12

Primacy and Promise of Professional Development in the Nation's Education Reform Agenda: Sociological Views*

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Our second principle [of the reform effort] recognizes that we cannot raise standards for students without also helping teachers acquire the knowledge and skills they will need to teach to those high standards. (Richard W. Riley, statement to the Senate committee on Labor & Human Relations, March 2, 1994)

A new national education goal, added by congress to the original six goals negotiated by the Bush administration and the National Governors’ Association, signals the new federal interest in professional development by calling for teachers to have access to "programs for the continued improvement of their professional skills." (Ann Bradley, Education Week, July 13, 1994)

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The new federal legislation calls for significant change in K-12 education and, particularly, in the quality and equity of teaching and learning. Recognizing the demands it makes on teachers to change their instructional practices, the legislation—especially Goals 2000 and the ESEA reauthorization—places unprecedented emphasis on professional development. In itself, this recognition and investment provides evidence that sociological research has contributed to the crafting of federal education policies. For instance, the line of research on curricular tracking showed that instructional routines common in low-track classes fall especially short of the high standards for teaching and learning promoted by the federal legislation. Further, social science research on educational reform showed that the fate of programs and policies aiming to improve education depends on local capacity and will. In short, emphasis in the new legislation on teachers as vehicles or agents for change reflects sociological wisdom on an important set of problems entailed in educational change.

This chapter addresses two additional issues about the match between the new federal legislation—Goals 2000, the ESEA, and the School-to-Work Act—and sociological understandings of education and the problems of changing professional practice. Specifically:

- How well do professional development strategies promoted by the legislation correspond to sociological knowledge about conditions conducive to teachers’ professional growth?
- How successful are the strategies likely to be in bringing about desired changes in teaching?

To provide context for this analysis, I first briefly discuss the federal legislation goals in terms of the educational problems they ostensibly address and the demands on teachers and teaching they imply. I then sketch the professional development provisions of each piece of legislation. The core of the chapter addresses the two issues highlighted above. A final section offers worst-case and best-case scenarios—a sociological ideal and a sociological nightmare—of consequences of the legislation for advancing the educational equity and excellence agenda.

**THE REFORM AGENDA AND CHALLENGES FOR TEACHERS AND TEACHING**

The new federal legislation pulls together prominent strands of U.S. educational reform that originated both inside and outside the school system. For example, a key strategy for improving educational outcomes in the academic subjects builds on efforts of the National Council of Teachers of Mathematics (NCTM) (1989, 1991, 1995) to reform K-12 mathematics education; Goals 2000 supports continued development of NCTM-like voluntary national standards for curriculum, teaching, and assessment. School-to-work programs that originated within the system, such as Career Academies and Tech Preps, provide vision and models for legislation aiming for more work-relevant secondary education. The legislation puts forth a comprehensive agenda and a systemic strategy for improving K-12 education by weaving together a number of strong reform initiatives currently underway in the United States.

While previous federal education legislation often focused on either academic excellence or educational equity, the new legislation embraces both agenda for U.S. education. Goals 2000, ESEA reauthorization, and the School-to-Work Opportunities Act together aim for:

- Academic excellence. Learning goals emphasize higher-level subject understandings and critical-thinking skills, as well as factual and procedural knowledge;
- Equity. All students are expected to meet high education standards; and
- Enhanced workforce skills. Students have opportunities for excellent training and certification in specialized occupational skills.

Each goal addresses a particular set of current problems defined for U.S. education. Together they call for revolutionary changes in K-12 education. The excellence and equity agenda imply, in particular, major shifts in teachers’ objectives for student learning and a transformation of teaching practice.

**Responses to Education Problems**

The education reform goals embraced by the new legislation address problems articulated over a decade ago in *Nation at Risk* (1983). A sense of urgency over the need to correct the problems, and in some cases the problems themselves, has grown over recent years.

The academic excellence goal responds to concerns over U.S. students’ relatively poor performance on international assessments, particularly on critical-thinking tasks, and to business leaders’ definition of skills needed for work in the 21st century. In the reform vision, American students would significantly improve on educational tasks variously described as complex problem solving, critical analysis, higher-order thinking, and flexible understanding of subject matter. With respect to outcomes of this sort, success of the U.S. educational system—and particularly American
high schools—has been called into question. While relatively successful in promoting students’ basic skills achievement, American schools and teachers are now being challenged to promote students’ deeper understanding of U.S. educational subject matter. The standard for academic excellence defined in turn, new standards for curriculum and teaching.

Argument for the equity agenda builds on statistics that show increasing inequalities in educational outcomes. For example, the gap in academic performance between students at the top and at the bottom of the achievement distribution widens with increasing years of schooling (Abt Associates, 1993). In the reform legislation, excellence and equity are to go hand in hand: high standards are for all students. The federal intention of joining educational excellence and equity goals was initially established by 1988 amendments to Chapter 1, which called for improvements in higher-order thinking skills: “skills including reasoning, analysis, interpretation, problem-solving, and decision-making as they relate to the particular subjects in which instruction is provided under [Chapter I] programs” (Section 1471(13) of the amended statute). This provision responded to the 1987 National Assessment of Chapter 1, which reported that little of this sort of learning occurred in Chapter 1 projects and reflected Congress’s intention that disadvantaged students served by the program not be subjected to substantially different academic expectations than other students (Committee on Labor and Human Resources, 1987). The infrastructure for moving this agenda forward was lacking then, is currently evolving through NCTM-type standards and new assessments, and promises to be advanced significantly under the new legislation.

The fourth trend toward academic excellence in schools serving disadvantaged youth was inhibited by school practices such as use of low-level norm referenced tests (Interim Report of the Commission on Chapter 1, 1992, p. 2). However, such impediments are being removed through state systemic reform efforts—such as the initiatives supported by the National Science Foundation—which are underway across the country and which aim to align school curricula and assessments with the higher-order education goals. Prospects for improving subject understandings and problem-solving skills among American youth, including children of poverty, are looking better than ever. Ultimately, however, success of the reform movement depends, on what teachers and students do in classrooms—on the commitment and capacity of teachers to improve learning outcomes in academic subjects for all students.

The third major piece of federal education legislation extends the objectives of Goals 2000 and ESEA reauthorization—to enhance all students’ learning opportunities in academic subjects—to include learning opportunities in occupational skills. The School-to-Work Opportunities Act responds to growing evidence and concern that our schools are not serving the needs of students who enter the workforce directly from high school and, further, that academic work in K-12 education is too divorced from the “real world.” Again, cross-national comparisons served to define inadequacies in U.S. education. These standards for academic excellence in Germany’s premier system of technical education, our comprehensive high schools fail to prepare students for the world of work. Building on experiences of various school-to-work programs underway across the country, the federal legislation establishes a national framework for advancing state and local initiatives.

Challenges for Teachers and Teaching

The new federal legislation calls for substantial changes in education practice—transforming curriculum and teaching, establishing a common curriculum and standards for all students, and developing bridges from school to workplaces. Here I sketch contours of changes in teaching and teachers’ roles envisioned by the legislation.

Academic excellence. Standards for academic excellence promoted by the federal legislation aim to increase U.S. students’ high-order understandings and problem-solving skills in the academic subjects. A growing body of literature in the cognitive psychology of learning supports principles for the development of understanding in knowledge domains. Most fundamentally, the research locates subject understandings in the transactions between an individual’s relevant prior knowledge and new information and makes clear that “transmission” conceptions of teaching and rote learning common in American classrooms are not conducive to subject understanding. The research on learning is complemented by research on so-called “teaching for understanding” (hereafter, TFU), which develops and documents modes of teaching that engage students in constructing new knowledge in a subject domain and enhance critical-thinking and problem-solving skills (see Cohen, McLaughlin, & Talbert, 1993, for discussion and references).

Teaching standards to match the goals for improved student learning outcomes have evolved within the major academic subject areas over recent years. The National Council of Teachers of Mathematics (NCTM) lead the way in specifying standards for math curricula, teaching, and assessment at the primary and secondary levels (NCTM, 1989, 1991, 1995, respectively). Similar standards for instruction in other K-12 subject areas are being specified at the national and state levels; and Goals 2000 includes support for the development of curriculum and teaching standards aligned with voluntary national student performance standards.
Common across the new teaching standards is an effort to move classroom instruction from traditional "transmission" modes of teaching toward "constructivist" strategies: from requiring students to memorize a given body of knowledge or rules for solving problems toward guiding students to grapple with problems, and to construct deeper understandings, within a subject domain. Also uniting the subject standards is an effort to locate curricula in the context of real world problems and endeavors and to connect learning experiences with situations familiar to the students in a particular class. The TFU curriculum and teaching standards call for a change in education practice, a radical break with conceptions of teaching as transmitting and testing knowledge received from academic disciplines and textbooks.

Research concerned with the problem of teacher change toward new teaching standards makes clear that this reform agenda presents daunting challenges for teacher learning. Individual teachers who embrace the standards struggle to change their classroom routines—needling to undergo routines and to reject traditional standards and norms of practice (see Cohen & Ball, 1996, for discussion of math reform in California; Cohen, McLaughlin, & Talbert, 1993, for examples of how teachers are grappling with new principles for teaching). The reform of mathematics education may be especially problematic, given common beliefs about the subject and subject instruction that conflict relatively strongly with the new standards (Grossman & Stodolsky, 1994; Talbert & Perry, 1994) and given prior "back-to-basics" policies for mathematics instruction (Cohen & Ball, 1990:334). Apart from problems for change presented by normative conflicts between new and traditional education standards and the inertia of routines, TFU demands greater subject knowledge and pedagogical content knowledge than many teachers have at this time. In sum, the academic excellence agenda presents challenges for teacher learning and change in many areas: subject matter and pedagogical knowledge, views of how students learn, curriculum models and resources, teaching roles and classroom organization, and ways of assessing student knowledge.

Equity. The goal of universal education standards would upgrade the quality of education in schools serving disadvantaged youth. Changes in the distribution of students' learning opportunities toward greater equity can be seen as a logical extension of the development of learning, curriculum, and teaching standards. Universal standards would apply to all schools and to all classes within schools, thus diminishing the kinds of adaptations that have watered down education for the lowest-achieving students in our system. From this perspective, the equity goal simply adds to the professional development agenda—the need for teachers to learn particular strategies to enable high-level academic success among disadvantaged and low-achieving students.

However, this reform goal implies more than change in teachers' capacity to meet TFU standards and inclinations toward equity. It confronts teacher labor force dynamics, which overrepresent inexperienced and least-prepared teachers in schools and classes with high proportions of disadvantaged youth, and it challenges grouping and tracking practices, wherein education objectives are differentiated according to students' prior academic achievement (Oakes, 1990; Talbert & DeAngelis, 1994).

Problems for teachers' professional development presented by structured inequality in teaching and learning in U.S. schools, particularly at the secondary level, are discussed in relation to sociological understandings of the problems of achieving education equity. Also important in a discussion of constraints on change in teaching practice are institutional norms and political interests which enforce inequalities in American education.

Enhanced workforce skills. This legislation implies new roles for teachers in mediating between school and work organizations and occupations. As a general goal of making academic coursework more closely tied to demands of modern occupations and organizations, the legislation would prompt teachers of all subjects to make connections between what students are learning in school and what goes on in the world of work. As such, this piece of legislation is highly consonant with academic subject standards calling for teachers to situate learning in the context of real world tasks. It extends demands for teacher learning and change to include investigating jobs in local industries and managing boundary-spanning relations with local subject practitioners. Teachers would need to reconceive their subject matter to encompass connections with work outside education and to design occasions for students to see subject knowledge and skills in action. A number of current business-school partnerships and programs provide precedent and vehicles for this movement.

As a framework for developing new education programs and credentials, however, this piece of federal legislation goes well beyond the demands of Goals 2000 and the ESEA Act and potentially comes into conflict with the notion of universal academic standards. At least, the faculty of such programs would need to develop innovative interdisciplinary curricula for 11th-12th grade students, breaking traditional subject department boundaries, and to manage relations with the work organization partners. To the extent that high academic standards are maintained for the school-to-work program (this is explicitly left open in the legislation),
considerable innovation in mapping academic subject curriculum and assessment standards onto occupational tasks is demanded of teachers. Clearly, this is the vision for systemic reform—that both Goals 2000 and the School-to-Work Act will be more effective if they are implemented in a coordinated fashion.

PROFESSIONAL DEVELOPMENT APPROACHES IN THE NEW LEGISLATION

Challenges to teachers presented by the new federal legislation are acknowledged by the major emphasis placed on professional development within the legislation, particularly in Goals 2000 and in the ESEA reauthorization. In terms of professional development appropriations and specifications, the legislation makes clear that teachers play a key role in the reform agenda.

Goals 2000: Educate America Act

Title III of this legislation establishes the framework for “State and local education systemic improvement” and includes framing and provisions for professional development. Under Section 309, a local education authority (LEA) may apply for a (competitive) grant to implement a local improvement plan. Proposals eligible for funding under this legislation need to include a strategy to improving teaching and learning, as well as ensuring that all students have a fair opportunity to learn. At least 50% of the funds must be targeted to special-needs schools.

In addition, this section of Title III provides for subgrants from the state to LEAs or to a consortium of LEAs cooperating with higher education institutions and/or nonprofit organizations for the purposes of improving teaching and learning in accordance with the state improvement plans. The subgrant for subject through preservice education programs or through “continuing, sustained” professional development activities for educators and school administrators. Priorities in awarding grants under this legislation are established to favor: partnerships with collegiate educators to develop professional development sites, and efforts that aim to advance teachers’

PRIMACY AND PROMISE OF PROFESSIONAL DEVELOPMENT

content knowledge or success in working with students of limited-English proficiency or disabilities.

The legislation particularly emphasizes building educators’ and administrators’ capacity for ongoing professional improvement, as opposed to ad hoc training sessions. The required activities for inservice education need to support:

... the development and implementation of new and improved forms of continuing and sustained professional development opportunities for teachers, principals, and other educators at the school or district level that equip educators with such expertise [necessary for preparing all students to meet standards], and with other knowledge and skills necessary for leading and participating in continuous education improvement. (Title III, Section 309 (b)(3)(B))

The goals and language of this legislation call for local strategies which build teachers’ professional capacity vs. the typical parade of workshops which purport to train or retrain teachers in discrete skills.

Reauthorization of the Elementary and Secondary Education Act

The 1994 legislation reauthorizing the Elementary and Secondary Education Act (ESEA) also places primacy on teaching and learning and defines professional development as a central vehicle for reform. Noting in-adequacies in the level of investment in each teacher’s professional development and in the design of professional development experiences, the legislation calls for site-based strategies for teachers’ and principals’ continuous professional development directed to high academic standards for all students. The approach to professional development in the 1994 ESEA reauthorization represents considerable change from the 1988 reauthorization—in noting shortcomings of routine local approaches to professional development, in defining standards for professional development strategies suited to meeting the nation’s education goals, and in increasing capacities of poor schools to develop comprehensive staff development strategies.

In a document which framed the legislation, the Department of Education reported limited success of professional development under previous ESEA legislation. It noted, for example, that: (a) Title I staff development usually is “limited to short workshops that cover multiple topics superficially, topics that are often disconnected from the instruction students get in the regular classroom” and (b) the Eisenhower Math and Science Program, which currently reaches about one-third of teachers responsible for these subjects and supports about 6 hours of in-service de-
articulate with the state content and performance standards and systemic reform efforts of states, districts, and schools;
• be integrated into educators’ careers from recruitment to retirement, and into the daily life of the school—a view of teachers as shapers of professional development; and
• promote a variety of forms of learning that are embedded in an educator’s daily worklife, such as individual or group study and consultation with peers and supervisors.

The legislation also encourages states to develop and promote licensing and certification criteria aligning to challenging state content standards (Department of Education, 1993). Again, the philosophy of professional development promoted in Title II legislation builds on educational research. Under Title II legislation, most funds are allocated to LEAs. Six percent will go to support national activities, including support for the National Board for Professional Teaching Standards, development of teaching standards, and professional networks. Of the 94% allocated to states, 7.5% can go to state-level activities. The remaining 86.5% of Eisenhower funds will support activities provided by higher education institutions (15%) and LEA efforts (85%).

At the LEA level, districts will submit professional development plans to states that reflect local needs and describe a strategy for addressing those needs to meet state content and performance standards. Up to 20% can be allocated to districtwide activities, with at least 80% to be spent on professional development of teachers and staff at individual schools according to site decisions consistent with the district plan. The Eisenhower Program thus concentrates nearly 60% of its total resources at the school site level, with provisions that professional development activities be aligned with state standards and principles for staff development.

Title III. This piece of the ESEA aims to expand opportunities for learning through support for the use of technology for all students, the Stars Schools Program, Funds for the Improvement of Education, the Jacob K. Javits Gifted and Talented Program, Charter Schools, Arts in Education, and the Inexpensive Book Distribution Program. Explicitly part of this legislation is teachers’ professional development in the area of instructional technologies. Based on evidence that teachers often lack skills in this area, the legislation calls for enhanced technical assistance from the Office of Educational Technology to schools in order to build local capacity for expanding students’ learning opportunities through various technical media.
Title IV. The Bilingual Education Act aims to strengthen support for the development of high-quality bilingual education programs that help limited English proficient (LEP) students attain high states standards. Included are efforts to redesign professional development programs to help create a highly prepared cadre of school staff to serve LEP students and ensure that programs are integrated with the general school program and form an integral part of the school reform efforts. Under Part C of the new legislation, grants to higher education institutions will provide pre-service and in-service training and national professional development institutes to help prepare staff to serve LEP students. It also provides LEA grants for in-service professional development programs.

School-to-Work Opportunities Act of 1994

This legislation establishes a national framework for the development of School-to-Work Opportunities systems in all states. Compared to Goals 2000 and the ESEA reauthorization, the legislation focuses little attention or resources on teachers' professional development. Following early reform strategies, the challenges for change are framed mainly as structural issues, despite the focus of the School-Based Learning Component (Section 102) on a program of instruction that integrates vocational and (high-standards) academic learning. Section 104 of the act, the Connecting Activities Component, includes a provision (3B) for "training teachers, workplace mentors, school site mentors, and counselors" and (4) for "providing assistance to schools and employers to integrate school-based and work-based learning and integrate academic and occupational learning into the program."

Missing from this piece of legislation is an awareness of teachers' key role in translating the vision into realities. In contrast to the other pieces of new education legislation, it is silent regarding teachers' and administrators' needs for substantial professional support to succeed in the school-to-work mission and the critical role of ongoing, site-based learning opportunities to support the innovation. Indeed its language of "teacher training" is inconsistent with the model of professional development put forth by Goals 2000 and the ESEA reauthorization.

Core Principles

Strategies for teachers' professional development common in Goals 2000 and the ESEA reauthorization—though not in the School-to-Work legislation—depart substantively from routine approaches. The major pieces of education legislation explicitly frame the goals for professional develop-

opment in terms of national and state standards for teaching and learning and challenge the "weekend workshop" mentality which currently pervades local approaches to inservice education. Innovative principles and features of the strategy include:

- Professional development is integrated into systemic reform efforts of states, districts, and schools that are tied to specific content and performance standards;
- Professional development is conceived as spanning teachers' careers and as part of the daily life of schools;
- Professional development aims to build local capacities and reform strategies;
- Notions of teacher competence and responsibilities move away from specialized, program-based teacher roles to notions of common purpose among site staff and collective responsibility for students; and
- Technical assistance for federal programs is coordinated to disseminate promising practices as part of site-based, comprehensive professional development strategies.

Further, support for the continued development of national standards for curriculum and teaching in content areas feeds into the professional development agenda of the new legislation and represents further capacity for teacher learning and for education reform. As discussed below, sociological research supports an approach to professional development that integrates macro and micro strategies for promoting teachers' learning opportunities and capacity for change.

Sociological Views on Professional Development Strategies and Prospects for Teaching Reform

The teaching reforms charted by new federal legislation imply that teachers will need to make radical departures from business as usual—changing what is taught, how it is taught, and rules about what is taught to whom. As sketched above, the new vision of practice demands that teachers know how to move beyond facts-based conceptions of knowledge and learner outcomes and to fashion classroom roles and relationships that enable active student learning. These notions of improved practice imply a paradigm shift in classroom teaching.

Potential for the new federal legislation to promote deeper subject understanding and critical thinking skills for all students depends on teachers' willingness and opportunities to learn the ambitious new para-
dignity for teaching. Research on teaching suggests that we have a long way to go before American classrooms approximate those described in the NCTM curriculum and teaching standards documents (1989, 1991), for example. The gap between vision and reality is particularly wide for schools with large proportions of disadvantaged students, in which many teachers have “burned out”—losing their passion and energy for teaching—and lowered their expectations for students’ academic progress. In a study of Texas schools, for example, LaCompte and Dworkin estimated that as many as 40 to 60% of the urban teachers in their sample had burned out on the job (1991, p. 98). The gap between reform goals and reality is also especially wide for remedial and general classes in comprehensive high schools, in which repeated instruction in basic skills is the norm (cf. Oakes, 1985) and higher-order thinking skills are deemphasized (Raudenbush, Rowan, & Cheong, 1993; Talbert & DeAngelis, 1994). In this section, I argue that traditional models of professional development are not well suited to demands of the teaching reform. I offer a model of “profession development” that builds on recent sociological research that is reflected in professional development provisions of the new federal legislation. Finally, I argue that the institutional environment of K-12 education constrains potentials for even optimal professional development efforts to effect widespread improvement in teaching and learning.

Alternative Models of Teachers’ Professional Development

Common approaches to professional development, applied to teaching and other occupations, follow an individual-socialization model. In this model, knowledge and skills are transmitted to individuals through formal education programs; individuals are trained, tested, and certified in a specific domain of expertise. The model underlies common strategies to improve teaching through enhanced teacher education and induction programs and through inservice education and credits for college coursework.

An individual socialization model. Sociologists’ analyses of teaching have highlighted its weak induction of occupational entrants. In his classic analysis of the teaching profession, Dan Lortie argued that individuals’ initial socialization experiences have profound and lasting effects on the life of an occupation. He maintained that the weak controls on entry (the “subjective warrant of teaching”) and limited socialization of teachers determined the course of teachers’ work and careers. Lacking a strong induction experience, teachers missed the opportunity to share in a technical culture and to develop an occupational identity (1975, pp. 55-81). By extension, the way to improve teaching practice, and certainly to develop a technical culture around particular education standards, is to create much longer and more rigorous teacher induction programs. The model assumes that, once socialized to a profession, individuals will enact standards of practice throughout their career. While Lortie portrayed professional development as mainly a matter of individual socialization, he noted the power of “shared ordeals” to forge professional identity and commitment within an entry cohort. Sociologists might debate the instrumental value of cultures so forged among occupational entrants, however, most would agree that collective, shared ordeals set conditions for the development of social norms and common identities. Unless the career entry point provides unique opportunity for defining professional identity, the principle of shared ordeal might apply more generally across occupational careers. (Later I suggest that contexts and conditions that forge professional community are key vehicles for teachers’ professional socialization throughout their careers.)

Clearly, a more intense initial socialization experience tied to the new teaching standards would help develop a reform-oriented technical culture among beginning teachers. However, investment in the induction stage of the teaching career has limited potential to improve teaching practice in accordance with new education standards. For one, significantly extending the preservice investment of recruits to teaching would need to be balanced by significant salary increases. Further, given current teacher demographics, the gap between the reform vision of teaching and teachers would not be closed in the foreseeable future by socializing a new generation of teachers. Recent demographic data indicate that only about one fifth of nation’s teacher labor force is over 50 years of age, and about one tenth is under age 30 (National Center for Education Statistics, 1992). The vast majority of teachers in American classrooms have at least 10 years experience and are not about to retire. Success of this reform cannot hinge mainly on revised teacher education programs and state licensure examinations. Rather, the reform depends on engaging experienced teachers in professional development and change efforts.

The kinds of changes in teachers’ roles required to promote deeper student understanding of subject matter cannot, however, be accom-

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For example, Becker (1963) and Bucher and Stelling (1977) offered very different perspectives on the significance of medical students’ socialization experiences for their future professional practice. The former study portrayed student culture as an elaborate set of norms geared to the task of surviving medical school; the latter characterized medical students’ culture as gradually approximating the professional and technical culture of physicians.
Practicum is a model of professional development for teachers, where they learn by doing. It's an in-service model where teachers are guided by mentors to improve their skills.

A community-building model involves collective action among teachers to promote professional development. This model is more flexible and collaborative, allowing teachers to learn from each other.

A collective approach to professional development involves teachers working together to develop their skills. This approach is more collaborative and allows for the sharing of knowledge and resources.

The table below summarizes the strategies for promoting teacher learning.

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<tr>
<th>Success Indicators</th>
<th>Individual Evaluations</th>
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<tr>
<td>-performance on tests (e.g., licensure and certification examinations)</td>
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<td>-periodic formal evaluations</td>
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Adapted from Talbert (1992)

We define teacher community in social system terms—terms of collegial interaction and exchange in settings. This is more delimited than the notion of "occupational community," which also encompasses shared professional identities and technical culture (Van Maanen & Barley, 1984). The strength and character of professional culture are taken as dimensions of teacher community. Further, we treat the boundaries of teacher community as an empirical issue.
13 comprehensive public high schools, we found that teachers’ reported collegiality varied more between departments within schools than between schools in our sample (Talbert & McLaughlin, 1994). While districts required schools to vary in providing more or less support to the reform, departments were the settings in which teaching jobs were constructed, where course assignments were made, and where collaboration on course content and teaching strategies might occur.

We found that, controlling for teachers’ subject preparation, the strength of high school department communities is positively related to various dimensions of teacher professionalism: “technical culture,” or a shared knowledge base for teaching, an ethic of serving students, and commitment to the teaching profession (Talbert & McLaughlin, 1994). Further, we found that teachers in strong professional communities were relatively more likely to adapt to, and feel successful with, nontraditional students (McLaughlin & Talbert, 1993b; Raudenbusch, Rowan, & Cheong, 1992). Such attitudes and capacities are critical to the success of new federal legislation aimed at enhancing excellence and equity.

This research also found that the character, or technical cultures, of teacher communities can vary. In particular, faculty norms in some strong departments undermined teachers’ commitment and high expectations for students (Talbert & McLaughlin, 1994, p. 21; Yu & Talbert, 1994). In a study of teacher propensities toward TFU we found that math departments with strong technical cultures, on average, inhibit TFU attitudes (the opposite pattern was shown for science).

Only in the math departments that were strong learning communities for teachers, in which teachers reported high levels of support from colleagues for innovation, did we find teaching norms consistent with the reform standards: a dynamic conception of subject matter; active student role in the classroom; and nonroutine views of teaching.

Further, our research on mathematics teaching provided some evidence that state systemic reform efforts and strong teacher community interact to promote TFU attitudes and practices. In an analysis of teachers’ beliefs that they can adapt their teaching to promote all students’ success, we found positive effects of collegiality only within the state in our sample that had NCTM-compatible mathematics frameworks and systemic reform underway (McLaughlin & Talbert, 1993a). In another study, we observed the same state-specific effects of department learning community on TFU indicators (Talbert & Perry, 1994). We interpret these patterns in terms of differences in the content of discourse and collective norms that evolve within teacher communities in reforming vs. nonreforming systems. For example, we found that concerns and discussions about course content and student grouping that were common among teachers in the reform state were missing from our interviews with teachers in the nonreform state.

These research findings suggest that education reform of the sorts envisioned by the new federal legislation would depend on dual strategies of standards-setting and fostering site-based teacher learning communities. In my reading, the legislation embraces this dual strategy and so sets the stage for the kind of professional development required by the reform agenda. However, this will not be enough. Findings from current CRC research on the evolution of teaching reforms in math and science are consistent with sociological theory on schools as institutional organizations, suggesting that changes in the cultural context of K-12 education are essential to ensure more than spotty success on the reform agenda.

Professional Development in Institutional Context

Our social systems perspective on teacher learning and change is central in a broader conception of the problems and potentials for change. Two other theoretical perspectives are critical to this analysis. One considers the organization system conditions that constrain or enable development of strong teacher learning communities, such as time and space resources for collaboration, administrative leadership at the school and district levels, and teacher labor force conditions and leadership capacity (cf. Lieberman, 1991; McLaughlin & Talbert, 1995). The other focuses on the broader institutional environment of K-12 schooling. I concentrate on the latter context of teacher communities because it is often neglected in policy analyses and represents an important sociological perspective in education; also, it helps to explain dynamics of reform we are seeing in California as the new teaching standards are being enacted.
### Goals of the Legislation & Targets for Teachers’ Professional Development

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<thead>
<tr>
<th>Goals of the Legislation</th>
<th>Constraints on Change</th>
<th>Potentials for Change</th>
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<tbody>
<tr>
<td>Academic Excellence: Emphasis on critical thinking &amp; problem solving, Teaching for Understanding (TFU)</td>
<td>Institutional norms for teaching (curriculum, student-teacher roles, and assessments) conflict with new education standards (e.g., NCTM); change threatens legitimacy</td>
<td>Massive public education: -technical rationality of new curriculum &amp; teaching standards -compatibility with organization modes &amp; occupations of 21st century workplace</td>
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<td>Equity: Common academic standards for all students</td>
<td>Higher Education institutions enforce traditional modes of teaching (emphasis on topical coverage and factual knowledge in admissions tests)</td>
<td>Extend systemic reform to tertiary education</td>
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<tr>
<td>Enhanced Workforce Skills: Link school work to occupations and authentic problems</td>
<td>Higher Education institutions enforce No Child Left Behind K-12 curriculum through admissions standards and AP courses and assessments</td>
<td>Build strong educator &amp; corporate leadership to challenge traditional schism between academic and vocational teacher communities.</td>
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**Figure 2. Institutional constraints on teachers’ change to meet goals of new federal legislation.**
tradição of local control in U.S. education. On one hand, teachers are the locals and as likely as parents to find fault with the reforms on grounds that they defy common sense and good practice. Differences of opinion among teachers are expected, however, and are a vehicle for building strong professional communities committed to the reforms. On the other hand, teachers who become committed to new professional standards can be challenged by parents who prefer traditional practices that conflict with state and district standards for curriculum and teaching. By tradition in U.S. education, and by authorization in the new legislation, parents have authority to enforce "real teaching" standards and to obstruct change. Given little reason for the public to question their belief in the efficacy of traditional modes of instruction and the school function of schooling, the education reforms sought by Goals 2000 are likely to receive little public support and are likely to be opposed by influential parents.

An institutional perspective takes the problem of educational reform outside the K-12 school organizational and professional contexts. My analysis suggests that the agenda and strategies for teachers' professional development must be extended to include parents. Reform of U.S. education to produce common standards for all primary-secondary-school students will require significant change in the ideology and the structure of U.S. education. An important complement to efforts to change public beliefs about education purposes and practices will be systemic reform beyond K-12 education. Teachers and parents cannot be expected to adopt new curricula and learning standards that are out-of-sync with conditions establishing higher education. If the K-12 reform is to gain momentum, standards for college admission and for teaching and learning in U.S. colleges and universities need to be aligned with K-12 reform goals.

PROGNOSIS FOR EDUCATIONAL EXCELLENCE AND EQUITY

As is usual in U.S. education, local responses to this new federal legislation and success in promoting envisioned changes in teaching are likely to vary substantially. Main effects are difficult to predict, given uncertainties about how parent community preferences will interact with the success of professional development strategies. For example, one might hypothesize that high-SES school districts are most likely to foster teacher communities committed to the professional standards and also to have parent communities which organize to oppose nontraditional teaching standards and equity norms. How this all plays out in particular states and communities will be the substance of a whole new generation of research on educational change. One contribution of the new federal legislation
is the opportunity it affords to examine deep terrain of American education and possibilities for short- and long-term change.

Inevitably, there will be disasters, as well as successes, made of the reform. At this time, it seems important to anticipate the courses of highly divergent responses to the federal legislation. As a way of considering possible consequences of the legislation for equity and excellence, I sketch best-case and worst-case scenarios of the teaching reforms and professional development strategies. The scenarios consolidate the best and worst sociological imaginations about the fate of this education reform agenda.

Best-case Scenario

Steady improvements in the quality of K-12 teaching and learning, especially in mathematics and science, are achieved through conditions established by the new federal legislation. Significant changes are accomplished because:

- Education standards become institutionalized: Curriculum and teaching standards that promote higher-order learning outcomes are established through the systemic reform efforts of states and LEAs throughout the United States.
- Professional standards and controls for teaching are established and enforced by national organizations outside the system (e.g., NCTM, AAAS, NBPTS), as well as within local and state schools systems.
- Strong norms and social sanctions operate within local teacher communities to enforce standards for excellence and equity established in the organizational and institutional contexts of K-12 education and to promote teachers’ continuous professional development.
- Professional networks established for teachers and technical support personnel serve to diffuse promising practices among teachers at different sites addressing similar professional challenges. Academic and vocational teachers collaborate to develop school-to-work programs and to challenge stereotypes that enforce traditional education standards.
- Institutional values and norms governing U.S. education shift into alignment with the nation’s goals, system policies and practices, and new teaching culture. Parents demand and support modes of teaching that promote higher-order thinking; colleges and universities align their admissions standards with K-12 curriculum and teaching standards to emphasize problem-solving and collaboration skills; the sorting function of schooling loses primacy and legitimacy as values favoring diversity and cooperation gain authority; teacher career and reward systems are designed by state and local systems, the NBPTS, and teacher unions to ensure that students have equal access to well-prepared teachers and optimal learning conditions.

Worst-case Scenario

The overall quality of teaching declines with increases in state and local control over instruction; inequalities in education quality increase due to uneven success of the reform across states and localities. This scenario is constructed around potential unanticipated consequences of the new federal legislation and pessimism about the prospects for institutional change. Reform-based changes are inhibited because:

- Bureaucratic controls on teaching increase through systemic reform. Following the logic of earlier reforms and institutionalized norms for teaching, routine curricula are mandated and test-based controls enforce their use. Teachers lose professional authority and sense of efficacy as their efforts to innovate and adapt to their students are constrained. Teacher professionalism and higher-order learning outcomes decline.
- Authority of parents in U.S. education thwarts education reform in states and districts that follow the substantive intent of emerging teaching standards in the core K-12 subjects. Enlightened administrations that align curriculum and assessments to professional teaching standards are overthrown by parents favoring traditional education practice and the sorting function of schooling.
- Inequalities in teachers’ and administrators’ learning opportunities exacerbate current educational inequalities in the system. Well-prepared and engaged educators, who are overrepresented in middle-class communities, participate at higher rates in professional networks and so have greater opportunities to learn about and accomplish new education standards. The quality of their teaching improves significantly beyond that of their less engaged colleagues.
- Stratification among educators is further enhanced by the NBPTS professional certification system and by licensing systems and recruitment patterns that allocate least-prepared teachers to the most difficult, least desirable positions. The increased em-
phasis on rating and ranking teachers undermines the development of strong site-based teacher communities and legitimizes the informal career systems which reward "best" teachers with the "best" teaching positions.

While the new federal legislation centrally builds on sociological knowledge of professional development strategies effective in changing teaching practice, its capacity to effect change is highly uncertain and potentials for back-sliding are nontrivial. Nevertheless, it sets the stage for Scenario 1 by establishing terms of discourse at all levels of the system. While federal education policy cannot determine local practice, the new legislation provides a framework within which problems can be defined and conflicting interests mediated.

The new federal legislation, particularly in its call for greater equity in students' learning opportunities, defines criteria for education success that have long directed sociological research in education. Sociological knowledge can both inform the public debate in education and guide strategies for improving teaching and learning in U.S. schools.

REFERENCES


