, 1975. p. 835.

Do current Federal programs provide State and local school officials with sufficient amounts of funds and latitude in their use to resolve the issue if it is of sufficient priority? Should new proposals revive previous approaches, or should a new model be proposed? Should programs utilize existing institutions, or should entrepreneurship be encouraged? What governance structure should be used? To what degree should any Federal effort include cost-sharing by SEAs or LEAs?

Many of the questions listed above are rhetorical, and different responses can be given depending upon the philosophy of the respondent. However, as indicated in another paper by the authors, the academic ability of persons entering teaching is declining; America's teaching force is "graying" and experiencing a shortage of new recruits in certain areas; and the most able new teachers are less likely to stay in teaching. 67/

Current Programs

The principal current program that might be used to address quality or quantity problems in the teaching force is the State education block grant funded through chapter 2 of the Education Consolidation and Improvement Act of 1981. Teacher Corps and Teacher Center programs were consolidated into this program. The chapter 2 authorized activities include the broad power to conduct activities similar to those previously conducted under either program. The major difference is that funds are allocated to LEAs, and no provision was included to ensure participation by IHEs or to require teacher membership on any advisory, policy,

67/ These observations are not based on CRS research but rather on a review of studies reported in: Borkow, Nancy B. and K. Forbis Jordan. The Teacher Workforce: Analysis of Issues and Options for Federal Action. Congressional Research Service. November 7, 1983. 29 p.

or governing body. In addition, this program included approximately 40 previously authorized activities that compete for chapter 2 funds without any "guarantee" that the funds will be used for teacher training or retraining programs. The FY 1985 budget submissions recommend that funding for chapter 2 be increased from \$479 million to \$729 million, a \$250 million increase, and spokespersons from the Department of Education are stressing that these funds may be used for any aspect of educational improvement except school construction. 68/

A portion of the funds appropriated under other programs such as chapter 1 of the Education Consolidation and Improvement Act of 1981 (education of disadvantaged children), P.L. 94-142 (education of the handicapped), and the Vocational Education Act can be used for teacher training. However, these funds may only be used for programs to train teachers to work with students in a specific program, and not on activities to assist teachers in working with "regular" students.

Current Proposals

Concern in the first session of the 98th Congress about the quality of precollege science and mathematics teachers has contributed to the introduction of several bills that would provide funds for scholarships to prospective science and mathematics teachers and also to persons with a bachelor's degree who seek to become qualified science and mathematics teachers. 69/ Other measures would fund workshops for science and mathematics teachers. H.R. 4477 (Wyden

68/ Mirga, Tom. ED Says Limits on Chapter 2 Funds Will Be Flexible. Education Week, February 8, 1984. p. 1, 11.

69/ For detailed information, see: Education in America: Report on its Condition and Recommendations for Change. CRS Issue Brief IB 83106 [by] James B. Stedman. Continuously updated; and Precollege Math and Science Education. CRS Issue Brief IB 82092 [by] K. Forbis Jordan. Continuously updated.

et al) was introduced on the last day of the first session of the 98th Congress. This measure would provide scholarships in amounts up to \$5,000 per year for successful applicants drawn from the top 10 percent of their high school graduation class and would also make cash awards to outstanding teachers. In contrast to most other current proposals, this bill would not be restricted to those planning to become science and mathematics teachers, but would be available to individuals planning to teach in any area.

Alternative Initiatives

Concern about the need for educational reform has been a major agenda item in American public elementary and secondary education since the release of the report of the National Commission on Excellence in Education. ^{70/} Major areas of interest are (1) the quality of current teachers in the schools; (2) insufficient qualified applicants for vacancies in specific areas such as teachers for classes in mathematics, science, education of the disadvantaged, and education of the handicapped; and (3) reform of teacher education programs.

The basic policy questions may be whether a Federal response is appropriate or needed, or whether the matter should be left to resolution by States and localities. In the following discussion, for those who might advocate some type of Federal action, two alternative levels of Federal action are discussed. The first consists of programs that might be funded under the assumption that the problem and the issue merit direct Federal funding. The second consists of a series of actions that might be characterized as more indirect. Obviously, different levels of funding would be required depending upon the response.

^{70/} A Nation at Risk: The Imperative for Educational Reform. The National Commission on Excellence in Education. Washington, U.S. Department of Education. 1983.

Direct Funding Initiatives. As noted earlier in this discussion, various Federal efforts have been initiated previously to address similar problems. An analysis of these prior experiences suggests that consideration be given to the following issues as decisions are made about alternative responses:

1. Program Focus. Should the program emphasize specific subject or discipline content, general pedagogy, or techniques for working with special needs students?
2. Subject Matter Restrictions. Should the effort be restricted to certain high priority areas such as science and mathematics; should all instructional areas be included; or should the program be limited to a small number of areas to be determined at either the State or local level?
3. Participation. Should the program design assume participation by virtually all teachers working in areas related to the program focus, or should participation be limited to either the most successful teachers, students most qualified to become teachers, or those teachers in "lighthouse" or exemplary school districts?
4. Administering Agency. Should grants for administering programs be awarded to LEAs, IHEs, SEAs, teacher organizations, or private firms?
5. Cooperative Activities. Should grants be restricted to consortia arrangements involving one or more LEAs with either a public or private agency that is to provide the training resources?
6. Composition of Policy Group. What role should teachers have in program decisions? Should one group (LEA administrators, teachers, or training officials) have a majority of seats on the policy board, or should the voting seats be equally divided?
7. Program Evaluation. What provisions should be included to ensure that projects are evaluated in a timely manner that (a) will permit the use of evaluation findings in efforts to update and improve the program, and (b) will provide information concerning the degree to which the program met its objectives?

Positions on the issues outlined above may result in one or more alternatives being more desirable than others, but the following alternatives appear to encompass the major options:

1. career development programs utilizing a master teacher working with interns in "hands-on" activities in LEA classrooms, with the interns pursuing a program to become qualified teachers;

2. staff development programs in which groups of teachers participate in in-service activities designed to improve their ability to perform their current teaching assignments;
3. teacher education program improvement grants to IHEs for developing new materials to improve current teacher education programs, developing IHE staff, or forming cooperative working relationships with IHEs and/or LEAs; and
4. scholarship/incentive programs for outstanding high school students to pursue teaching careers with (a) funding at a sufficient level to attract quality students, and (b) a service or payback requirement that will encourage the program graduates to enter teaching.

Other options to improve the teaching force include the following:

1. scholarships for unemployed teachers who wish to secure entry-level training in academic teaching areas in which a shortage exists;
2. financial assistance for persons with baccalaureate degrees who seek to meet entry-level professional education requirements;
3. tax credit provisions for private sector employers who release their employees to teach in the schools;
4. tax credits for teachers with assignments in designated shortage areas;
5. direct Federal subsidies for teacher salaries in amounts sufficient to alter supply-demand conditions; and
6. Federal funding to cover the reciprocity costs of teacher retirement programs to encourage interstate mobility of teachers.

A major policy choice appears to be whether the intent of any Federal effort would be to increase the "quantity" of teachers or to improve the "quality" of current teachers. In addition to the quality/quantity dilemma, during the current period of economic restraint for domestic programs, the level of funding required to implement an option likely will be a key factor in any decision to accept or reject a choice.

Career development programs might provide some relief on the quantity problem, but their full impact would be delayed until completion of a cycle in the program. This option might be restricted to subject areas in which there is a

teacher shortage, thereby reducing the cost. The fiscal outlay could be reduced by limiting the program to certain areas of the Nation or certain types of LEAs perceived to have the highest level of need.

Of all options, staff development programs might have the most immediate impact on the quality problem and also have the potential of reaching the greatest portion of the America's classrooms, but general participation would increase the required funding level. In addition, the effect of this option should be visible in the Nation's classrooms almost immediately because current classroom teachers would be participating in the programs.

Teacher education program improvement grants would have the potential of addressing both the quality and quantity problem, but might not have an immediate impact on classroom instruction. Participation likely would be restricted to a limited number of IHEs, thereby likely making the immediate budget impact less. In the private sector, such activities likely would be classified as research and development, and might be supported under the assumption that the long-term return might be greater than under the other options.

Scholarship/incentive programs have the potential advantage of raising the quality of persons entering teaching, but fail to address quality problems related to current teachers. One dilemma with this program is that requirements should be included to ensure that the scholarship recipients have sufficient incentive to enter teaching, but that consideration may need to be given to the relative merits of considering some alternative service requirement for those who are not successful in the classroom. ^{71/} Immediate impact on the classroom would not be evident, and funding in the \$100 million range is a likely target.

^{71/} For additional information, see: Stedman, Jim. The Experience with Loan Forgiveness and Service Payback in Federal and State Student Loan Programs. CRS White Paper. January 27, 1983. 28 p.

Indirect Initiatives. Various Federal activities and programs in the Department of Education could be targeted on the improvement of America's teaching force. For example, this issue could become a program priority for the National Center for Education Statistics, for the National Institute of Education, and also for the Secretary's discretionary fund under the State education block grants funded through Chapter 2 of the Education Consolidation and Improvement Act of 1981. Under the proposed FY 1985 budget, additional funds have been proposed for the latter two programs. Illustrative potential activities include:

1. competitive grants for innovative teacher education programs;
2. in-service teacher training programs funded on a demonstration basis;
3. research projects that focus on current concerns such as variables affecting teacher performance and student learning;
4. information clearing house services about such items as successful teacher education and staff development programs; and
5. basic information concerning the status of America's teaching force including such items as the number of actual subject matter vacancies, inadequately prepared teachers, and teachers approaching retirement. For policy purposes, such information might be more useful if reported on a State-by-State basis.

CRS Report for Congress

Teachers: Issues for The 101st Congress

*Thought the
"Fed. Initiatives"
section beginning
on p. 45 would be
of some interest*

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February 23, 1990



TEACHERS: ISSUES FOR THE 101ST CONGRESS

SUMMARY

As concern about the quality of the 2.3 million teachers in public elementary and secondary school classrooms intensifies, the 101st Congress is considering legislation to increase the number of qualified teachers in precollegiate education.

Active reform to improve the teaching force is taking place at State and local levels in such areas as teacher education, teacher certification, and teacher compensation. Some of these reform efforts are increasing the amount of responsibility teachers have over school policy and practice. Further, various groups are developing substantially different curricula for various subject areas, such as mathematics and science, posing still further challenges to teachers' capacities.

Coupled with these changes is the projected need for new teachers during the 1990s. **Approximately 2.2 million new public school teachers may need to be hired in this decade**, a number of teachers almost equal to the whole teaching force in today's public schools. This poses a **challenge** to the supply of new teachers and an **opportunity** for policymakers at all levels to influence and change the attributes of much of the teaching force.

Whether there will be a general shortage of teachers is not known. There is an absence of good data with which to measure the balance between teacher supply and demand. In addition, given State and local reform action, any assessment of supply and demand must make assumptions about the effects of that action on the attractiveness of teaching and access to teaching. There do appear to be shortages in some areas today and others may develop. At a minimum, it seems that minority teachers will continue to be in short supply, relative to minority enrollment, in the near future unless current trends are reversed. Shortages are apparent in the subject areas of mathematics and science. With the appearance of fundamental changes in mathematics and science curriculum, today's qualified teacher may not be qualified tomorrow.

The Federal Government has been, and is currently, involved in assisting elementary and secondary school teachers. For example, within the U.S. Department of Education and the National Science Foundation, there are more than a dozen teacher-related programs. Arguably, these programs coupled with recent State and local reform efforts, might have a considerable impact on elementary and secondary school teaching. Nevertheless, with the introduction during the 1st session of the 101st of Congress of major legislative proposals to establish many new Federal programs for teachers, the adequacy of the current Federal effort in this area is being questioned.

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TEACHERS: ISSUES FOR THE 101ST CONGRESS

INTRODUCTION

Those involved in education reform increasingly assert that the success of their efforts depends upon the capabilities and commitment of teachers. According to the Carnegie Forum on Education and the Economy, "[R]eal reform cannot be accomplished despite teachers. It will only come with their active participation."¹ The demand for more capable teachers is rising. As educators and others undertake innovative reform of the curriculum in areas such as mathematics and the sciences, schools will require teachers with greater subject matter expertise and the ability to teach in fundamentally new ways.² As teachers acquire new leadership roles in the management of their schools, they will confront challenges for which they have not been prepared.³

This report provides an analysis of the current status of the Nation's public elementary and secondary school teaching force, the challenges it faces, and Federal initiatives to improve teaching in public schools.⁴ The first section presents an overview of the context within which Federal initiatives will be considered. The next presents key statistical data describing demographic characteristics of today's teachers. Teacher education is the focus of the third section with attention given to the preservice training of prospective teachers, the inservice training of current teachers, and proposals aimed at reforming teacher education. The fourth section addresses teacher certification, including alternatives to regular certification procedures and the ongoing work of the National Board for Professional Teaching Standards.

¹Task Force on Teaching as a Profession. Carnegie Forum on Education and the Economy. *A Nation Prepared: Teachers for the 21st Century*. May 1986. p. 26.

Let's get a copy of this report

²Pipho, Chris. Tomorrow's Math and Science. *Education Week*, June 14, 1989; American Association for the Advancement of Science. *Science For All Americans: A Project 2061 Report on Literacy Goals in Science, Mathematics, and Technology*. 1989; Aldridge, Bill G. Written testimony for the U.S. Senate Committee on Governmental Affairs, Nov. 9, 1989.

³Cohen, Michael. *Restructuring The Education System: Agenda for the 1990s*. National Governors' Association. 1988. p. 13; Stedman, James B. A New Wave of Reform. *Congressional Research Service Review*, Oct. 1988.

⁴This report focuses on public schools for several reasons. Concern about student performance is focused on this sector; educational reform efforts across the country are targeting public schools; some 90 percent of all elementary and secondary school students enroll in public schools.

The fifth section covers teacher compensation issues. The key question of the balance between teacher supply and demand is analyzed in the next section. The seventh section offers an assessment of the Federal role in teacher improvement efforts by analyzing previous Federal programs for teachers, the current array of programs, and the major proposals that were introduced during the first session of the 101st Congress. A concluding section identifies key findings of this analysis of teacher issues.⁶

A Congressional Research Service issue brief 89098 with the same title as this paper is available. That brief is updated periodically to reflect recent developments in this area.

THE CONTEXT FOR FEDERAL INVOLVEMENT

The 1990s are likely to be a period of pervasive change for the public elementary and secondary school teaching force. Attrition from the ranks of teaching will require the hiring of apparently unprecedented numbers of new teachers. The demands on teachers in the new decade will be greater because of various factors, including substantial reform of curriculum in subject areas such as math and science and changes in the demographic makeup of public school enrollments. Concurrently, States and localities are engaged in a host of efforts directly targeted at teachers or substantially influencing teachers. A task for Federal policymakers is shaping a Federal role that, in light of these circumstances, will help to ensure that the teaching force is capable of educating students for the 21st century.

This section provides a brief overview of the context within which Federal policy toward public school teachers will be developed and identifies some Federal initiatives previously or currently supported. Subsequent sections provide details and references omitted here.

The traditional Federal role in elementary and secondary education has been limited largely to responding to educational needs that States and localities have been unable or unwilling to address. In some respects, the Federal involvement with teaching has been even more circumspect. Major aspects of the teaching occupation--such as hiring decisions, salary schedules,

⁶There are limitations to the scope of this report. Issues involving teachers in early childhood education programs are **not** addressed in this report. For information on early childhood education in general, see U.S. Library of Congress. Congressional Research Service. *Early Childhood Education and Development: Federal Policy Issues*. Issue Brief No. IB88048, by Wayne Clifton Riddle. Updated regularly. Issues involving vocational education teachers are also **not** considered here. For information on legislative action in this area, see U. S. Library of Congress. Congressional Research Service. *Carl D. Perkins Vocational Education Act: Issues for Reauthorization*. Issue Brief No. IB89069, by Richard N. Apling and Paul M. Irwin. Updated regularly.

and certification standards--have not generally been the focus of Federal action. (A primary exception is in the area of enforcing civil rights mandates.) Nevertheless, there clearly has been room for Federal action even within these limits as is shown by the previous and current Federal programs assisting teachers (see section on "Federal Initiatives for Teachers" below). Whether or not the current situation demands a greater level of Federal involvement, or a different kind of Federal intervention, is at issue.

Perhaps foremost among the factors influencing the capabilities of teachers in the 1990s is the substantial level of new hiring that will probably have to occur in this period. New teachers will be needed to replace teachers who leave teaching through retirement, career changes, etc., and to expand the size of the teaching force in response to such factors as changes in enrollment and changes in class size. Based on methodology and data developed by the U.S. Department of Education (ED), it is projected that **approximately 2.2 million new public school teachers will have to hired in this decade. In essence, over the next ten years, public school systems are likely to hire nearly as many new teachers as are currently employed.**

Even as this new hiring presents a significant challenge to the precollegiate system, it offers an opportunity to policymakers at all levels to influence the character and capacities of the teaching force employed in our schools. Possible responses to this challenge include expanded and improved teacher education and training; greater recruitment efforts, aimed particularly at different, nontraditional groups of potential teachers (e.g., persons in mid-career); and changes in entrance requirements into the profession, such as alternative certification. The Federal Government has been active in many of these areas. As is delineated in detail in the later section on "Federal Initiatives for Teachers," the Federal Government previously supported, or currently supports, efforts ranging from the Teacher Corps program to the Paul Douglas Teacher Scholarships. Although certification has not traditionally been an aspect of Federal involvement, Federal financial support for a national, voluntary certification process is being sought. (See "Teacher Certification" section below.)

Of particular interest to Federal policymakers is concern about the ability of current teachers to improve students' mastery of mathematics and science. Students' academic performance in these areas leaves much to be desired; school systems report difficulty filling teaching positions in these subjects with fully qualified persons. Current problems in math and science teaching are likely to be compounded by the significant efforts to reform the curricula in these subjects. Many teachers presently qualified to teach math or science curricula will need assistance in mastering the content and instructional elements of new curricula. Federal responses might include those cited above. In addition, some suggest that inservice assistance to teachers might help remedy current deficiencies as well as those emerging with reformed curriculum. Federally supported teacher training institutes, such as those

administered in large numbers in the 1960s, are an example of a previous Federal response to similar needs.

The demographic characteristics of public school enrollment are changing. Of particular importance, in the next 10 years, students will come increasingly from racial and ethnic minority backgrounds. To many observers of elementary and secondary education, the ability of the schools to meet the needs of minority children will depend, in part, upon the presence of able minority teachers. There appears to be a substantial imbalance between the racial and ethnic background of the teaching force which, in 1985-86, was 10.3 percent minority and that of the student body which, in that same year, was 29.6 percent minority. (See sections on "Teacher Characteristics" and "Teacher Supply and Demand" below.) To the extent that this imbalance has consequences for equal educational opportunity, Federal involvement will be sought. Such involvement might include programs to recruit more minorities to teaching or to improve the undergraduate education that minority teacher candidates receive in order to increase their chances of meeting new qualification requirements. Current Federal action in this area includes the Eisenhower Mathematics and Science Education program, which seeks to recruit and retrain minorities for math and science teaching positions.

States and localities were engaged in education reform throughout the 1980s. Many of the reforms put in place during this period have had a direct or indirect impact on teachers. Teacher education has been modified in some areas: There are now more restrictions on entering and exiting these programs. There are some State limits on the number of teacher education credits that can be earned. (See the section on "Teacher Education" below.) States and localities have raised teacher salaries. Purchasing power lost to inflation during the 1970s has been recovered. Efforts to provide incentives for performance through the salary schedules have been undertaken. (See the section on "Teacher Compensation" below.) States have made changes to teacher certification. They have raised the standards for being certified to teach. Many now offer alternative routes to full certification to individuals who have not graduated from teacher education programs. (See the section on "Teacher Certification" below.) Any Federal initiatives in support of teacher improvement will interact with ongoing State and local efforts. These initiatives could be integrated with nonfederal efforts; at a minimum, they should not run counter to productive nonfederal activities. This would be particularly an issue if Federal policy were to include aspects of teaching that have not traditionally been addressed at the Federal level, such as certification or compensation.

The next several sections of this report analyze key aspects of teachers' issues: their demographic characteristics, teacher education, certification, compensation, and supply and demand. Taken together, these sections provide the background about teaching necessary for evaluating an appropriate Federal role in support of improving the teaching force. A following section, entitled "Federal Initiatives for Teachers," offers an analysis of past, present, and prospective Federal programs.

TEACHER CHARACTERISTICS

This section presents key data describing the current teaching force. It covers the areas of race and ethnicity, gender, and age. Key findings in this section include the following:

- **There are nearly 2.3 million teachers in public elementary and secondary schools.**
- **By the year 2000, the public school teaching force is projected to rise to approximately 2.7 million.**
- **Of public school teachers, 10.3 percent are minorities and 6.9 percent are black.**
- **Two-thirds of all teachers are women.**
- **The median age of teachers has risen in recent years, from 33 years old in 1976 to 40 years old in 1988.**

NUMBER OF TEACHERS

In the fall of 1988, there were approximately 2,296,000 teachers in public elementary and secondary schools: 1,312,000 teaching elementary grades, 984,000 teaching secondary grades.⁶ As table 1 below shows, between fall 1980 and fall 1988, the number of public school teachers grew by more than 5 percent. Although the teaching force declined annually until 1983, the average annual increase from 1983 through 1988 was 1.3 percent. The U.S. Department of Education's National Center for Education Statistics projects that this rate of increase will prevail until the year 2000, raising the total number of public school teachers in that year to 2,681,000. The projected average annual rate of increase in public school enrollment is somewhat less. In 1988, public enrollment was 40,196,000; the projected enrollment in the year 2000 is 43,835,000.

⁶U.S. Department of Education. National Center for Education Statistics. *Projections of Education Statistics to 2000*. Dec. 1989. Table 32. p. 76. In this case, the distinction between elementary and secondary grades is based on State designations of school organization. As a result, specific grade spans cannot be applied. In some States, secondary education is defined as including some grades below the 9th grade; in others it is limited to grades 9 through 12.

**TABLE 1. Public Elementary and Secondary
Classroom Teachers: Fall 1980 Through Fall 2000
(numbers in thousands of teachers)**

Year	Total	Elementary	Secondary
1980	2,184	1,189	995
1981	2,125	1,159	965
1982	2,121	1,171	950
1983	2,126	1,178	948
1984	2,168	1,205	963
1985	2,207	1,237	970
1986	2,244	1,267	977
1987	2,270	1,297	982
1988*	2,296	1,312	984
1989**	2,340	1,336	1,003
1990**	2,367	1,365	1,001
1991**	2,388	1,381	1,007
1992**	2,420	1,395	1,025
1993**	2,459	1,415	1,043
1994**	2,493	1,430	1,064
1995**	2,529	1,443	1,087
1996**	2,565	1,456	1,109
1997**	2,599	1,471	1,128
1998**	2,631	1,485	1,146
1999**	2,656	1,497	1,159
2000**	2,681	1,508	1,173

*Estimated

**Projected

Source: U.S. Department of Education. National Center for Education Statistics. *Projections of Education Statistics to 2000*. Dec. 1989. Table 32. p. 76.

The sheer size of the public school teaching force complicates the development of public policy, particularly at State and local levels, to change its attributes. The costs of efforts to reform teaching are an immediate issue. For example, if policymakers seek to raise the average level of teacher compensation by \$1,000, the cost associated with that step would be \$2.3 billion. Similarly, substantial estimated costs attend teacher reform proposals that range from providing current teachers with effective inservice training, to lengthening teachers' annual contracts.

The size of the teaching workforce does not influence potential spending only. Perhaps more significant is the difficulty inherent in changing the behavior and capabilities of any major portion of a teaching force in excess of 2 million people. If changes must be accomplished quickly within limited budgets, then the demands on policymakers and educational administrators are increased still more. Interventions may need careful targeting to address priority needs. For example, providing cost effective inservice training for teachers in particular subject areas, such as mathematics and science, may be more appropriate than attempting to upgrade the skills of all current teachers. In addition, different methods of delivering inservice training, such as through telecommunications networks, might become more attractive if they have the capacity to reach large numbers of teachers efficiently and effectively.

Significantly, as the analysis in the section on "Teacher Supply and Demand" will reveal, policymakers have an opportunity to influence a large portion of the teaching force by affecting who is hired during the coming decade. Almost as many teachers as are currently employed will have to be newly hired in the 1990s.

RACE, ETHNICITY, GENDER

Current, comprehensive data describing the general demographic characteristics of teachers are not available.⁷ Much of the data below is drawn from surveys conducted by the National Education Association (NEA) describing teachers from the early 1960s through 1986.⁸

⁷The U.S. Department of Education (ED) has gathered data for school year 1987-88 in its Schools and Staffing Survey that would update some of the presently available data describing teachers. As of mid-February 1990, these data remain unreleased due, in part, to apparent difficulties encountered by ED in meeting confidentiality requirements established by the Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary School Improvement Amendments of 1988.

⁸National Education Association. *Status of the American Public School Teacher 1985-86*. 1987. The Association conducts this survey once every 5 years.

Race and Ethnicity

According to the NEA data, the U.S. public school teaching force in 1986 was approximately 10.3 percent minority. Whites, not of Hispanic origin, constituted 89.6 percent of all teachers; blacks were 6.9 percent; Hispanics were 1.9 percent; Asian/Pacific Islanders were 0.9 percent; and American Indian/Alaska Natives were 0.6 percent. Table 2 shows the general distribution of teachers by race and ethnicity from 1971 to 1986.⁹ Between 1971 and 1986, the white share of the teacher population fluctuated, as did the non-black ("other") share. Blacks, on the other hand, constituted a steadily declining portion of the teaching force. For more discussion of minority teachers, see the section below on "Teacher Supply and Demand."

**TABLE 2. Race and Ethnicity of
Public School Teachers--1971 to 1986**

Race/Ethnicity	1971	1976	1981	1986
White	88.3%	90.8%	91.6%	89.6%
Black	8.1	8.0	7.8	6.9
Other	3.6	1.2	0.7	3.4

Source: National Education Association. *Status of the American Public School Teacher 1985-86*. 1987. Table 62, p. 74.

Gender

In the mid 1980s, females made up the majority of classroom teachers.¹⁰ Although, between 1961 and 1986, the female share did not remain static, it was virtually the same in 1986 as it had been 25 years earlier (68.8 percent in 1986, 68.7 percent in 1961).

⁹Care should be taken with these trend data. According to the National Education Association, there are some comparability difficulties with its racial and ethnic data over time. Prior to 1986, the question soliciting these data was worded differently.

¹⁰National Education Association, *Status*, table 64, p. 77.

Age

The age of the teaching force is a much scrutinized characteristic given its relationship to the debate over teacher supply and demand. Estimates of teacher attrition through retirement are critical to measuring that balance. According to NEA data, the **median** age of all public school teachers in 1986 was 40 years old, roughly what it was in 1961 (41 years old).¹¹ Between 1961 and 1976, the median age fell by 8 years to 33 years of age; between 1976 and 1986, it rose by 7 years to 40 years of age.

Significantly, a distinct bulge in the distribution of teachers' ages appears in the 30 to 49 year old age range. In 1966, **40.3 percent** of all public school teachers were 30 to 40 years old; in 1986, **67.8 percent** were. The under 30 year old segment dropped from 33.9 percent to 11.0 percent during that same time span; those 50 years old and older declined only marginally, from 25.8 percent to 21.2 percent.¹²

TEACHER EDUCATION

Concern about the quality of the teaching force and ways of attracting the most qualified individuals to teaching has focused on the role of teacher education programs in the preparation of teachers. Teacher education is often disparaged as offering little intellectual challenge or content, and, as a result, dissuading the best undergraduates from considering a teaching career. It is also criticized for consuming disproportionately large numbers of credit hours, leaving education majors with little time to enroll in regular academic courses and learn subjects in depth. As a consequence, most school reform proposals suggest ways of changing teacher education programs.

Key findings in this section include the following:

- **Graduates of teacher education programs have taken substantial numbers of their courses outside of the teacher education departments.**
- **Far fewer students are earning education degrees. Between 1972-73 and 1986-87, the number of bachelor's degrees in education fell from 194,229 to 87,115. As a percentage of all undergraduate degrees, education bachelor's degrees fell from 21.1 percent to 8.8 percent.**

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¹¹Ibid. The median age is that age which divides the teaching force in half. Half of all public school teachers are older; half are younger.

¹²The issue of whether teacher demand will escalate due to retirements is considered in the section below on "Teacher Supply and Demand."

- States are reducing the number of credit hours that can be earned in teacher education programs and increasing the amount of required practice teaching.
- States have raised entrance and exit barriers to teacher education in an effort to increase the quality of graduates.

STRUCTURE OF TEACHER EDUCATION PROGRAMS

Teacher education programs at the undergraduate level typically begin in the sophomore or junior years.¹³ These programs are intended to prepare students to teach either at the elementary or secondary level, or with children with special needs, such as the handicapped or those with limited English proficiency. For regular elementary or secondary school teaching, teacher education programs include (1) a core of general requirements covering an array of introductory liberal arts and science courses; (2) specialized study in an academic field; (3) completion of a professional education sequence of courses; and (4) student teaching.¹⁴

Clearly not all of the courses that education majors take during an undergraduate career are provided by education schools or departments. Data from the mid 1980s suggest that students in an elementary education teaching program will spend roughly half of their credit hours outside of the education department; the comparable figure for students in a secondary education teaching program is about 70 percent of their credit hours.¹⁵ Students intending to be secondary school teachers will generally concentrate on a

¹³Feistritzer, C. Emily. *The Making of a Teacher: A Report on Teacher Education and Certification*. National Center for Education Information. 1984. Table 8, p. 16. According to this report, 48 percent of teacher education schools admit prospective elementary school teachers to their programs in their sophomore year; another 33 percent of the schools admit elementary school teaching candidates in the junior year. The comparable percentages for prospective secondary school teachers are 44 percent of institutions in the sophomore year and 39 percent in the junior year.

¹⁴Imig, David G., *The Scope of Teacher Education*. Appearing in *Colleges of Education: Perspectives on Their Future*. Edited by Charles W. Case and William A. Matthes. 1985; 1988-89 college catalogues for Southern Illinois University and Southwest Texas State University. These two colleges are among the top five institutions in the country in terms of the number of bachelor's degrees in education awarded.

¹⁵Darling-Hammond, Linda and Barnett Berry, *The Evolution of Teacher Policy*. RAND, Mar. 1988. p. 17-18; Imig, *The Scope of Teacher Education* p. 12; and college catalogues for Southern Illinois University and Southwest Texas State University.

particular academic field of study, taking a substantial percentage of the courses required for students majoring in that field.

Education degrees at the master's and doctorate levels generally are awarded to practicing teachers, persons aspiring to become administrators in education systems, or those seeking to teach in a teacher education program. Master's programs also prepare individuals for teaching who did not pursue education courses as undergraduates. In some States, certification renewal or advancement (e.g., moving from the "standard" certificate to the "professional" certificate in Nebraska) may require teachers to earn a master's degree. ✓

EDUCATION DEGREES

In recent years, the popularity of education degrees has declined precipitously; fewer education degrees are being earned and they represent a much smaller share of all degrees awarded.¹⁶

The 194,229 education B.A.s in 1972-73 constituted 21.1 percent of all B.A.s awarded in that year. In 1986-87, an estimated 87,115 bachelor's degrees in education were awarded, or about 8.8 percent of the 991,339 bachelor's degrees awarded in all subject areas (see table 3 below). Compared to 1972-73 (a peak year in terms of numbers of education degrees awarded at all levels), the number of bachelor's degrees in education in 1986-87 was down by 55.1 percent.

With regard to master's degrees and doctorates in education, the changes over time are less striking (see table 3 below). This is particularly true at the doctorate level, where the trends are not clear. The number of education master's degrees dropped by 28.5 percent between 1972-73 and 1986-87 (from 105,565 to 75,501), while education doctorates fell by 5.6 percent (from 7,318 to 6,909). In 1972-73, master's degrees and doctorates in education constituted 40.1 percent and 21.0 percent of all degrees awarded at those levels, respectively. In 1986-87, these percentages were 26.1 percent and 20.2 percent, respectively.

¹⁶U.S. Department of Education. National Center for Education Statistics. *Digest of Education Statistics 1989*. Tables 205, 206, and 207. The data in this portion of the report are from the *Digest*. For an analysis of somewhat earlier data, see, Carnegie Foundation for the Advancement of Teaching. *The Rise and Fall of Education as a Major. Change*, July/Aug. 1988.

**TABLE 3. Education Degrees Conferred
1972-73 to 1986-87**

Bachelor's Degrees			
Discipline	1972-73	1979-80	1986-87*
Education	194,229	118,169	87,115
All BA's	922,362	929,417	991,339
% Education	21.1%	12.7%	8.8%
Master's Degrees			
Discipline	1972-73	1979-80	1986-87*
Education	105,565	103,951	75,501
All MA's	263,371	298,081	289,557
% Education	40.1%	34.9%	26.1%
Doctorate Degrees			
Discipline	1972-73	1979-80	1986-87*
Education	7,318	7,941	6,909
All PhD's	34,777	32,615	34,120
% Education	21.0%	24.3%	20.2%

*Preliminary estimate

Source: U.S. Department of Education. National Center for Education Statistics. *Digest of Education Statistics 1989*. Tables 205, 206, and 207.

The decline in education degrees, particularly at the bachelor's degree level has helped sparked concern about current and future teacher shortages. Data on the production of education degrees should be placed in context. Students graduating each year from teacher education programs are **not** the only new entrants into teaching. (Further, as is discussed below in the section on "Teacher Supply and Demand," not all graduates of teacher education programs enter teaching.) The so-called "reserve pool" of potential teachers includes all those who are not currently teaching but who have met or could meet certification requirements (see discussion of these requirements below). According to one estimate, this pool is **twice as large** as the current teaching force.¹⁷ The number of persons newly hired each year as elementary and secondary school teachers from that reserve pool is unknown.

INITIATIVES TO REFORM TEACHER EDUCATION

In recent years, States have taken numerous steps to modify the structure and content of teacher education programs, as well as the conditions under which students could be admitted to these programs or certified through these programs.¹⁸ States increasingly are specifying the number of credit hours that can be earned in the different parts of the teacher education program. For prospective secondary school teachers, these requirements have increased the number of academic courses that must be taken. As a result, the allowable number of credit hours in education courses provided by departments or schools of education has been declining as the required exposure to liberal arts courses has grown. Concurrently, the required amount of practice teaching is increasing. Reportedly, during the late 1970s, practice teaching typically covered a 6 week period. Some States have significantly expanded the required practice teaching to cover up to 10 or 14 weeks.

The hurdles that must be cleared in order to enter a teacher education program or successfully complete one have multiplied in recent years.¹⁹ The number of States requiring passage of achievement tests as a condition of entrance to teacher education programs rose from 6 in 1980 to 25 in 1986.

¹⁷Graybeal, W. S. *Teacher Supply and Demand in Public Schools, 1981-82*. National Education Association. 1983, as cited in Rumberger, Russell. *The Shortage of Mathematics and Science Teachers: A Review of the Evidence*. *Educational Evaluation and Policy Analysis*, vol. 7, no. 4, 1985. p. 358.

¹⁸For a detailed review of teacher education reforms, see Darling-Hammond and Barnett, *The Evolution of Teacher Policy*. Much of this paragraph is drawn from that report.

¹⁹Data in this paragraph are derived from American Association of Colleges for Teacher Education. *Teacher Education Policy in the States: A 50-State Survey of Legislative and Administrative Actions*. June 1988.

A few States are requiring that students have some practical exposure to teaching before they can be admitted to a teacher education program. Graduation from teacher education program and teacher certification increasingly requires passage of an exit or certification examination. By June 1988, at least 42 States had such examination requirements in place or under pilot testing.

In a few States, the appropriateness of providing undergraduate teacher training programs has been called into question. Recommendations have been made, or action taken, in States, such as California, Massachusetts, and New York, to require that prospective teachers earn an undergraduate degree in a liberal arts subject before embarking on formal preparation for teaching at the graduate level.²⁰ This step has been recommended in recent years by various critics of the quality of elementary and secondary education, including Ernest Boyer, President of the Carnegie Foundation for the Advancement of Teaching, and the Holmes Group (composed of deans of education from colleges and universities).²¹ Proposals of this nature arise from concern that teachers have a poor grasp of the material they are teaching and, thus, should complete an undergraduate degree in a discipline other than education. Moving teacher education to a fifth year of higher education study has already been done in some programs designed to serve college graduates who decide to enter teaching after completing a non-education undergraduate course of study.

Some educators have expressed reservations about moving teacher education to the graduate level.²² The cost implications for students (at a minimum, prospective teachers would have to incur college costs for 5 years as opposed to 4) may make recruitment of prospective teachers more difficult, particularly recruitment of disadvantaged minorities. Further, it might be difficult to justify the conversion of a much criticized undergraduate program into a graduate level program, unless its content were to be changed markedly.

²⁰Darling-Hammond and Barnett, *The Evolution of Teacher Policy*; Viadero, Debra. Massachusetts Abolishes Undergraduate Education Major. *Education Week*, Jan. 31, 1990.

²¹Boyer, Ernest L. *High School: A Report on Secondary Education in America*. The Carnegie Foundation for the Advancement of Teaching. 1983. p. 174-178; The Holmes Group. *Tomorrow's Teachers: A Report of the Holmes Group*. 1986. See also, U.S. Library of Congress. Congressional Research Service. *Teacher Education Recommendations in the School Reform Reports* Report No. 86-780 S, by K. Forbis Jordan. July 18, 1986.

²²State-College Deans Rap Holmes Report as a 'Source of Conflict'. *Education Week*, May 7, 1986.

TEACHER CERTIFICATION

The focus of this section is on the process by which States grant individuals the legal authority to teach within State borders. In addition, the analysis below includes the effort to establish a national certification process for teachers. The terms "certification" and "licensure" are commonly applied to these processes without distinction, a practice followed in this report.²³

Key findings in this section include the following:

- Reform of teacher certification has been a significant focus of State action. Permanent certification is largely a thing of the past; regular certification usually must now be renewed on a periodic basis.
- Programs to help new teachers adjust to teaching and to screen them for certification purposes are being implemented.
- Alternatives to the regular certification process are widely available. Many States offer short-term emergency certification outside of the regular certification path. More than 20 States have alternative programs leading to regular certification. Questions are being raised about whether these various alternatives lower teaching standards.
- A voluntary, national certification program is being established by the National Board for Professional Teaching Standards to raise and reform teaching professionalism. Opposition has surfaced to the Board's requirements for certification candidacy, the role of teachers' unions on the Board, and the Board's request for Federal funding of part of its research and development agenda.

REGULAR STATE CERTIFICATION PROCESS

States have taken significant steps in recent years to modify the process through which prospective teachers gain certification and the requirements they face to retain that certification.²⁴ Few States continue to award a

²³Some observers, though, contend that what States do is licensing, a process through which individuals meet the **minimal** legal standards necessary to be allowed to practice a profession. They define certification, in contrast, as the professional recognition granted by a non-governmental agency to persons who meet that agency's standards of **excellence** in a profession.

²⁴American Association of Colleges for Teacher Education. *Teacher Education Policy in the States*. June 1988.

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permanent certificate, that is, one which need not be renewed. Although, in some States, recent changes have not yet been fully implemented, the certification process for the majority of States increasingly can be described as follows: Prospective teachers are expected to meet a set of certification requirements that includes completion of an approved teacher education program at the undergraduate level, and successful performance on designated tests (testing may be either a condition of exiting from the teacher education program or a requirement for entering teaching). The initial certification is often granted for a short period of time, perhaps for a single year or two, with continued employment dependent upon successfully meeting the requirements for a higher certification level. These requirements may include completion of additional teacher education courses, as well as successful performance as a teacher during the period of initial certification. The regular certification is generally granted for a longer period of time and usually must be renewed at designated intervals.

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Induction Programs

Programs to help new teachers adjust to the practice of teaching and to screen new teachers for longer term certification are increasingly being provided by States. This marks a significant departure from historical practice under which first year teachers were allowed to "sink or swim." As of the middle of 1988, two-thirds of the States were testing induction year programs, had authorized such programs, or had put them into operation.²⁵ Fewer than 10 States had no plans to consider these programs. As implemented in a number of States, new teachers participating in an induction program receive guidance and support from more experienced mentor teachers. In addition, these induction programs are often linked to the certification process through the assessments made of beginning teachers' performance. Continued, longer term certification can depend upon being successfully evaluated in the induction program.

ALTERNATIVES TO REGULAR STATE CERTIFICATION

Over 20 States have instituted "alternative certification" programs; more are being planned.²⁶ These programs are designed generally to provide an alternative to the regular certification process for a nontraditional pool of prospective teachers, composed primarily of persons entering teaching as a

²⁵Ibid.

²⁶Texas Education Agency. Division of Teacher Education. *Alternative Teacher Certification in Texas*. No date. p. 12. This study considers alternative certification in Texas as well as in other States.

second career.²⁷ The pages below explore alternative certification, focusing on the structure of these programs and the early findings concerning their effects. State programs in New Jersey and Texas are described in some detail. Given the level of interest among policymakers at all levels in alternative certification, this topic is treated at length.

Alternative versus Emergency Certification

Alternative certification is plagued by definitional problems, particularly the distinction between it and emergency certification. Although State and local authorities include a wide variety of programs under the label and have blurred these two kinds of certification, for purposes of this report, an alternative certification program is defined as one that, at a minimum:

- 1) provides a structured route for nontraditional teaching candidates to achieve full certification; and
- 2) requires pedagogical training during, at least, the initial year of teaching.

Certain other features are often claimed for alternative certification programs, but may not always be realized. These include periodic monitoring of the performance of the new teachers; assistance by experienced, mentor teachers; and some preparation provided prior to the candidates entering the classroom.

Alternative routes to certification are not new to education, nor are they found in only a few States. Well over three-quarters of all States currently grant certification to individuals who do not meet regular certification requirements.²⁸ In most cases, this is emergency certification as distinct from alternative certification. Emergency certification provides persons with short-term certification to enable school systems to meet teacher shortages. Typically, emergency certification cannot be renewed or is renewable only if the holder completes specified education requirements.

²⁷The analysis in this section is based primarily on Darling-Hammond and Berry, *The Evolution of Teacher Policy*; Darling-Hammond, Linda, et al. *Reshaping Teacher Education: Opening the Door for New Recruits to Science and Mathematics Teaching*. RAND. Mar. 1989; Adelman, Nancy E. *An Exploratory Study of Teacher Alternative Certification and Retraining Programs*. Policy Studies Associates, Inc. Oct. 1986.

²⁸American Association of Colleges for Teacher Education, *Teacher Education Policy in the States*, June 1988.

Examples of State Programs

Two State alternative certification programs are described in some detail below in order to illustrate how these programs are structured.

New Jersey

The New Jersey Provisional Teacher Program has generated substantial national attention.²⁹ As of September 30, 1989, 1,506 teachers had entered the workforce through this alternate certification route since it began in 1985. Schools in New Jersey hired 422 teachers under the Provisional Teacher Program during 1988-89.³⁰

Under this program, the State can grant initial provisional certification to individuals who have earned a BA degree, completed 30 college credits in the fields to be taught or have 5 years of appropriate experience in those fields. They must pass designated portions of the National Teachers' Examination, complete a 20-day practicum under a supervisory teacher, and complete 80 hours of professional education study before they are given full responsibility for a classroom. Candidates must find positions with local educational agencies which, in turn, apply to the State education agency for their provisional certification. Prospective teacher candidates must pay the State \$1,450 for participation in the program.

During their first year of teaching, these individuals must earn an additional 120 hours of credit in professional education study. This study is not pursued in teacher education programs at New Jersey colleges; it is taken at regional centers throughout the State. Instruction at the centers is provided by 3 teacher education faculty members, one of whom must be a master teacher meeting the requirements of an adjunct university professor.³¹

²⁹The description of the program is derived primarily from Cooperman, Saul and Leo Klagholz. *New Jersey's Alternate Route to Certification. Phi Delta Kappan*, June 1985; New Jersey State Department of Education. *The New Jersey Provisional Teacher Program: A Second Year Report*. Dec. 1986; discussions at the conference on Alternative Teacher Certification: Policy and Practice, convened by the U.S. Department of Education's Office of Educational Reform and Improvement, Dec. 4, 1989.

³⁰New Jersey State Department of Education. *The Provisional Teacher Program: Fifth Year Report*. Dec. 1989. The New Jersey program is open to public and private schools. During 1988-89, 35 percent of the provisional teachers were hired by private schools.

³¹One analysis posits that what distinguishes New Jersey's version of alternative certification from others is the very limited role played by the teacher education programs in New Jersey's higher education institutions.

(continued...)

According to architects of the program, upgrading of the quality of new entrants into the New Jersey teaching force and eliminating emergency certification were among their primary objectives. As reported by the State commissioner of education Saul Cooperman, the results of the program show it to have met its objectives. Emergency certification has ended; teachers entering through the alternative certification route have higher academic test scores than do New Jersey teachers who follow the traditional path to certification; and the attrition rate of first-year teachers is lower for those hired through alternative certification program than for other first-year teachers.³² Twenty-one percent of the new teachers hired through the program are minorities. In contrast, fewer than 10 percent of the graduates of New Jersey's teacher education programs and only 11 percent of New Jersey's teachers are minorities.³³

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Texas

In Texas, alternative certification is authorized by law and structured under a rule of the State board of education.³⁴ Begun in the academic year 1985-86, alternative certification now encompasses 16 programs and serves

³¹(...continued)

(McKibbin, Michael D. Alternative Teacher Certification Programs. *Educational Leadership*, Nov. 1988.)

³²Speech delivered by Saul Cooperman to conference on Alternative Teacher Certification: Policy and Practice convened by the U.S. Department of Education, Office of Education Research and Improvement. Dec. 4, 1989; *New York Times*. New Jersey, in 5 Years, Solves Teacher Shortage. Sept. 13, 1989; New Jersey State Department of Education. *The Provisional Teacher Program. Fifth Year Report*. Dec. 1989. According to the Fifth Year Report on the program, the first-year attrition rates for provisional teachers has never been above 10.6 percent (1985-86 academic year) and has been as low as 4 percent (1987-88). The attrition rate for first-year teachers coming through the traditional route has averaged 18 percent.

³³New Jersey State Department of Education. *The Provisional Teacher Program: Fifth Year Report*. Dec. 1989. Linda Darling-Hammond, et al., speculate that nontraditional teacher preparation programs might attract disproportionate numbers of minorities because of such factors as location (many are in urban areas), the financial aid that some provide, or active recruitment by some programs directed at minorities. (*Redesigning Teacher Education*)

³⁴Unless otherwise noted, the description of alternative certification in Texas and the statistical data provided below are based on Texas Education Agency, *Alternative Teacher Certification in Texas*.

1,215 interns (fall 1989). Approximately 15 percent of the districts in the State now participate (166 districts).

Administratively, alternative certification programs in Texas are based at school districts, regional education service centers, or institutions of higher education. The latter two kinds of programs serve several school districts. In all cases, the programs can admit only those individuals who have graduated from an accredited college, are knowledgeable in curriculum shortage areas, have a 2.5 grade point average overall and in those courses related to the curriculum shortage area, and score sufficiently high on the Texas basic skills test. Requirements concerning the number of hours of teacher education and subject areas depend upon the subject area and grade level to be taught. These must be met before the prospective teacher is given full responsibility for a classroom. Pedagogical instruction continues during the teachers' first year. In addition, participating schools must assign experienced, mentor teachers to supervise these new teachers. Teachers can be recommended for certification by their school districts if they successfully complete their initial year, receive an acceptable performance evaluation, and meet established standards on the State certification test in the relevant subject areas.

The State education agency reports that the alternative certification programs have been particularly successful in recruiting qualified minorities to teaching. In academic year 1988-89, 52 percent of the interns in these programs were minorities: 38 percent of the interns were Hispanic, 13 percent were black, and 1 percent were from other minority groups. A relatively similar distribution applies to the 1989-90 cohort of interns. Slightly more than 50 percent were minorities: 36 percent were Hispanics, 14 percent black, and 1 percent other minorities. This distribution closely mirrors that of the distribution of elementary and secondary enrollment in the State; it diverges sharply from the racial and ethnic characteristics of undergraduate enrollment in Texas schools, colleges, and departments of education. That enrollment of prospective teachers is substantially whiter (78 percent) and much less minority (7 percent Hispanic, 11 percent black, and 3 percent other minority).³⁶

According to the Texas State education agency, the alternative certification interns pass the *Examination for the Certification of Educators in Texas* at rates in excess of those for other certification candidates. For example, those following the traditional certification route passed the certification exam at a rate of 81 percent over the period May 1986 through June 1989, while 86 percent of the alternative certification interns passed. Significantly, minority candidates who used the alternative route were much more likely to pass the exam than were other candidates. For instance, 82

³⁶American Association of Colleges for Teacher Education. *Teacher Education Pipeline: Schools, Colleges, and Departments of Education Enrollments by Race and Ethnicity*. 1988. Tables 10 and 12.

percent of Hispanic alternative certification interns passed compared to 60 percent of the traditional candidates.

Alternative Certification and Pedagogy

Alternative certification programs trigger several concerns.³⁶ Foremost, critics charge that, in their efforts to recruit teachers from a non-traditional pool of individuals, these programs inappropriately diminish the role of pedagogical knowledge, that is, the understanding of teaching theory and the mastery of teaching skills. This is seen as unsuitable when the standards for entrance into, and exit from, teacher education programs are being raised. Some express the related concern that many of those recruited through this route will teach in difficult educational settings, particularly in the inner city, for which they have not been properly and fully prepared.

Assessing the validity of such criticisms is somewhat problematic given that the alternative certification label is being applied to an array of diverse programs. As a result, broad, critical characterizations of alternative certification programs are difficult to support in all cases. Some alternative certification programs require a substantial level of pedagogical training to be undertaken by candidates before they are fully certified, provide an intensive preparatory session prior to taking charge of a classroom, and assist first year teachers through structured mentoring and monitoring. Others do not. It is not clear whether the majority of programs with the alternative certification label are more like the former group than the latter. Clearly, policymakers who promote alternative certification need to be clear about the objectives of these programs and their desired features, at a minimum.

NATIONAL PROFESSIONAL CERTIFICATION

National Board for Professional Teaching Standards

A major effort is underway to create a national certification process for teachers, similar to that in place currently for professions such as medicine. The primary impetus for this initiative has come from the Carnegie Forum on Education and the Economy. In its report *A Nation Prepared: Teachers for the 21st Century*, the group recommended that a necessary and critical step for the reform of schools and the improvement of teaching was the creation of a National Board for Professional Teaching Standards. This Board, it was

³⁶Sykes, Gary, *Examining the Contradictions of Licensure*. *Education Week*, Mar. 29, 1989; Darling-Hammond and Berry, *The Evolution of Teacher Policy*; Darling-Hammond et al., *Redesigning Teacher Education*; American Associate of Colleges for Teacher Education, *Alternative Preparation for Licensure*; Vobejda, *A New Path to the Classroom*; McKibbin, *Alternative Teacher Certification Programs*.

~~It~~ asserted, would "establish high standards for what teachers need to know and be able to do, and . . . certify teachers who meet that standard."³⁷

has this happened? — The report stated that a voluntary, national certification procedure would have a dynamic effect on the teaching profession in general. Board certification would distinguish the most highly capable teachers from all others, making them much more attractive to States and districts seeking to maintain or improve the quality of instruction. As a result of competition for board-certified teachers, it was anticipated that they would receive higher levels of compensation. The standards set by the Board and met by certificate holders would be expected to be adopted by some States in their own licensing standards. Institutions training teachers would be affected by the Board's standards as they sought to prepare students to attain board-certification.

In September 1986, the Carnegie Forum created a planning group to undertake the steps needed to establish the Board. Some 9 months later, in May 1987, the Board was officially instituted with members of the planning group occupying seats on the Board and charged with the task of filling vacant seats with new members. Later that year, in October, James A. Kelly, chief executive officer of the Center for Creative Studies, was selected as the Board's first president and a slate of new members was announced.³⁸

The Board draws a sharp distinction between certification and licensure. The former is described as an activity that should be controlled by the teaching profession as a whole. Through certification, the profession will endorse certificate-holders as meeting standards set by members of the profession. Licensure, in contrast, is characterized as a function of States to

³⁷Carnegie Forum, *A Nation Prepared*, p. 55.

³⁸Board membership is currently set at 64 (National Board for Professional Teaching Standards, undated brochure). As established, the Board has two categories of members: Teaching Professional Members, and Public and Other Education Members. Two-thirds of the Board's members must be Teaching Professionals, of whom three-quarters must be currently engaged in teaching at the elementary and secondary level. One-third of the Teaching Professionals must have held local, State, or national office during the past decade in one of the two national teachers' unions (National Education Association, American Federation of Teachers); another third must have held an office during the past decade in one of teaching's disciplinary or other specialty associations; and the remaining third must have outstanding records of accomplishment, but not have occupied offices described above in the previous 10 years. Eventually, all Teaching Professionals will be elected by Board-certified teachers without adherence to the categories given above.

ensure that, in order to be legally entitled to teach in individual States, persons meet minimal standards.³⁹

The Board's plan for action provides that initial policy formulation was to have been completed by 1989.⁴⁰ Between 1989 and 1993, the Board is to conduct the necessary research and development for the certification process. This will require establishment of the certification criteria for each field in which a certificate will be awarded, and development of the assessment mechanism. The Board's third phase, 1993 and beyond, is to be devoted to the actual assessment of teachers.

As part of its policy formulation, the Board has defined national standards for teaching excellence. The Board announced that it will limit candidacy for national certification to teachers who have bachelor's degree from accredited institutions of higher education and who have "successfully completed" 3 years of teaching at the elementary or secondary level. Candidates for national certification will not have to be graduates of a teacher education program, nor will they be required to hold State teaching licenses or certificates.

The Board also announced that its certification will be awarded in different developmental categories and subject areas. Teachers in certain of the developmental categories can be certified as generalists or specialists in particular subjects. For example, in the "Middle Childhood and Early Adolescence (Grades 4-9)" category, a teacher could earn a generalist's certification or could earn a specialist's certification in the following subject areas--English, mathematics, science, or social studies and history.⁴¹ The Board has stressed that the assessments are likely to be based on several different kinds of measures, including actual assessments of performance and portfolios of work.

³⁹As has been stated, both terms, certification and licensure, are used to describe the requirements established by States to control who can legally teach in public schools. These requirements vary substantially from State to State. In trying to draw a firm distinction between the two, the Task Force and the Board have sought to make the terminology reflect the convention used in other professions.

⁴⁰National Board for Professional Teaching Standards. *Toward High and Rigorous Standards for the Teaching Profession: Initial Policies and Perspectives of the National Board for Professional Teaching Standards*. 1989.

⁴¹National Board. *Toward High and Rigorous Standards*; Bradley, Ann. Teaching Board Says Professional Degree Is Not Requirement. *Education Week*, Aug. 2, 1989.

Federal Funding for the Board?

The Board has sought Federal funding for its research activities and the Congress has approved an appropriation dependent upon passage of statutory language authorizing this Federal funding. This subsection explores this request for Federal funding.

A primary source of financial assistance for the National Board has been the Carnegie Corporation, which has committed approximately \$1 million a year for 5 years, and approximately \$2.2 million to Stanford University for work on related teacher assessment research.⁴² David A. Hamburg, president of the Carnegie Corporation, has stated that the task of financing the Board is not the Corporation's alone and should be addressed by others.⁴³ The Board has estimated that the necessary research and development of its certification criteria and assessment procedures will cost \$50 million. To secure those funds, the Board has requested \$25 million from the Federal Government, to be matched by an additional \$25 million from nonFederal sources.

Legislation was introduced in the 100th and 101st Congresses to authorize Federal appropriations of \$25 million for the Board's research and development activities.⁴⁴ On February 7, 1990, the Senate passed S. 695, the Educational Excellence Act of 1989, with language authorizing \$25 million for the Board to support 3 years of research and development. Among its provisions, the bill requires the Board to:

- award these funds through open competition and on the basis of merit;
- open the awards process to a wide range of teaching and research institutions;
- publish a research agenda in the *Federal Register* for comment;
- establish a Research and Development Advisory Committee to advise the Board on its research strategy and design;

⁴²Olson, Lynn. Carnegie Revamps and Relocates Forum on Economy and Education. *Education Week*, Jan. 13, 1988.

⁴³Carnegie Forum on Education and the Economy. Press Release, May 15, 1987.

⁴⁴S. 2698 in the 100th Congress; H.R. 3717 and S. 478 in the 101st Congress. Provisions authorizing funding for the Board were added to S. 695 by the Senate Labor and Human Resources Committee during the 101st Congress. Additional information on this and other relevant legislative activity in the 101st Congress is provided below.

- give priority to research and development in math, science, foreign language, and literacy;
- give priority to activities related to the need for teachers to serve special populations, including children with limited English proficiency, gifted and talented children, the handicapped, and the disadvantaged; and
- report annually to appropriate congressional committees.

The overall legislation, S. 695, incorporates many of the legislative proposals made by President Bush to reform U.S. education.⁴⁶

In related action, the FY 1990 appropriations act for ED includes approximately \$5 million for the National Board, "contingent on the enactment of legislation authorizing this appropriation to the Board."⁴⁶

Federal funding for the Board's research and development activities has triggered some opposition. During hearings on authorization legislation, ED testified against Federal funding for the Board.⁴⁷ In the most recent hearings, U.S. Secretary of Education Cavazos expressed concern about the "sole source" nature of the funding, a practice ED opposes "particularly when the recipient . . . does not have an established track record and the money is to be used for

⁴⁶U.S. Library of Congress. Congressional Research Service. *The "Educational Excellence Act of 1989": The Administration's Education Proposal*. Report for Congress No. 89-513 EPW, by James B. Stedman and Wayne Clifton Riddle. Washington, Aug. 21, 1989. President Bush's education reform package did not propose authorizing funds for the National Board.

⁴⁶This appropriation is included in P.L. 101-166, Departments of Labor, HHS and ED Appropriations Act, 1990. The language cited is from House Report 101-274, Conference Report to accompany H.R. 2990, Departments of Labor, HHS and ED Appropriations Act, 1990. H.R. 2990 was vetoed by the President on Oct. 21, 1989; the House voted to sustain the veto on October 25, 1989. Another bill was enacted into law, P.L. 101-166, that contained identical provisions for ED.

⁴⁷During the 100th Congress, the Senate Subcommittee on Education, Arts and Humanities held a hearing on the funding proposal. (U.S. Senate. Committee on Labor and Human Resources. *National Board for Professional Teaching Standards*. Hearing before the Subcommittee on Education, Arts, and Humanities. Senate Hearing 100-612. 100th Congress, 2nd Session. Feb. 18, 1988.) During the 1st session of the 101st Congress, the House Subcommittee on Postsecondary Education held a hearing on Federal funding for the Board.

unspecified research and development activities."⁴⁸ Further, he characterized the proposal as lacking "accountability to the Secretary of Education." Finally, he objected to the funding because, at the time, it "exceed[ed] the budget of the Department's entire Office of Research, which supports twenty research and development centers around the country." He questioned whether there was sufficient evidence to justify the requested level of funding.

In addition, the American Association of Colleges for Teacher Education and the Council for Educational Development and Research went on record in the 100th Congress in opposition to Federal funding of the Board's activities because the funds would not be awarded "through a process of open competition and rigorous peer review Open competition for research dollars and a strong peer review mechanism are key to maintaining the integrity of the research enterprise. A decision by the Congress to make a sole source award to a particular organization--any organization--undermines the honesty of the research system."⁴⁹

Other organizations, such as the American Association of School Administrators, the National Education Association, and the American Federation of Teachers, have testified in favor of the Federal funding for the Board's research and development agenda, often noting that concerns about accountability for these funds had been met by provisions in pending legislation or presumably would be met. For example, Arthur E. Wise stated, in testimony on behalf of the American Education Research Association before the House Subcommittee on Postsecondary Education, that the Association has opposed sole source contracts but "the unique circumstances associated with the mission of the National Board and the compelling need to provide a research and development base adequate to the task of identification of advanced teacher competencies justified this unusual funding approach." Further, he noted that the Association was "comfortable with the legislative response thus far provided to its concerns regarding necessary independence and adherence to the canons of merit-review."

Other Issues for National Certification

The American Association of Colleges for Teacher Education's board of directors voted in September 1989 to oppose the Board's announced policy concerning prerequisites for certification.⁵⁰ The opposition centers on concern

⁴⁸Cavazos, Lauro F. Written statement before the House Subcommittee on Postsecondary Education. July 25, 1989.

⁴⁹Statement for the Record. Published in Senate Hearing 100-612. *National Board for Professional Teaching Standards*, Mar. 1988.

⁵⁰American Association of Colleges for Teacher Education. Press Release. Sept. 20, 1989; Bradley, Ann. AACTE Decides Not To Support Teaching Board. *Education Week*, Sept. 20, 1989.

that, by only requiring candidates for certification to have 3 years' teaching experience and a bachelor's degree, the Board is establishing low standards and ignoring the current mechanisms for quality control in teaching--present teacher certification and licensing procedures, and State approval and professional accreditation of teacher education programs. Drawing parallels to other professions with national certification, the Association questions the Board's decision not to require formal, professional preparation prior to applying for certification. In addition, the Association takes the Board to task for failing to recognize the many State reform efforts to raise teacher quality, "some of which are more thorough and extensive than the Board's policies."⁶¹

The NEA's board of directors has recently announced that it opposes these same candidacy requirements and that it will work to include State licensure and graduation from a teacher education program as conditions for National Board candidacy.⁶²

The National Board, in its recent report on initial policies, states that it chose not to require professional preparation or State licensure for national certification candidates because these requirements would exclude otherwise qualified persons, such as private school teachers and college faculty. Further, the Board notes that such requirements would be inequitable because they would differ from State to State.

Somewhat ironically, the National Board's standards have been criticized by those who argue that no restrictions should be imposed on individuals who want to be candidates for national certification.⁶³ The 3-years' teaching requirement, it is asserted, excludes otherwise qualified individuals. Arguably, national certification could become an alternative certification route by which States would permit individuals lacking State certification to teach.

Another concern centers on minority teaching representation. Given the trend in minority representation in the teaching force and the adverse effects recent testing actions have had (see discussion below), the Board's policies and actions regarding minority access to teaching are likely to be scrutinized closely. The Board, acknowledging the importance to its work of this and other teacher policy issues, has announced an education reform initiative focused on three issues, including "increasing the supply of high quality

⁶¹American Association of Colleges for Teacher Education. Press Release. As reported by the National Governors' Association in *Results in Education: 1989*, approximately 22 States took some action during the past year related to licensing.

⁶²Bradley, Ann. N.E.A. Assails Board's Policy on Prerequisites for Certification. *Education Week*, Jan. 17, 1990.

⁶³*The New Republic*. The New Class. Aug. 28, 1989.

entrants into the profession, with special emphasis on minorities."⁶⁴ Among its actions in this area, the Board asserts that it will "ensure that its assessments are fair and unbiased;" include minority teachers and scholars in its activities; and work closely with historically black colleges to help their students and graduates prepare for national certification.⁶⁵

Another issue that has been raised concerns the extent to which the NEA and the American Federation of Teachers (AFT) are represented on the National Board.⁶⁶ Representation of the teachers' unions on the Board is a function of how membership is **currently** determined. Teaching Professionals make up two-thirds of the Board, and Teaching Professionals at the elementary and secondary level constitute a majority of Board membership.⁶⁷ The Teaching Professionals are selected at present in three categories: one-third are teacher union leaders; another third are current or former officers in teaching subject area or other specialty associations; and the remaining third are selected based only on their outstanding records of accomplishment. Importantly, these various categories will **not** be followed once the Board begins certifying teachers and the Teaching Professionals on the Board are elected by Board-certified teachers. NEA opposition to the Board's candidacy requirements has raised further discussion about the role of the teachers' unions in the process. Reportedly, 20 of the Board's 64 members belong to the NEA.⁶⁸ It has been suggested that action by these NEA members will indicate how independent they are of their union.

During Senate floor debate on S. 695, concern was raised by some Senators about potential adverse consequences of national certification for teachers in private schools and home schools.⁶⁹ As a result, the legislation was amended to provide that: "Nothing in this Act shall be construed to infringe upon the practice or accreditation of home school or private school teaching."

⁶⁴National Board, *Toward High and Rigorous Standards*, p. 83.

⁶⁵*Ibid.*, p. 84-85.

⁶⁶Olson, Lynn. Certification Panel Gets Cool Reception From Some Administrators. *Education Week*, May 27, 1987. This issue was raised during Senate floor consideration of S. 695 on Feb. 6 and 7, 1990.

⁶⁷National Board for Professional Teaching Standards. Undated information brochure; Olson, Lynn. Carnegie Unveils Makeup of National Teacher Board. *Education Week*, May 20, 1987.

⁶⁸Bradley, N.E.A. Assails Board's Policy.

⁶⁹See, for example, *Congressional Record*, Daily Edition, Feb. 7, 1990. p. S952-963.

TEACHER COMPENSATION

In 1983, the National Commission on Excellence in Education recommended in *A Nation At Risk* that teachers' salaries be raised.⁶⁰ This call was echoed in many of the other reform reports issued shortly thereafter. It arose for a variety of reasons, including evidence that teachers' salaries over the course of the 1970s had not kept up with inflation and were not competitive with other professions. This section provides an analysis of changes over the past two decades in teachers' salaries with a focus on the structure of the salary schedule and reform initiatives to modify teacher compensation.

Among the key findings in this section are the following:

- Average teachers' salaries in current dollars have risen steadily over the past two decade, reaching slightly more than \$28,000 by 1987-88.
- Relative to inflation, average teachers' salaries lost ground in the 1970s and early 1980s. Recent increases have outpaced inflation. In constant dollars, average salaries have regained that lost ground.
- The range in average salary among the States is from \$19,750 to \$40,424.
- The average salary schedule is flat, offering little potential for significant growth. Most increases are predicated upon longevity and the accumulation of college credit.
- States and localities have increases salaries and established various kinds of performance-based schedules and incentives. Many of these have triggered controversy, particularly over the evaluation of performance.

TRENDS IN COMPENSATION

Table 4 below show how public school teachers' salaries changed between 1967-68 and 1987-88 in current dollars and in constant dollars (adjusted to reflect the effects of inflation).

⁶⁰The Commission stated: "Salaries for the teaching profession should be increased and should be professionally competitive, market-sensitive, and performance-based." p. 30.

**TABLE 4. Estimated Average Annual Salaries
for Public Elementary and Secondary
School Teachers--1967-68 to 1987-88**

School year	Current dollars	Constant 1987-88 dollars*
1967-68	\$7,423	\$25,285
1969-70	8,626	26,453
1971-72	9,705	27,321
1973-74	10,770	26,759
1975-76	12,600	26,319
1977-78	14,198	26,260
1979-80	15,970	23,830
1981-82	19,274	23,725
1983-84	21,921	24,949
1985-86	25,198	26,825
1987-88	28,044	28,044

*Current dollars converted to constant dollars using Consumer Price Index.

Source: U.S. Department of Education. *Digest of Education Statistics* 1989. 1989. Table 66. p. 77. Data are from the National Education Association's *Estimates of School Statistics* for various years.

As is evident from table 4, public school teachers' average salaries have risen fairly steadily in **current dollars** over the past 20 years, growing from a little less than \$7,500 in 1967-68 to a little more than \$28,000 in 1987-88, an increase of 278 percent. The picture is less striking when one takes into account the effects of inflation and considers teachers' salaries measured in **constant 1987-88 dollars**. The change between 1967-68 and 1987-88 in constant dollars was 11 percent. Beginning roughly in the mid 1970s salaries **lost ground** relative to inflation until, by 1979-80, the purchasing power of teachers' salaries was actually less than it had been in 1967-68. Although salaries measured in constant dollars rose during the early 1980s, it was not until shortly after 1983-84 that they regained the 1967-68 level. Subsequent increases have continued to exceed the rate of inflation.

SALARY SCHEDULES

National average teacher salaries are useful for providing some measure of the overall salary situation that prevails in the country; but they fall short in capturing the actual experience of many teachers across the country. Teachers' salaries vary from one State to another. In 1987-88, when the national average annual salary was \$28,044, the range in average salaries among the States was from \$19,750 (South Dakota) to \$40,424 (Alaska).⁶¹ The median State average was Georgia's at \$26,177. That is, half of the States had average salaries above Georgia's, while half were below.

Further, there is variation among districts within States. Fewer than half of the States have established statewide salary schedules for teachers; in the others, local school systems establish the schedules, bargaining with teachers' unions, if any.⁶² Still, a statewide schedule does not guarantee uniformity in treatment among districts within the State because individual school systems often are able to supplement that schedule. As a consequence, average teacher salaries at the national level or, even, at the State level mask variation among school districts in teachers' salary levels and schedules.

Two related concerns about the structure of the salary schedules for teachers merit mention.⁶³ Some initiatives to respond to these concerns are considered in the subsection that follows. First, teachers' salary schedules are, for the most part, relatively flat. That is, after a certain stage relatively early in a teacher's career, there is little prospect for significant salary growth. Teachers who want greater compensation have to leave teaching for

⁶¹U.S. Department of Education. *Digest of Education Statistics 1989*, table 67. p. 78.

⁶²Darling-Hammond and Berry, *The Evolution of Teacher Policy*.

⁶³Darling-Hammond and Berry, *The Evolution of Teacher Policy*; Goodlad, John I. *A Place Called School: Prospects for the Future*. 1984.

educational administration or they have to abandon the educational field entirely.

Second, and related to the flatness issue, is that, as typically structured, salary schedules primarily reward longevity and the accumulation of additional college credit, not outstanding performance.⁶⁴ Salary schedules do not generally differentiate among teachers and the various roles they can play (e.g., mentoring first year teachers). Nor do they regularly reward teachers for educational effectiveness.

REFORM INITIATIVES FOR TEACHER COMPENSATION

States and local school systems have attempted to respond to these issues and criticisms in various ways. Of particular interest are those efforts to address the "flatness" of the salary schedule and its lack of reward for teaching excellence. By the mid 1980s, over half of the States had implemented or encouraged the development of performance-based salary schedules.⁶⁵ Some States, such as Arizona and Tennessee, have initiated or tested career ladders for teachers separating the salary schedule into two or more tiers. Salaries at each tier are greater than those available at a lower tier; admission to higher tiers is generally made dependent upon evaluation of past performance and the acceptance of greater levels of responsibility. Programs of merit pay, that is, one-time salary increases for particular kinds of activity or performance, have been adopted in some States and localities, such as Florida, and Houston, Texas. Variants of these efforts include mentor or master teacher programs that provide selected teachers with additional compensation in return for undertaking special activities, such as mentoring first-year teachers or helping school systems design new curriculum. States that have implemented such programs include California and New York.

Many of these efforts for performance-based salary schedules have triggered controversy, particularly as State and local policymakers confront the difficult issues of fairly evaluating teachers' performance and finding necessary financial resources. States, such as Alabama and Florida, have modified or terminated certain of their performance-based compensation plans.⁶⁶ Many of the State programs do not impose a single structure on all

⁶⁴Lawton, Stephen B. *Teachers' Salaries: An International Perspective. Attracting and Compensating America's Teachers*. Edited by Kern Alexander and David H. Monk. Eighth Annual Yearbook of the American Education Finance Association. 1987.

⁶⁵Darling-Hammond and Berry, *The Evolution of Teacher Policy*; Southern Regional Education Board. *Is 'Paying for Performance' Changing Schools? Career Ladder Clearinghouse*. Dec. 1988.

⁶⁶Southern Regional Education Board. *Is 'Paying for Performance' Changing Schools?*

districts' salary schedules; rather, they are designed to encourage or require local school districts to develop their own plans within State guidelines.

In a recent development, a number of local school systems, such as the one serving Rochester, New York, have agreed to provide teachers with much steeper salary schedules, some reaching into the \$70,000 range, as part of systemwide restructuring. These efforts involve granting substantially greater authority to the principals and teachers at individual schools and holding them accountable for meeting the school system's educational goals.⁶⁷

TEACHER SUPPLY AND DEMAND

Are there enough qualified teachers to fill vacancies in our schools? Are shortages more likely in specific fields? How does evolving public policy affect supply and demand? The attention to these questions has grown as a consensus develops that the success or failure of school reform efforts depends on the capabilities of individual teachers.

This section provides an overview of what we know about the number of teachers needed by public schools and the number of people who might be eligible to meet that need. It explores whether there are shortages in specific areas or of specific kinds of teachers. The influence on teacher quality and quantity of policy decisions at the State and local levels is considered as well.

Among the key findings in this section are the following:

- Although the limitations of available data preclude characterizing with certainty the overall balance between supply and demand, it is projected that approximately 2.2 million new public school teachers will need to be hired during the 1990s. This is almost as many new teachers as the total teaching force today.
- Relative to minority representation among students, minority teachers are in short supply. In the fall of 1986, 29.6 percent of public elementary and secondary school students were minorities; 10.3 percent of the teachers were.
- Some school systems are having difficulty finding qualified math and science teachers. Reform of math and science curriculum may reduce still further the availability of qualified teachers in these fields.
- State and local reform initiatives are redefining who is eligible or qualified to teacher and, as a result, changing the relative balance between supply and demand. States and

⁶⁷Stedman, A New Wave of Reform.

localities are also trying to attract more qualified people to teaching. These efforts include raising requirement for entering and exiting teacher education programs, stiffening requirements for teacher certification, providing alternatives to standard certification procedures, and providing financial assistance for college expenses in exchange for teaching service.

THE BALANCE BETWEEN SUPPLY AND DEMAND

Is the supply of teachers and the demand for teachers in balance? There is no consensus about how to answer that question. In 1986, the Carnegie Forum on Education and Economy concluded that for the coming decade the Nation's schools would experience a shortage of teachers.⁶⁸ The Forum estimated that some 23 percent of each college graduating class would have to enter teaching to meet the shortage, well over twice the percentage currently earning education degrees. In that same year, Willis D. Hawley, Dean of the Peabody College for Teachers, Vanderbilt University, asserted that the impending teacher shortage would reach "historic proportions."⁶⁹

Other observers and researchers reached nearly opposite conclusions, arguing that whatever hiring difficulties might be experienced would be sporadic and minimal. C. Emily Feistritzer, an education researcher, posited that "contrary to predictions, there seems to be no problem finding enough qualified teachers to meet demand."⁷⁰ Daniel Hecker, a Bureau of Labor Statistics Economist, weighed the evidence and found "that no shortage of teachers will develop."⁷¹

What accounts for the inconsistency of these analyses? Basically, projections of teacher shortage or surplus are clouded by the difficulties of interpreting weak and unreliable data, by the consequences of taking short-term or long-term perspectives, by one's definition of what characterizes an individual **qualified** to fill a teaching vacancy, and, to some extent, by where one stands on the politics of teacher reform.

The primary question is not whether teaching slots stand vacant during a school year. States and school systems generally fill all but a handful of

⁶⁸Carnegie Forum on Education and the Economy, *A Nation Prepared*.

⁶⁹Hawley, Willis D. Toward a Comprehensive Strategy for Addressing the Teacher Shortage. *Phi Delta Kappan*, June 1986.

⁷⁰Feistritzer, C. Emily. *Teacher Crisis: Myth or Reality?* 1986.

⁷¹Hecker, Daniel. Teacher's Job Outlook: Is Chicken Little Wrong Again? *Occupational Outlook Quarterly*, winter 1986.

their teaching vacancies through various means, including the granting of emergency certification (see discussion in the "Teacher Certification" section above) or the assigning of teachers outside of their fields of preparation. The question is whether our school systems will have sufficient numbers of individuals qualified to fill current teaching positions.

Further, sound data are necessary but not sufficient to make accurate projections of teacher shortages or surpluses.⁷² Given the decentralized nature of the U.S. public elementary and secondary school system and the rapid evolution of public policy affecting teachers, projections will still require relatively subjective assessments of the consequences of diverse policy changes for the supply and demand equation as it applies nationally, in individual States, and in over 15,000 school districts. The decentralization of schooling also means that the country is likely to experience shortages and surpluses simultaneously--in any one year some school systems may be unable to find qualified teachers in particular subject areas, while other systems may have no problems.

ESTIMATES OF ANNUAL DEMAND

The size of the teaching force in the future is a function of various factors, such as enrollment changes, implementation of new education policies and practices, and the financial resources of States and localities.⁷³ As was shown in the section above on teacher characteristics, the number of public school classroom teachers is projected by ED to rise from approximately 2,296,000 in the fall of 1988 to 2,681,000 in 2000. Annually growth appears to be relatively steady.

How many new teachers will be required to staff a teaching workforce of this size in the future? According to ED, the annual demand for new teachers is a function of several factors:

- the teacher force's turnover or attrition rate,
- changes in student enrollment, and
- an array of other reasons.⁷⁴

⁷²ED has conducted surveys that will benefit the discussion of teacher supply and demand. Unfortunately, as noted earlier, data from the Schools

), see *Projections*, p. 131.

Projections, Chapters 5 and 13.
 ch things as modifications in
 special education, and the
 2)

⁷³For a discussion of the factors used by E

⁷⁴National Center for Education Statistics, .
 The "other reasons" cited in the text include s
 public policy affecting class size, changes in
 financial resources of States and localities. (p.

Based on ED's estimates of how these factors affect the demand for new teachers, it is estimated that approximately 2.5 million new public and private teachers will need to be hired between 1990 and 2000.⁷⁶ **In the public sector alone, the projected demand for new hires during the 1990s is approximately 2.2 million.**⁷⁶ As a result, over the course of the decade, almost as many new teachers will need to be hired as are currently working in our schools. All of these figures should be used with caution since they assume continuation of past trends.

In general, ED estimates that **teacher turnover is the factor that most affects the demand for new teachers.** For its most recent projections, ED has adjusted Bureau of Labor Statistics' estimates of teacher attrition to reflect retirements in the 1990s. Under its middle assumptions, ED projects that **5.6 percent** of elementary school teachers and **7.0 percent** of secondary school teachers will leave the teaching force in 1990. These attrition rates are projected to rise to 6.5 percent and 8.0 percent, respectively, by 2000.

In the past, ED's projections were based partly on an assumption that turnover rates from the early 1980s (4.9 percent for elementary school teachers and 5.6 percent for secondary school teachers) would apply well into the 1990s.⁷⁷ This assumption was challenged. For example, Linda Darling-Hammond, currently at Teachers' College, Columbia University, asserted that more recent data showed the attrition rate to be above 9 percent.⁷⁸ Of particular concern to many is the aging of the current teaching force. According to data gathered by the NEA, the median age of all public school

⁷⁶ED, *Projections*, table 34, p. 78. Some of the data shown in table 34 are in error. The data in the text of this CRS report are based on corrections of those erroneous data.

⁷⁶In the most recent *Projections*, ED does not publish separate estimates of needed new hires for the public sector alone. The total presented in the text was calculated by CRS using the ED methodology and data, and after discussions with the ED analyst who prepared the original projections.

⁷⁷The result of this assumption was a markedly lower estimate of the demand for new teachers. For example, the demand for new public school teachers **between 1990 and 1997** in the *Projections of Education Statistics to 1997-98* was 1.3 million. In contrast, using the most recent assumptions from ED (including the adjustments in the turnover rates), the demand now appears to be 1.5 million new public school teachers **over this same period.**

⁷⁸Linda Darling-Hammond. What Constitutes a 'Real' Shortage of Teachers? *Education Week*, Jan. 14, 1987.

teachers in 1986 was 41 years; the 1976 figure was 33 years of age.⁷⁹ As increasing numbers of teachers near and reach retirement age, it is anticipated that the overall attrition rate will rise. The most recent ED projections, cited above, do assume an increase in teacher turnover due to retirements during the 1990s.

ESTIMATES OF ANNUAL SUPPLY

The supply of teachers is even more difficult to measure than the demand. Pending completion of its surveys of school staffing, the U.S. Department of Education declines to make new estimates of the supply of persons who might be eligible to teach.⁸⁰ Many of the individuals hired each year to fill new vacancies come from new college graduates who are prepared to teach. As was shown earlier in this report, those numbers have declined substantially in the past decade and a half. Further, there is no certainty that individuals who are preparing to teach will in fact do so. According to one analysis of 1972 high school graduates, about a quarter of those who completed teacher education programs never taught during the subsequent decade.⁸¹ This has sparked concerns about teacher shortages.

However, this anxiety may be somewhat misplaced, given that schools can draw from a reserve pool of other persons, such as former teachers, education majors who never taught, and persons in other careers who could meet regular or special certification. At the same time, it must be stressed that it is not sufficient to know how many individuals are in the teaching pipeline or the reserve pool; one must estimate how many of them are qualified and will become teachers.

Another indicator often used to measure shortages of qualified teachers is the extent to which current teachers teach outside of their fields of preparation or certification. The Carnegie Foundation for the Advancement of Teaching surveyed teachers in 1988 and asked, "Are you now assigned to

⁷⁹National Education Association, *Status of the American Public School Teacher*.

⁸⁰ED in recent years has only published estimates of the demand for new teachers. In the Department's *Projections of Education Statistics to 2000*, it states: "Changing demographics and enrollment trends, reports of an aging teaching force, and declining numbers of newly graduated teachers have generated concerns about an impending teacher shortage. To respond to these concerns, NCES [National Center for Education Statistics] is conducting a series of schools and staffing surveys to collect statistics on teacher demand and supply. When sufficient data become available, projections will be developed for teacher supply." (p. 1)

⁸¹Heyns, Barbara. *Educational Defectors: A First Look at Teacher Attrition in the NLS-72*. *Educational Researcher*, Apr. 1988.

teach subjects in which you feel unqualified?"⁸² Nationwide, 20 percent of all public school teachers responded affirmatively. The range among the States was from 30 percent feeling unqualified (Utah and Washington) to 12 percent (New Hampshire). NEA data suggest that the situation is better today than it was in the early 1960s.⁸³ In 1961, 67 percent of all teachers reported spending no time teaching outside their fields of preparation; in 1986, 83 percent reported no misassigned time. The peak, though, was 84 percent in 1981. If one assumes that the Carnegie data cited above measures a phenomenon comparable to that captured by the NEA surveys, then the extent of misassignment may have increased slightly across the 1980s.

In the final analysis, despite the many claims that a shortage situation has already developed, little can be said with certainty at this juncture about the overall balance between the supply of, and the demand for, qualified public elementary and secondary school teachers. This is a complex calculation that appears to require more and better data than those currently available. At a minimum, the prospect that school districts will have to hire some 2.2 million new teachers in the next ten years poses a substantial challenge to keeping supply and demand in balance.

ARE CERTAIN KINDS OF TEACHERS IN SHORT SUPPLY?

Strong claims are being made about shortages of specific kinds of teachers, particularly minority teachers, math and science teachers, bilingual education teachers, and special education teachers. Each of these groups of teachers is considered separately below.⁸⁴

Minority Teachers

Is there a shortage of qualified minority public school teachers? At the heart of this question is the issue of what constitutes an adequate or appropriate percentage of minority teaching staff. Increasingly, policymakers look to the level of minority enrollment in public schools as the standard against which the representation of minority teachers should be compared. This standard arises partly from a belief that both majority and minority children would benefit academically and socially from exposure to minority

⁸²Carnegie Foundation for the Advancement of Teaching. *The Condition of Teaching: A State-by-State Analysis, 1988*. 1988. Table 20, p. 24.

⁸³National Education Association, *Status*, Table 18, p. 29.

⁸⁴As was noted earlier, this report is not addressing early childhood education teaching, an area where claims about shortages have been made.

role models. Rising minority representation in the public elementary and secondary school classroom heightens the concern about minority teachers.⁸⁵

According to that standard (comparison of enrollment to teaching force), there is a shortage of minority teachers. In the fall of 1986, minority students made up **29.6 percent** of public elementary and secondary enrollment.⁸⁶ In school year 1985-86, **10.3 percent** of the teaching force was minority.⁸⁷ In the discussion of minority teacher shortages, black teachers are a focus of particular concern. Black students constituted **16.1 percent** of enrollment in 1986, while black teachers made up only **6.9 percent**. Some have predicted that, in the near future, the teaching force will be only 5 percent black during the coming decade.⁸⁸ Comparable data on other minority groups are not currently available.

Other data also suggest that minority representation among teachers may fall in the future. According to the American Association of Colleges for Teacher Education:

The racial and ethnic composition of the nation's K-12 enrollment is diametrically opposed to schools, colleges, and departments of education racial and ethnic enrollments. The proportion of Black, Hispanic, Asian, and American Indian/Alaskan Native elementary and secondary students is far greater than that of the future teaching force.⁸⁹

The trends in this area are not positive. In terms of undergraduate education degrees, the percent minority dropped from 12.7 percent in school

⁸⁵Garibaldi, Antoine M. *Quality and Diversity in Schools: The Case for an Expanded Pool of Minority Teachers*. Paper commissioned by the American Association of College for Teacher Education. July 1987; *Quality Education for Minorities Project. Education That Works: An Action Plan for the Education of Minorities*. Massachusetts Institute of Technology. Jan. 1990.

⁸⁶DBS Corporation. *National Summaries. 1986 Elementary and Secondary School Civil Rights Survey*. Prepared under contract for the U.S. Department of Education, Dec. 1987.

⁸⁷National Education Association, *Status of the American Public School Teacher*.

⁸⁸Smith, G. Pritchey. *The Effects of Competency Testing on the Supply of Minority Teachers*. Report prepared for the National Education Association and the Council of Chief State School Officers, Dec. 15, 1987.

⁸⁹American Association of Colleges for Teacher Education. *Teacher Education Pipeline: Schools, Colleges, and Departments of Education Enrollments by Race and Ethnicity*. 1988. p. 1.

year 1978-79 to 9.2 percent in 1986-87; the black share dropped from 9.1 percent in 1978-79 to 4.9 percent in 1986-87.⁹⁰

Reasons for the Decline

Some of the recent decline in black representation and expected drop in overall minority representation in the teaching force is being attributed to high failure rates by blacks and other minorities on State examinations for graduation from undergraduate education programs or for certification.⁹¹ As stated earlier, 25 States require new entrants into teacher preparation programs to pass competency tests, and at least 42 States currently impose or are exploring such testing requirements for graduation from teacher education programs or for certification. Those who have gathered data on the subject report that the percentage of minority candidates passing is often substantially smaller than that of white candidates. In many States the minority passing rate has been less than half that of the white rate; in some States minorities pass at a rate that is only a fifth or less of the white rate.⁹² Although complete national data are not available, critics of testing claim that it has screened "literally thousands" of minority persons out of the teaching profession.⁹³

A variety of other factors may account for portions of this downward trend. Among these factors are (1) the greater career opportunities minorities have now than they had previously making them less likely to enter teaching; and (2) the declining or stagnant college-going rates of black and Hispanic high school graduates, reducing minority representation in the college undergraduate pool from which prospective teachers might come.⁹⁴

⁹⁰U.S. Department of Education. National Center for Education Statistics. *Digest of Education Statistics 1982*. 1982. Table 109. p. 122; Department of Education, *Digest of Education Statistics 1989*, table 215, p. 243.

⁹¹Another significant reason for declining minority representation is the opening of new career opportunities to minorities in the past two decades.

⁹²Smith, *The Effects of Competency Testing on the Supply of Minority Teachers*.

⁹³*Ibid.*, p. 1.

⁹⁴U.S. Library of Congress. Congressional Research Service. *Financing Postsecondary Education Attendance: Current Issues Involving Access and Choice*. Report No. 88-315 EPW, by James B. Stedman. Washington, Apr. 22, 1988.

Math and Science

For school year 1985-86, a majority of high school principals reported difficulty hiring "fully qualified" physics, chemistry, computer science, and math teachers, among others.⁹⁶ In some cases, high school students did not have access to the full array of basic science courses. The National Science Teachers' Association reported that in 1985-86 nearly one-third of all high school students took math or science from a teacher apparently "not qualified" to teach that course.⁹⁶ At the elementary level, where individual teachers typically have responsibility for all subject matter, only slightly more than one-quarter of them felt "well qualified" to teach life sciences. Even smaller percentages characterized themselves that way for the physical and earth sciences.⁹⁷

Concern has also been raised about a particular shortage of qualified math and science instructors in inner city schools, as well as a general lack of minority math and science teachers.⁹⁸ These and other findings are used by many researchers and observers to assert that the Nation's schools suffer from a shortage of qualified math and science teachers.

Such assessments are not without their critics. According to some analyses, school systems may have experienced shortages of mathematics and science teachers regularly during the past several decades, and the current difficulties in filling positions may not be as severe as many claim.⁹⁹

That some school systems are finding it difficult to fill math and science positions with qualified teachers is clear. But, as with the data applicable to all teachers, accurate measurement of the supply and demand of math and

⁹⁶Weiss, Iris R. *Report of the 1985-86 National Survey of Science and Mathematics Education*. Research Triangle Institute, Nov. 1987.

⁹⁶U.S. Congress. House. Committee on Education and Labor. *The Reauthorization of Expiring Federal Elementary and Secondary Education Programs*. Volume 8. 100th Cong., 1st Sess. Apr. 2, 1987. Testimony by Leroy R. Lee. p. 48.

⁹⁷Weiss, *Report of the 1985-86 National Survey*.

⁹⁸Office of Technology Assessment. *Educating Scientists and Engineers: Grade School to Grad School*. 1988. p. 28-30; Task Force on Women, Minorities, and the Handicapped in Science and Technology. *Changing America: The New Face of Science and Engineering*. Interim Report, Sept. 1988. p. 17.

⁹⁹Rumberger, *Shortage of Mathematics and Science Teachers*.

science teachers, and determination of whether teaching positions have been appropriately filled are beyond the reach of presently available data.¹⁰⁰

Nevertheless, given the current curricular reform efforts for math and science, shortages of **qualified** teachers in these fields are likely to occur to a significant degree. These reform efforts are far reaching in their objectives and may have a significant impact on **how** math and science are taught and **what** is taught in the future.¹⁰¹ For example, the American Association for the Advancement of Science, in Project 2061, has prepared a new synthesis of the basic knowledge, abilities, and perspectives that constitute scientific literacy, which includes mathematics. This synthesis departs significantly from the thinking that underlies current science and mathematics instruction in schools. The next stage for Project 2061 is the development of alternative curriculum models that can be used by States and localities, and the delineation of necessary reforms in teacher education, instructional materials, testing, etc.

Other Groups of Teachers

Bilingual Education Teachers

Relying on data prepared by ED for the early 1980s, claims have been made that bilingual education is the field most likely to have shortages of teachers, as well as the field in which the greatest percentage of teachers are uncertified to teach their subject.¹⁰² In November 1983, it was reported to the

¹⁰⁰For additional information on these and other issues involving math and science education, see U. S. Library of Congress. Congressional Research Service. *Science, Engineering, and Mathematics Precollege and College Education*. Issue Brief No. IB88068, by Christine Matthews. Updated regularly; and U.S. Library of Congress. Congressional Research Service. *Dwight D. Eisenhower Mathematics and Science Education Act: An Analysis of Recent Legislative Action and Program Evaluations*. Report for Congress No. 89-24 EPW, by James. B. Stedman. Washington, Jan. 10, 1989.

¹⁰¹Pipho, Tomorrow's Math and Science; American Association for the Advancement of Science, *Science for All Americans*; National Research Council. *Everybody Counts: A Report to the Nation on the Future of Mathematics Education*. 1989; Aldridge, Bill G. Essential Changes in Secondary School Science: Scope, Sequence and Coordination. National Science Teachers Association, Jan 24, 1989; Rothman, Robert. Nationwide Project Scraps 'Layercake' Approach to Science. *Education Week*, Apr. 12, 1989; Rothman, Robert. Sciences Group Unveils Plan to Revise Curriculum. *Education Week*, Mar. 1, 1989; Daniels, Lee A. Math Teachers Push for Reasoning Over Rote. *New York Times*, Mar. 22, 1989.

¹⁰²Darling-Hammond, Linda, with Joslyn Green. Teacher Quality and Education Equality. *The College Board Review*, summer 1988.

U.S. Department of Education that, for every 1,000 currently employed bilingual education teachers, slightly more than 9 bilingual education positions could not be permanently filled.¹⁰³ At the same time, about 12 percent of all bilingual education teachers reportedly were uncertified in that field. Reports of shortages have come from specific school systems, principally in the western and southwestern portions of the country.

The accuracy and current relevance of much of the statistical information used to describe the need for bilingual education teachers may be questioned. In its most recent report on bilingual education, ED observed that there may not be a **national** shortage of bilingual education teachers; rather, **localized** shortages may exist as a result of certified bilingual education teachers not necessarily being employed where the needs for such teachers are the greatest.¹⁰⁴ ED also stresses the importance of data currently being gathered (e.g., the Schools and Staffing Survey cited earlier) to enhance its ability to estimate the balance between supply and demand for bilingual education teachers.

Special Education

Groups representing special education teachers, administrators, and handicapped children recently testified before congressional committees that the current shortage of special education teachers was a "national emergency" and likely to attain "crisis proportions" in the future.¹⁰⁵ Citing ED statistics for 1985-86, they asserted that the gap between the number of special education teachers needed and the number actually employed was 8.6 percent. Such a figure probably understates the real shortage, according to these groups, because some States may have underreported their needs and a significant percentage of positions may be filled with teachers uncertified in this field.

The data problems that affect assessment of supply and demand in other fields and for teaching as a whole also show up in special education. Indeed, better data gathering was among the reforms called for by the special education groups.

¹⁰³U.S. Department of Education. *The Condition of Bilingual Education in the Nation*. 1988. 1988.

¹⁰⁴Ibid.

¹⁰⁵Viadero, Debra. Personnel Shortages Augur a 'Crisis' in Special Education, Groups Warn. *Education Week*, Apr. 5, 1989; Hume, Maggie. Shortage of Special Educators Nears Crisis Proportion, Field Warns. *Education Daily*, Apr. 3, 1989.

STATE AND LOCAL INITIATIVES

Changes in public policy regarding teaching directly affect teacher supply and demand. As States and localities implement new programs and policies to reform and improve teaching, they are redefining who is eligible or qualified to teach, and changing the relative balance between supply and demand. This subsection provides an overview of several kinds of initiatives that have an effect on the balance between supply and demand.

Restricting Entrance and Continuation

Some changes may reduce the potential supply of teachers and create vacancies in the current teaching force. As noted above, States in recent years have turned to testing as a mechanism for ensuring the quality of new entrants into teacher training programs and into teaching itself. Many have sought to decrease the number of education courses that prospective teachers can take and increase the rigor of their academic preparation. Some are debating whether to continue providing undergraduate teacher training, thereby making teacher education available only at the graduate level. Increasingly, States are making certification a temporary status, requiring teachers to undertake specific activities as conditions for renewal. (These steps are discussed in some detail above in the sections on "Teacher Certification" and "Teacher Education.")

Is this really true?

Financial Assistance for Prospective Teachers

At the same time, to attract more people to teaching, some 38 States now provide financial assistance to prospective teachers, generally in the form of loans to cover one or more years of undergraduate education.¹⁰⁶ In most cases, this assistance requires recipients to serve as teachers for a period of time dependent upon the period during which assistance was received. The States often target these programs on particular shortage areas, such as mathematics and science, or special education.

Detailed assessments of these various State level efforts remain to be undertaken. Nevertheless, available analyses of these efforts, and of earlier programs using student aid to encourage teaching service, suggest that they may not have the desired outcome. They may fail to attract a significant number of persons to teaching who would not otherwise have done so.¹⁰⁷

¹⁰⁶This is an estimate based on the American Association of College for Teacher Education's 1988 report, *Teacher Education Policy in the States*.

¹⁰⁷Spero, Irene K. The Use of Student Financial Aid to Attract Prospective Teachers: A Survey of State Efforts. The College Board. Paper presented at the Annual Meeting of the National Conference of State Legislatures. Aug. 7, 1985; U.S. Library of Congress. Congressional Research Service. *The* (continued...)

Alternative Routes into Teaching

To address shortages and attract highly qualified persons to teaching, policymakers have instituted alternative routes to teacher certification and continue to authorize emergency certification. State action in this area was considered in detail above in the section on "Teacher Certification." Analyses of alternative certification programs suggest that they can make vacancies easier to fill and appear to attract significant numbers of minorities. At the same time, they vary markedly in the amount of supervision and assistance they provide new teachers in meeting the demands of their assignments.

Working Conditions and Responsibilities

States and localities are also engaged in efforts to improve teachers' working conditions and increase their role in setting and directing policy in individual schools. Washington State and Rochester, New York have embarked upon education reform that involves enhancing school-based management and granting teachers greater authority in determining how educational objectives will be met.¹⁰⁸ Efforts such as these can have diverse effects on the supply and demand for teachers. Increasing teacher responsibility might attract capable persons to teaching, and improve the performance of current teachers. At the same time, some teachers may not be able to adjust to these changes and so may leave teaching

Other Efforts

Other activities can affect teacher supply and demand. For example, between 1983 and 1987, 42 States increased high school graduation requirements.¹⁰⁹ Such activity can increase the number of teachers required in specific areas and decrease those needed in others. In addition, changes in the content and rigor of the curriculum in specific subject areas have consequences for the balance of supply and demand. Teachers qualified to teach the current curriculum in a field, such as mathematics, may no longer be prepared to teach a revised curriculum without inservice training.

FEDERAL INITIATIVES FOR TEACHERS

This section provides an analysis of current Federal programs for elementary and secondary school teaching and those programs proposed for

¹⁰⁷(...continued)

Experience with Loan Forgiveness and Service Payback in Federal and State Student Aid Programs. Report by Jim Stedman. Washington, Jan. 27, 1983.

¹⁰⁸For a discussion of these efforts, see Stedman, *A New Wave of Reform*.

¹⁰⁹Goertz, Margaret E. *State Educational Standards in the 50 States: An Update.* Educational Testing Service, Mar. 1988.

the 101st Congress. To establish a context for the consideration of new Federal action in this area, it begins with a review of past Federal programs for elementary and secondary school teachers.

Among the key findings in this section are the following:

- The Federal Government has a tradition of supporting the improvement of the precollegiate teaching force.
- Certain key aspects of teaching--hiring, compensation, and certification--have not been part of these Federal efforts.
- The impact of recent State and local education reform efforts focused on teaching has not yet been felt.
- Numerous new Federal programs to aid teaching have been proposed. Most are in the mainstream of traditional Federal involvement in this area. One critical area of ongoing Federal interest and activity is data collection and interpretation.

PREVIOUS FEDERAL ACTIVITY

Among the previous, major Federal efforts to improve the quality of elementary and secondary school teachers are:

- teacher institutes established by the National Defense Education Act of 1958, as amended, and by authorization legislation for the National Science Foundation;
- the Teacher Corps established by the Higher Education Act of 1965, as amended; and
- the Teacher Centers program established by the Education Amendments of 1976.

These are considered below. In addition, it should be noted that the Education Professions Development Act (1967) authorized other, short-lived programs, including efforts to train school aides for full certification as teachers, assist States in creating alternative routes into teaching, and improve the skills of persons providing preservice and inservice training to teachers.

Teacher Training Institutes

The teacher institutes focused on improving the knowledge of elementary and secondary school teachers in specific disciplines that ranged from

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mathematics and science, to reading and English.¹¹⁰ Instruction was provided typically by colleges and universities either during summer sessions or regular term sessions. Usually between 40 and 50 elementary and secondary school teachers participated in an institute for a 6 to 8 week period. Institutes were more likely to serve secondary school teachers than elementary school teachers. In terms of coverage of a subject, the institutes typically did not have a broad focus; they concentrated on a relatively narrow segment of a subject or field. Evaluations suggest that the institutes generally served teachers who were already well-prepared and who came from strongly academic schools. It appears that the institutes were able to enhance teachers' subject matter competency. The data are inconclusive about the effects of the institutes on teachers' abilities to raise students' academic achievement.

Most of the institutes ceased operation in the late 1960s to early 1970s. At their peak in the mid 1960s, funding for the National Science Foundation institutes approached \$40 million; a roughly similar level was reached by the National Defense Education Act institutes at the same time.

Teacher Corps Program

The Teacher Corps program was initially authorized in 1965 and phased out by the Omnibus Budget Reconciliation Act of 1981.¹¹¹

Under this program, teams of teacher interns, led by experienced teachers, provided instruction principally to disadvantaged children. The teacher interns concurrently attended local colleges and universities, earned teacher education degrees, and met the qualifications for State certification.

At its inception, the program was largely controlled by the U.S. Commissioner of Education who selected participants, directly funded the training of participants, and, if requested by a local educational agency, would assign Teacher Corps participants to that school district. Two years after its enactment, the program was amended to reduce the role of the Commissioner. Recruitment and selection became the responsibility of participating school districts and higher education institutions.

¹¹⁰U.S. Library of Congress. Congressional Research Service. *Precollege Science and Mathematics Education: Experiences with the National Defense Education Act and the Teacher Institutes Conducted by the National Science Foundation*. Report No. 82-214 S, by K. Forbis Jordan. Washington, Dec. 15, 1982.

¹¹¹U.S. Library of Congress. Congressional Research Service. *Federal Efforts to Improve America's Teaching Force*. Report No. 84-36 S, by K. Forbis Jordan and Nancy B. Borkow. Washington, Mar. 20, 1984.

During its first decade, the program primarily sought to introduce new educational research findings into the teaching of disadvantaged students and to address perceived teacher shortages by attracting new entrants into teaching. In its later years, the Teacher Corps principally provided an opportunity for inservice training of current teachers.

Evaluations suggest that the program had some influence on teacher training programs at higher education institutions through the use of field-based training; that it improved the education of disadvantaged students by enabling regular classroom teachers to provide more individualized attention; and that it had some lingering effect on instructional practices after Teacher Corps members had departed. Although the long-term effects of the program on students and teachers are not known, available evaluations suggest that the Teacher Corps model of preparing teachers through intensive field-based internships coupled with training at the postsecondary level was successful in preparing new teachers and training current ones.

Funding for the Teacher Corps Program peaked at \$37.5 million during the mid 1970s.

Teacher Center Program

The Teacher Center program, initiated by the Education Amendments of 1976 and phased out by the Omnibus Budget Reconciliation Act of 1981, provided financial assistance to local school systems or higher education institutions to plan, implement, and operate Teacher Centers. Each Center was administered by a board composed largely of elementary and secondary school teachers and intended to provide inservice training to improve curriculum development and teaching skills for all teachers. There was no single model for the Teacher Centers. Some were linked to institutions of higher education; some were members of consortia that connected school districts and higher education institutions. In FY 1980, 89 Centers in 42 States were in operation.

No detailed evaluation of the program has been conducted. The limited analyses that were performed of the program suggest that it enhanced teachers' role in structuring inservice training activities.

The program actually received Federal funding only for the FY 1978 through FY 1981 period. Its peak funding was \$13 million in FY 1980.

CURRENT FEDERAL PROGRAMS

The Federal Government currently supports elementary and secondary school teaching through several different programs. Among the kinds of assistance available are fellowships for outstanding teachers, financial assistance for prospective teachers, grants to support the reform of teachers' working conditions, and assistance to improve the teachers' skills and knowledge of specific subjects. Although these programs are provided by

many different Federal agencies, including the National Science Foundation, National Aeronautics and Space Administration, and the U.S. Department of Energy, **the analysis below focuses primarily on ED**, which is the lead Federal agency supporting teachers. As a result, this listing of programs is not comprehensive.

To facilitate consideration of these programs, they have been divided into three broad categories:

- recruitment,
- preservice preparation, and
- inservice assistance.

Some programs fall into more than one of these categories; nevertheless, a judgement was made about their primary objective and they were classified accordingly. For each program, a legislative citation is provided, as well as a brief description, current authorization and appropriation levels.

Recruitment

This category includes those programs designed to attract individuals to teaching from traditional sources (higher education institutions and teacher education programs) and from nontraditional sources (such as business).

1. Paul Douglas Teacher Scholarship program (Title V, Higher Education Act of 1965, as amended)

Program Description: This program provides financial assistance to outstanding high school graduates who agree to teach following college graduation for 2 years for every 1 year of assistance (obligation is reduced to 1 year of service per year of assistance if recipient teaches in a "shortage area"). Recipients who fail to provide teaching service must repay assistance with interest. Approximately 3,000 scholarships have been awarded annually in recent years.

Authorization: \$13.5 million for FY 1987 and such sums as necessary through FY 1991.

Most Recent Appropriation: \$14.922 million for FY 1990.

2. The Stafford Loans and Supplemental Loans for Students (Title IV, Higher Education Act of 1965, as amended)

Program Description: These student loan programs allow borrowers to receive a deferment of principal payments for up to 3 years for teaching full-time in public or nonprofit private schools in

1. how the recruitment program is phased at this time? Review?

a teacher shortage area (interest is deferred as well for Stafford borrowers).

Authorization: An annual appropriation is not separately authorized for loan deferments.

Most Recent Appropriation: The portion of the annual appropriation for Stafford Loans and Supplemental Loans devoted to this activity is not known.

3. The Perkins Loan program (Title IV, Higher Education Act of 1965, as amended)

Program Description: This student loan program permits borrowers to cancel portions of their loans for full-time teaching of the handicapped, and full-time teaching in elementary and secondary schools serving low-income students.

Authorization: An annual appropriation is not separately authorized for loan cancellations.

Most Recent Appropriation: \$21.7 million for FY 1990.

Preservice Preparation

Programs in this category are mostly intended to improve how individuals are prepared to enter into the classroom. Much of the current Federal focus in this area is on specific kinds of teachers for which there are reported shortages.

1. Training Personnel for the Education of the Handicapped (Education of the Handicapped Act, as amended)

Program Description: This Act authorizes assistance for, among other activities, the development of special education personnel (individuals who provide education and related services to handicapped students). The principal focus of this effort has been on preservice training of prospective special education personnel by colleges and universities. Among other authorized activities are special projects to demonstrate innovative approaches to personnel development, and assistance to States and higher education institutions to meet State identified personnel needs. The legislation also authorizes establishment of a national clearinghouse to encourage individuals to seek careers in special education.

Authorization: \$71.6 million for FY 1987; \$76.4 million for FY 1988; \$81 million for FY 1989.

Most Recent Appropriation: \$72.479 million for FY 1990.

2. **Bilingual Training and Technical Assistance** (Bilingual Education Act, Title VII, Elementary and Secondary Education Act of 1965, as amended)

Program Description: The Act provides assistance for, among other activities, the preservice and inservice training of educational personnel to conduct bilingual education programs or alternative instruction programs. Authorized activities include training of persons who provide teacher training; short-term training institutes; and "multifunctional resource centers" that provide technical assistance and training to current and prospective educational personnel.

Authorization: \$200 million for FY 1989 and such sums as necessary through 1993 for the entire Act. At least 25 percent of the annual appropriation must be reserved for Training and Technical Assistance.

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Most Recent Appropriation: \$31.913 million for Training and Technical Assistance for FY 1990.

3. **Mid-Career Teacher Training Program** (Title V, Higher Education Act of 1965, as amended).

Program Description: This program provides grants to teacher education institutions for the establishment of programs to prepare individuals leaving their current careers in order to teach. The programs will be developed with the cooperation of the business community and administered cooperatively with one or more State or local education agencies.

Authorization: \$3.5 million for FY 1987 and such sums as necessary through FY 1991.

Most Recent Appropriation: \$987,000 for FY 1990.

Inservice Assistance

This category includes programs that provide direct training and assistance to current teachers as well as recognition for teaching excellence.

1. **Christa McAuliffe Fellowship program** (Title V, Higher Education Act of 1965, as amended)

Program Description: This program provides fellowships to outstanding public or private school teachers for special projects, such as sabbaticals for study and research. Fellowship winners must return to their school system for 2 years following receipt of a fellowship. Approximately 100 fellowships are awarded annually.

Authorization: \$2 million for FY 1987 and such sums as necessary through FY 1991.

Most Recent Appropriation: \$1.932 million for FY 1990.

2. Dwight D. Eisenhower Mathematics and Science Education Act (Title II, Elementary and Secondary Education Act of 1965, as amended)

Program Description: This program of the U.S. Department of Education distributes funds to States and local educational agencies under formula to improve mathematics and science instruction. Among the activities that can be funded are programs to improve teacher training and retraining for mathematics and science; initiatives to recruit and retrain minorities to be math and science teachers; individual teachers' projects to improve their teaching abilities or instructional materials; higher education traineeships for new math and science teachers at secondary schools; retraining for secondary school teachers; and inservice training for elementary and secondary school teachers.

Authorization: \$250 million for FY 1989 and such sums as necessary through FY 1993.

Most Recent Appropriation: \$135.618 million for FY 1990.

3. Teacher Preparation and Enhancement Program (National Science Foundation Act of 1950, as amended, and related laws)

Program Description: The National Science Foundation conducts activities intended to draw talented individuals, particularly minorities, to elementary and secondary science and math teaching; improve teacher preparation programs; improve current teachers' abilities in these subject areas, particularly for teachers in high schools with large minority enrollment; create ways of retaining able math and science teachers; and recognize outstanding teachers through the Presidential Awards for Excellence in Science and Mathematics Teaching. Teacher Preparation and Enhancement is administered under broad legislative authority that does not describe each of its specific activities.

Authorization: An annual appropriation is not separately authorized for this program.

Most Recent Appropriation: \$81.0 million for FY 1990.

4. Fund for the Improvement and Reform of Schools and Teaching (FIRST, Title III, Part B, Hawkins-Stafford Amendments of 1988)

Program Description: Provides grants to improve schools and teaching, and to support family-school partnerships. Under the schools and teaching portion, State and local educational agencies, higher education institutions, and nonprofit organizations, among others, receive assistance to provide incentives for improved performance; strengthen teaching; promote closer ties among teachers; administrators, families, and the community; enhance the professional status of teaching; increase the number and quality of minority teachers; assist new teachers; and improve the teacher certification process.

Authorization: \$30 million for FY 1989 and such sums as necessary through FY 1993 for all of FIRST. Approximately two-thirds of the annual appropriation is for the schools and teaching grants.

Most Recent Appropriation: \$3.915 million for schools and teaching grants for FY 1990.

5. Chapter 1 Compensatory Education program (Title I, Chapter 1, Elementary and Secondary Education Act of 1965, as amended)

Program Description: Chapter 1 authorizes inservice teacher training among its various activities to improve the achievement of educationally disadvantaged children.

Authorization: An annual appropriation is not separately authorized for inservice teacher training.

Most Recent Appropriation: The portion of the annual Chapter 1 appropriation devoted to inservice teacher training is not known.

6. Federal, State, and Local Partnership for Educational Improvement (Title I, Chapter 2, Elementary and Secondary Education Act, as amended)

Program Description: Chapter 2 authorizes aid for local educational agencies to provide inservice training and professional development programs for school personnel, including teachers.

Authorization: An annual appropriation is not separately authorized for inservice training and professional development.

Most Recent Appropriation: The portion of the annual Chapter 2 appropriation devoted to these activities is not known. Of the FY 1984 appropriation (\$450.655 million for State block grant activities),

some \$28.7 million was used by local educational agencies for staff development.

OPTIONS FOR FEDERAL ACTION

Among the issues considered in this report are the balance between supply and demand for qualified teachers, the appropriate role of teacher education, the impact of teacher certification procedures, and the level of responsibility and authority to be granted to teachers. Do any of these require a Federal response? If so, what is the appropriate response?

As has been noted, the Federal role in assisting elementary and secondary teachers has been relatively limited. Such things as hiring, salary, and certification have not generally been the focus of Federal action.

Proponents for new action include those policymakers who consider teaching to be in serious trouble **despite** current efforts at the Federal, State, and local levels. They can point to budgetary constraints in the States that may jeopardize the full implementation of their teaching reforms. Their drive for action is heightened by the growing consensus that improved teaching is critical for the successful reform of education, which in turn is necessary for strengthening the long-term economic status of the country.

At the same time, Federal, State, and local initiatives to improve teaching do abound, and many are of such recent vintage that their effects are not yet known. Even if these efforts do fall short, the appropriate response might be to strengthen and expand the current programs, not initiate new ones. In addition, some of the issues being addressed at the State and local levels have not traditionally been considered appropriate for Federal intervention.

If new Federal policies for elementary and secondary teaching are considered necessary, they are likely to focus on one or more of a discrete range of aspects of teaching (the same ones used to categorize current programs): recruitment, preservice preparation, and inservice assistance. The discussion below identifies a few of the options that might be considered in each area. Not all of those described would be considered within the limits of the traditional Federal role.

Options for addressing **recruitment** needs might include those listed below. These are limited to those efforts involving direct outreach to potential teachers.

- Provide assistance to meet the undergraduate or graduate level expenses of qualified individuals who intend to teach. Assistance could be made contingent upon the provision of teaching service following graduate. Alternatively, college graduates might be attracted to teaching if their educational debts were forgiven for teaching service. Shortage areas could be specific targets of this support. Minorities might be a particular focus of such assistance.

- Aid State and local education agencies in the development of alternative certification procedures that would facilitate the entry into teaching of mid-career professionals and other qualified persons.
- Encourage businesses to release their employees to teach in the schools. This encouragement might take the form of tax incentives.

Among the Federal options to improve teacher preservice **preparation** might be the following:

- Provide assistance to higher education institutions to improve and reform teacher education through curriculum development, staff training, cooperative efforts with local educational agencies, and experiments in shifting more teacher education to the graduate level.
- Support State and local educational agencies in the development of alternative procedures for certifying teachers that would modify the kind of teacher preparation required.
- Establish programs that prepare persons for teaching through a combination of field experience and teacher training. These programs might be based on careful analysis of current alternative certification programs.
- Target assistance to institutions that prepare substantial numbers of teachers in shortage areas. This assistance would be used to improve the teacher training at the institutions. Those institutions with significant minority enrollments might be a particular focus.

Inservice assistance, which includes teacher recognition as well as teacher training, might be provided through one or more of the following:

- Assist State and local educational agencies, and institutions of higher education in improving and expanding current inservice and retraining opportunities for teachers. These efforts might include encouraging the use of computer and telecommunications technology to deliver inservice and retraining.
- Support school-business partnerships that provide teachers with an opportunity to enhance their subject area knowledge through employment or contact with professionals employed outside the school.
- Provide assistance to State and local educational agencies, higher education institutions, among others, for the establishment of teacher training centers that would address inservice training and retraining needs in a systematic and structured fashion nationwide. Structure these efforts to address problems in minority teacher retention.

- Provide financial and other awards to outstanding teachers.
- Assist State and local education agencies, among others, in the development and implementation of activities that increase the professional status of teachers, such as school-based management and steeper salary schedules.
- Provide direct Federal support to States and localities to increase teacher compensation, particularly for teachers in shortage areas.
- Assist efforts to create national certification standards which may increase the professional status of teachers.
- Encourage business to provide current teachers with opportunities for summer employment to supplement teaching salaries.

Perhaps most importantly, this report has highlighted the need for substantially improved data on the characteristics of the teaching force and on movement into and out of teaching. Data collection and interpretation are two well established Federal activities in education. Proposals to strengthen the Federal effort in this area as it involves teachers and teaching would be logical outcomes of the preceding analysis.

PROPOSED FEDERAL PROGRAMS

As the program descriptions below show, the 101st Congress has before it proposals that would establish programs reflecting many of the approaches cited above. Significantly, the proposed programs are generally in the mainstream of current and past Federal action on behalf of teachers. They offer few departures from past Federal involvement. Further, many of the proposed programs overlap each other as well as currently operating Federal programs.

The programs listed below are those which, during the 1st session of the 101st Congress were, at a minimum, approved by the House or the Senate, approved by a House or a Senate Committee, or considered in committee hearings. Selected identical bills are included as well. These programs have been proposed in the following bills:¹¹²

- H.R. 996--Congressional Scholarships for Science, Mathematics, and Engineering Act, approved by the House on September 12, 1989;

¹¹²For a current description of legislative action on these and other programs related to teaching, see U.S. Library of Congress. Congressional Research Service. *Teachers: Issues for the 101st Congress*. Issue Brief No. 89098, by James B. Stedman. Updated regularly.

- H.R. 1675--Educational Excellence Act of 1989, House Education and Labor subcommittee hearings held;
- H.R. 3548--National Teacher Act of 1989, identical to S. 1676;
- H.R. 3549--Excellence in Teaching Act, identical to S. 1675;
- S. 695--Educational Excellence Act of 1989, passed by the Senate on February 7, 1990;
- S. 1675--Excellence in Teaching Act, Senate Labor and Human Resources Committee hearings held;
- S. 1676--National Teacher Act of 1989, Senate Labor and Human Resources Committee hearings held. *What was his idea?*

Recruitment

The proposed programs targeting recruitment and related activities, include financial aid with a service payback requirement (e.g., Congressional Scholarship for Science, Mathematics, and Engineering Act), efforts to expand State activity to attract teachers from nontraditional sources (such as the Alternative Certification of Teachers and Principals Assistance Act of 1989), and, in particular, seek to address shortages of minority teachers (e.g., New Careers for Teachers).

1. Congressional Scholarships for Science, Mathematics, and Engineering Act (H.R. 996)

Program Description: Among its programs, this legislation would provide that the National Science Foundation allocate 2 years of financial assistance, at \$7,500 a year, to undergraduate students in science, mathematics, or engineering in exchange for elementary and secondary teaching service in schools receiving Chapter 1 compensatory education assistance (2 years of service for each year of assistance). Five hundred new awards of 2 years' assistance each would be awarded annually. An optional year's assistance would be available for those requiring additional academic credits in order to be certified to teach.

Authorization: Funds would be authorized for FY 1990 through FY 1993. The initial level of funding required to award 500 scholarships at \$7,500 each would be \$3.75 million.

2. Alternative Certification of Teachers and Principals Assistance Act of 1989 (S. 695, as passed by the Senate; H.R. 1675)

Program Description: This Act would provide assistance to States for the development and implementation of alternative teacher and

principal certification requirements. Existing alternative procedures can be expanded or improved with these funds. The program is intended to facilitate entrance into teaching and school administration of individuals who have competency in particular subject matter or demonstrated management capabilities, but who do not meet regular certification requirements.

Authorization: \$15 million for FY 1991 (only 1 year of funding would be authorized; H.R. 1675 authorizes \$25 million for FY 1990).

3. **Minority Teacher Recruitment Act of 1989 (S. 1675 and H.R. 3549)**

Program Description: This Act would fund partnerships of local educational agencies and institutions of higher education which would identify and assist middle and secondary school students from minority backgrounds interested in teaching. Authorized assistance would include academic remediation, tutoring, and future teacher clubs. The program would also fund 2 and 4-year colleges with large concentrations of minority student to encourage minorities to enter teaching.

Authorization: \$25.8 million for FY 1990 and such sums as necessary through FY 1994.

4. **New Careers for Teachers (S. 1676 and H.R. 3548)**

Program Description: This program would authorize assistance to attract minorities to teaching from the ranks of current school paraprofessional personnel. Applicants would have to demonstrate clearly defined career tracks leading to full professional teaching status for participants. Funds could be used for tuition expenses, release time, and child care. The Federal share would decline from 100 percent in the first 2 years to 40 percent by the fifth year.

Authorization: \$40 million for each of FY 1990 through FY 1994.

Preservice Preparation

The proposed preservice training programs include efforts to improve teacher education (such as Model Programs in Teacher Preparation and Promising Practices), often with a focus on specific areas (e.g., Middle School Teacher Training Demonstration Program Act of 1989) and to provide a structured process through which new teachers are prepared and supported during their first year of teaching (the Teacher Corps Recruitment and Induction Act of 1989). This latter effort has some features similar to the previous Teacher Corps program.

1. Middle School Teacher Training Demonstration Program Act of 1989 (S. 695, as passed by the Senate)

Program Description: This act would authorize grants from the U.S. Department of Education to higher education institutions to develop innovative models of teacher training for the middle school grades (6th through 9th). Grants could be made for up to a 3 years and could not exceed \$250,000 in the first year of funding.

Authorization: \$25 million for FY 1991 only.

2. Teacher Corps Recruitment and Induction Act of 1989 (S. 1675 and H.R. 3549).

Program Description: This legislation would establish a Teacher Corps program awarding scholarships to highly qualified students for the last 2 years of undergraduate study or for 1 or 2 years of graduate study. Recipients would have to provide teaching service for 5 years in geographic or subject shortage areas or 4 years if such service were provided in math or science or in inner city schools. Additional funding would be available to Teacher Corps members for graduate study during their first 3 years of teaching. Participating school districts must provide structured first-year induction activities to Teacher Corps members. The Act would also establish a Senior Teacher Corps Program to finance a half year's sabbatical for experienced teachers. Senior Teacher Corps members would incur an additional 5-year teaching commitment (reduced to 4 if members teach in inner city schools) and would be required to work in Teacher Corps induction activities. Federal funds for both Teacher Corps and Senior Teacher Corps programs would be distributed among States based on school age population.

Authorization: \$121.475 million for FY 1990 and such sums as necessary through FY 1994.

3. Bilingual Teacher Enhancement Act of 1989 (S. 1675 and H.R. 3549)

Program Description: This Act would amend the Bilingual Education Act to distribute funds to higher education institutions and State education agencies to increase the number of teachers for limited English proficient children, provide inservice training for such teachers, and train all teachers in methods of addressing the needs of such students.

Authorization: \$34.5 million for FY 1990 and such sums as necessary through FY 1993.

4. Early Childhood Development Teacher Enhancement Act of 1989 (S. 1675 and H.R. 3549)

Program Description: This Act would authorize assistance to higher education institutions, State and local educational agencies, and nonprofit agencies to increase the number of teachers trained to teach preschool-aged children. Authorized activities would include, among others, financial aid for students; partnerships between higher education institutions with early childhood education programs and those without; and inservice training.

Authorization: \$17.2 million for FY 1990 and such sums as necessary through FY 1994.

5. Model Programs in Teacher Preparation and Promising Practices (S. 1676 and H.R. 3548)

Program Description: This legislation would provide assistance for different models of teacher preparation programs, particularly those involving early childhood education; mentor teacher programs; teacher involvement in policy and governance; decentralized school management; teacher training involving more than one subject area; etc. The Federal share would decline from 90 percent in the initial year of a grant to 50 percent in the fourth and subsequent years.

Authorization: \$25 million annually for FY 1991 through FY 1996.

Inservice Assistance

The inservice assistance proposals include several teacher recognition efforts (e.g., Presidential Awards for Excellence in Education), support for national certification (National Board for Professional Teaching Standards Act of 1989), and assistance targeted on teachers in specific areas (e.g., Mathematics and Science Teacher Enhancement Act of 1989).

1. Presidential Awards for Excellence in Education (S. 695, as passed by the Senate, and H.R. 1675)

Program Description: As passed by the Senate, this program would distribute funds to each State based on its number of school-aged children (5 to 17 years old) and its Chapter 1 compensatory education grants. Each State would have to make at least one award to a teacher or principal in each congressional district in recognition of educational success. Selection may be based on success with different groups of students, such as those at risk of educational failure or gifted and talented students. These funds would support financial awards to teachers in every State who demonstrate excellence in teaching. Each award would be worth \$5,000 and be available to be used for any purpose by its recipient. (Private school

recipients would be permitted to use their awards only for capital expenses related to the delivery of services under Chapter 1 to students at their schools.) The version passed by the Senate differs somewhat from the programs as introduced in S. 695 and H.R. 1675.

Authorization: \$7.6 million annually from FY 1990 through FY 1993.

2. National Board for Professional Teaching Standards Act of 1989 (S. 695, as passed by the Senate; also authorized by S. 478 and H.R. 3717)

Program Description: As passed by the Senate in S. 695, this legislation would authorize funds to meet 50 percent of the cost of eligible research and development related to teacher assessment and certification by the National Board for Professional Teaching Standards. The National Board has been established by the Carnegie Forum on Education and the Economy to create a national, voluntary certification system for experienced teachers.

Authorization: \$25 million authorized for the FY 1990-93 period. The FY 1990 appropriations act for the U.S. Department of Education provides that approximately \$5 million is appropriated for research by the National Board, **contingent** upon enactment of authorizing legislation.

3. Professional Development Academy Establishment Act of 1989 (S. 1675 and H.R. 3549)

Program Description: This legislation would fund Professional Development Academies operated by partnerships between local educational agencies and institutions of higher education. These academies would provide recruitment services; inservice training for new and experienced teachers; math and science teaching assistance; and curriculum development support. Federal share of the cost of these academies would be 50 percent. Federal funding would be distributed among States based on school-aged population.

Authorization: \$43 million for FY 1990 and such sums as necessary through FY 1994.

4. Teachers of Children with Handicaps Enhancement Act of 1989 (S. 1675 and H.R. 3549)

Program Description: This Act would authorize the Secretary of Education to award grants to higher education institutions, State education agencies, and local education agencies to increase the ability of classroom teachers to educate handicapped students.

Authorization: \$7.525 million for FY 1990 and such sums as necessary through FY 1994.

5. Mathematics and Science Teacher Enhancement Act of 1989 (S. 1675 and H.R. 3549)

Program Description: This Act would authorize the National Science Foundation to establish or expand inservice training in mathematics and science, particularly to provide teachers with the skills needed for newly revised mathematics and science curricula. Specifically authorized activities include paying for teachers' release time to receive inservice training; providing inservice training during weekends, after school, and summers; and linking professional mathematicians and scientists to classroom teachers.

Authorization: \$36.5 million annually for FY 1990 through FY 1993.

6. Teacher of the Year Recognition Act (S. 1675 and H.R. 3549)

Program Description: This Act would require the Secretary of Education to consult with relevant Congressional committees in the establishment of Federal recognition activities for teachers of the year selected by the Council of Chief State School Officers.

Authorization: No funding is authorized for this activity, although the Secretary is authorized to accept privately donated funds and goods to defray expenses.

7. Loan Forgiveness for Teachers (S. 1676 and H.R. 3548)

Program Description: This legislation would provide for the repayment of the Stafford Loan debt of borrowers employed as full-time teachers in low-income school districts over a 5 year period.

Authorization: No separate authorization of appropriations would be provided for this activity.

8. National Teacher Academies (S. 1676 and H.R. 3548)

Program Description: This legislation would authorize funding of National Teacher Academies in each of the following subjects--math; English, reading, and language arts; civics and government; basic skills and literacy; arts; history and geography; economics; life sciences; physical sciences; and foreign languages. Under these five-year, competitively awarded grants, recipients would provide inservice training to teachers and administrators, conduct summer institutes, train leadership teams for Congressional District Teachers Academies (see description below). If the annual appropriation is not

sufficient to fund an academy in each of the 10 subjects areas at \$7.5 million each, then it is to support as many academies as can be funded at \$7.5 million each following the priority listing of subjects areas given above.

Authorization: \$75 million annually for FY 1990 through FY 1994.

9. Congressional District Teacher Academies (S. 1676 and H.R. 3548)

Program Description: This legislation would authorize funding to create academies in each congressional district to cover each of the subject areas listed for the National Teacher Academies (see above). These 5-year, competitively awarded grants would support inservice training; the costs of release time for such training; tuition for securing college credit; etc. State educational agencies may combine academies where several congressional districts cover a single school district or in small States. As with the National Teacher Academies, insufficient annual appropriations require full funding of academies in as many subject areas as possible, following the listing given earlier.

Authorization: \$250 million for FY 1990 through FY 1994.

CONCLUSION

The teaching field is in flux. States and localities are engaged in a multitude of reform efforts; most of such recent vintage that their effects are not yet known.

These changes are occurring to a teaching force that is large. There are approximately 2.3 million teachers in today's public elementary and secondary school classrooms. The sheer number of teachers makes it difficult to develop effective policies to change their attributes. Of particular concern are the changing characteristics of teachers. Few of them are minorities; still fewer are black. The complexion of public school teachers does not mirror the complexion of our students. It is less likely to do so in the future. As a group, teachers are aging, raising concern about significant rates of retirement during the 1990s.

Teacher education is undergoing substantial change, leading to fewer teacher education courses for teacher candidates and more actual experience with teaching. Entrance into, and out of, teacher education program is becoming harder. These gates appear, in particular, to affect minority teacher candidates adversely.

Teacher certification is a focal point of education reform. States are actively revising their certification policies, raising standards, and imposing additional assessments of teacher qualifications. Alternative certification has emerged as a popular strategy for addressing teacher quality issues or teacher

shortages, or both. At the national level, the National Board for Professional Teaching Standards has taken major steps to implement a national, voluntary certification process to recognize teaching excellence. Its efforts have triggered controversy, particularly its request for Federal financing of half of its research and development agenda.

Mounting anxiety about possible teaching shortages is complicated by an absence of good data with which to measure the balance between teacher supply and demand. Over the course of the 1990s, it is estimated that 2.2 million new public school teachers will need to be hired. In essence, the hiring demand in the new decade is tantamount to replacing nearly all current public school teachers. Whether the supply of teachers will match this potential demand is not known, but will clearly be challenged. In addition, given the flow of State and local reform action, any assessment of supply and demand must make assumptions about the effects of that action on the attractiveness of teaching and access to teaching. At a minimum, it does appear that minority teachers will be in short supply in the near future unless current trends are reversed. With the appearance of fundamental changes in mathematics and science curriculum, there is a need to provide inservice assistance to teachers in those fields, as well as change the way teaching candidates are prepared for those fields.

The Federal Government has been, and is currently, involved in assisting elementary and secondary school teachers. For example, within ED and NSF, there are more than a dozen programs. Arguably, these programs, coupled with recent State and local reform efforts, might well have a considerable impact on elementary and secondary school teaching. Nevertheless, with the introduction during the 1st session of the 101st of Congress of major legislative proposals to establish many new Federal programs for teachers, the adequacy of the current Federal effort in this area is being questioned.