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ENHANCING QUALITY OR RESTRICTING COMPETITION: THE CASE OF LICENSING PUBLIC SCHOOL TEACHERS

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ABSTRACT

The percentage of the workforce affected by occupational licensing has grown nationally and in public education. In assessing educational attainment and quality, there is little evidence that licensing has improved the learning outcomes of children, but the regulations may benefit wealthier schools and districts relative to poorer ones. The paper argues for a movement to the certification of teachers that would allow districts greater flexibility in choosing who can teach, but with more monitoring and greater incentives for educational attainment to ensure quality teachers are employed as a key element in learning.

“Advocates of teacher professionalization are unapologetic about the prospects of higher salaries. In their view, the nation has undervalued the services teacher provide and has not spent enough to recruit and retain good teachers. If high standards compel state and local governments to increase teacher salaries, that is only what they ought to have done anyway.”¹

INTRODUCTION

The market for United States public education is often perceived as a monopoly, with few options for students or their parents. Consequently, from an economics perspective in the market for public education, there are opportunities for the various stakeholders to gain benefits as a consequence of their monopoly position.² For students and their parents, the structure of the public education market suggests a need to monitor and put pressure on school boards and their employees to induce training, better facilities, or greater effort by teachers and administrators to enhance the quality of education and induce better outcomes for students. Ambitious administrators can use discretion to enhance their careers by providing benefits to supportive teachers or members of the board of education. This use can lead, in turn, to greater employment opportunities and salaries for school administrators through the use of those funds. Teachers can gain access to excess profits through concerted activities. Finally, teacher unions raise wages and benefits through organizing and the collective bargaining process.

The studies published through the National Bureau of Economic Research’s estimates on collective bargaining in the public sector showed, on average, teachers unions raise wages by about seven percent, but found no wage effect for licensing.³ Moreover, unions are able to provide voice benefits and maintain control of the allocation of work, including lobbying for the implementation of tougher licensing provisions for teachers. The process includes the assignment of teachers with certain types of licenses to schools and to individual classrooms. The length of the workday and work effort through class size are also subject to the bargaining process and state regulators.

To the extent that licensing can restrict the supply of teachers, it has the ability to enhance the benefits offered by school administrators through

1. Dale Ballou & Michael Podgursky, *Gaining Control of Professional Licensing and Advancement, in* CONFLICTING MISSIONS? TEACHERS UNIONS AND EDUCATIONAL REFORM 82 (Tom Loveless ed., 2000).

2. For economists, monopoly markets may result in economic rents, or higher than market profits, as a consequence of the monopoly power of public schools in public education.

3. Morris M. Kleiner & Daniel L. Petree, *Unionism and Licensing of Public School Teachers: Impact on Wages and Educational Output, in* WHEN PUBLIC SECTOR WORKERS UNIONIZE 305–22 (Richard B. Freeman & Casey Ichniowski eds., 1988).

negotiations. In most public sector bargaining, on the terms and conditions of employment in education, health benefits and pensions are quite generous relative to workers with similar base pay in the private sector. Through benefits that are often tied to longevity, public school teachers are able to obtain security and retire relatively young through the negotiations that are part of the collective bargaining process.

Unions can use the collective bargaining process to enhance their ability to obtain tougher regulation of occupations. For example, an item for negotiations is the school board support for occupational regulation, such as increasing the classes necessary to become a licensed teacher. Moreover, teachers unions can, through the political process, directly lobby for and obtain some form of occupational regulation statutes at the state level.

Occupational regulation generally takes three forms—registration, certification, and licensure. The least restrictive form is registration, in which individuals file their names, addresses, and qualifications with a government agency before practicing their occupation. The registration process may include posting a bond or filing a fee. In contrast, certification permits any person to perform the relevant tasks, but the government—or sometimes a private, nonprofit agency—administers an examination and certifies those who have achieved the requisite level of skill and knowledge. For example, travel agents and car mechanics are generally certified, but not licensed. The most stringent form of regulation is licensure, which is often referred to as “the right to practice.” Under licensure laws, working in an occupation for compensation without first meeting government standards is illegal and usually involves fines, imprisonment, or both. In 2003, the Council of State Governments estimated that more than eight hundred occupations were licensed in at least one state, and more than eleven hundred occupations were either licensed, certified, or registered.⁴ Public sector teachers often lobby for the toughest form of regulation, licensing, and for increasing requirements once licensing is in place.⁵

WHY LICENSE?

The general rationale for licensing is the health and safety of consumers. Beyond that, the quality of service delivery and the safety of workers within the occupations are sometimes invoked. The simplest theory of occupational licensing emphasizes the administrative procedural role of licensing. It perceives a costless supply of unbiased, capable gatekeepers and enforcers. Milton Friedman questioned the assumption of unbiased

4. COUNCIL ON LICENSURE, ENFORCEMENT, AND REGULATION, *21st Century Regulation: “Show Me” What Works* (Prepared for CLEAR’s 24th Annual Conference, Kansas City, MO, Sep. 30–Oct. 2, 2004), http://www.clearhq.org/resources/2004_conference_sessions.htm.

5. See Dale Ballou & Michael Podgursky, *Teacher Recruitment and Retention in Public and Private Schools*, 17 J. POL’Y ANALYSIS & MGMT 393 (1998).

gatekeepers and enforcers. He viewed licensing's entry restrictions as creating undesirable monopoly rents. Friedman argued that gatekeepers and enforcers are self-interested because licensing systems are almost always run by incumbents. Their vested interests lead them to not only create monopoly rents through restrictions on entry, but also to limit complaints and disciplinary procedures against most incumbents.⁶ For teachers, regulation might establish general years of schooling, specific numbers of hours of education classes, practice teaching, taking and passing an exam, and having substantial requirements for potential applicants from other states.

An alternative view is that licensing requirements can take the form of unspecified fixed costs of entry to the job that are controlled by the licensing authority, but is similar to the unbiased gatekeeper. The skill and quality of the licensed worker affects the relative cost of producing high quality services, and licensing takes the more specific form of a minimal human capital requirement. In this context, licensing could result in enhancing the stated objective of raising the overall quality of the service and protecting the public. In practice, the fixed costs would consist of requirements that entrants and incumbents take job-specific training programs or pass an exam. These models of thinking about regulation resemble the ones above in predicting that both the average quality, and the average prices or earnings, from the services within the regulated industry will rise as licensing requirements are implemented or tightened. The results are benefits for those who want higher quality and have the funds to pay for it, but at a cost to those who are in lower quality service markets. Consequently, licensing would benefit school districts that are wealthy and can afford higher quality teachers. On the other hand, poorer districts or ones in rural areas with a low tax base would have to pay more for teachers than they would if they were left to choose teachers without the requirements of licensing.

Growth of Regulation

During the early 1950s, less than five percent of the U.S. workforce was covered by licensing laws at the state level.⁷ That number grew to almost eighteen percent by the 1980s—with an even larger number if federal, city and county occupational licensing are included. According to data gathered from the Department of Labor and the 2000 Census, at least twenty percent of the workforce had occupations licensed by states. By 2006, twenty-nine percent of workers said they were required to have a government-issued

6. MILTON FRIEDMAN, *CAPITALISM AND FREEDOM* (Univ. Chi. Press 2002) (1962).

7. SIDNEY SPECTOR & WILLIAM FREDERICK, *OCCUPATIONAL LICENSING LEGISLATION IN THE STATES* (The Council of State Governments 1952).

license to do their job, compared with only twelve percent who said they were union members.⁸ Certified public accountants and nurses are among licensed occupations that have similar education or service related functions as teachers.

During the same period, from the 1950s until 2007, government regulations for becoming a public school teacher also increased significantly. At the beginning of the period, there were few requirements with virtually no tests for becoming a teacher. However, during the 1980s, teachers unions, as represented by the National Education Association (NEA), and to a lesser extent the American Federation of Teachers (AFT), began driving for more stringent licensing of teachers. This led to higher requirements for entry into the occupation, although fewer than half of the states had full-fledged licensing statutes during the 1980s.⁹ More recently, all states have adopted licensing requirements for teachers that have general education requirements.¹⁰ The impact on educational quality of these new provisions is mixed.¹¹

As employment in the U.S. economy shifted from manufacturing to service industries, which typically have lower union representation, the members of those occupations frequently established formal standards that governed their members. For a professional association, obtaining licensing legislation requires raising funds from members of the occupation to lobby the state legislature, especially the chairs of appropriate committees. In addition, the occupation association often solicits volunteers from its membership to work on legislative campaigns. With financial contributions, political action committees and volunteers, and occupational associations, such as the NEA or AFT, have a significant ability to influence legislation, especially when opposition to regulatory legislation is absent or minimal.¹²

Members of an occupation generally seek to obtain licensing of the profession, since licensing imposes state sanctioned barriers to new entrants within the state and to interstate mobility. Although mobility may have benefits for teachers nationally, for teachers within a state, it is a way of imposing barriers to mobility from teachers in other states and maintaining barriers to entry within a state. Regulation increases the perception of a

8. Morris Kleiner & Alan Krueger, *The Prevalence and Effects of Occupational Licensing*, 48 *BRIT. J. INDUS. REL.* 676, 676–687 (Dec. 2010).

9. Kleiner & Petree, *supra* note 3.

10. This includes years of schooling, numbers of education classes, student teaching and exams, as well as reciprocity provisions for teachers from other states.

11. Daniel D. Goldhaber, *Teacher Licensure and the Quality of Teacher Workforce: Some Thoughts on the Gateway Governing Entry into the Teaching Profession* (Prepared for Changing Governance Systems to Improve Teaching Quality, a conference sponsored by the Education Commission of the States (ECS), March 2003).

12. Charles J. Wheelan, *Politics or Public Interest? Licensing and the Case of Respiratory Therapists*, 8 *PERSPECTIVES ON WORK*, 42, 42–43 (2005).

higher quality good that would enhance the demand for the service. For the major administrators of the professional association, such as the NEA, the resulting increase in responsibility, revenues from dues, and continuing education seminars, usually results in an increase in pay. Most licensing provisions across states require continuing education classes for fees, which are usually administered by the professional association, and generate revenues for the occupation association. For the union, licensing members of the occupation strengthens its position in collective bargaining by restricting the number of teachers and enhancing the academic quality of the individuals in the profession.

The executive branch of government, which is represented by the governor, also sees little reason to oppose occupational regulation. Within most state agencies, the fees generated from licensing for an occupation are generally substantially higher than the costs of monitoring the occupation. The excess funds can be used to help balance the state budget, provide for small projects that the governor favors, or to curry favor with legislators or politically active constituents.

There has been occasional opposition to licensing legislation from politically active groups such as Common Cause, American Association of Retired Persons (AARP), and the Institute for Justice, who typically challenge such legislation through the judicial process. For example, the Institute for Justice, through legal proceedings, has won a Minnesota Supreme Court case that held hair braiders are not covered under the cosmetologist's licensing statute and can therefore work with no state regulation.¹³ In general, however, the opposition has not been effective in stopping the implementation of licensing legislation. Since members of the occupation want licensing provisions and have support from the legislative and executive branches of government, it is not surprising that occupational regulation has been among the fastest growing labor market institutions.

EVIDENCE OF THE INFLUENCE OF LICENSING ON QUALITY AND COMPETITION WITH APPLICATIONS TO PUBLIC EDUCATION

The incentives for occupations to restrict supply and create barriers to entry create consequences for consumers of the regulated service. If occupation regulation operates through state level teacher pass rates, more restrictive licensing statutes, and reciprocity agreements with other states to restrict the entry of new practitioners, then there is a possibility of both higher quality teachers and higher costs to school districts or through state property taxes. Furthermore, licensing boards react to changes in constituent demand by changing administrative procedures through the pass

13. Bd. of Barber & Cosmetologist Examiners, OAH No. 15-1007-17009-1, Minn. R. 2100, 2105, 2110 (2010).

rate or for new entrants coming from other states. As Goldhaber states, “The signal value of licensure test performance for teachers in the workforce is an important policy issue, as local school districts might wish to use this signal in helping to make hiring decisions.”¹⁴

Similar regulatory factors are presumed to influence the quality of the service by prohibiting lower quality practitioners from entering the occupation. If the pass rate is reduced or the educational requirements are augmented, the practitioners entering or remaining in the occupation are theoretically of higher quality. Several research studies have attempted to develop methods of estimating the impact of licensing on quality or the demand for licensed services with a focus on education. For example, it has been found that tougher forms of regulation have murky effects on quality or the demand for the service.¹⁵ More recent studies using micro data find that mean quality of test scores is increased. Evidence by Goldhaber and Cotfelter, Ladd, and Vigdor find generally a small influence of licensing tests or pre-hire mandated qualifications on test scores.¹⁶ In education, the growth of occupational licensing over the past two decades has resulted in slightly positive to no effects on student test scores, a generally recognized measure of “quality” in education.

In the absence of any theory or evidence to the contrary, I assume that the stringency of professionally administered quality controls, such as licensure, is a proxy for quality as recognized by the consumer of the service and would likely enhance the price of the service. On the other hand, higher service prices would reduce the overall service rendered, as fewer students, in the case of educational services, would use the service. This means fewer classes, such as band and physical education, and larger class sizes in core classes that include math and English. Consequently, those who receive the higher quality service would benefit, but lower income individuals who do not receive the service would lose because prices and taxes for public education would rise under licensing. The net effect of regulation on service quality and its cost-effectiveness is therefore unclear.

Although the net impacts of occupational licensing may be negative for all users of the service, for certain segments of the population, namely those

14. Daniel D. Goldhaber, *Everyone's Doing It, But What Does Teacher Testing Tell Us About Teacher Effectiveness?* 39 (Urban Institute, Working Paper, 2006), available at <http://www.caldercenter.org/about/GoldhaberPubs.cfm>.

15. Kleiner & Petree, *supra* note 3; Joshua Angrist & Jonathan Guryan, *Does Teacher Testing Raise Teacher Quality? Evidence from State Certification Requirements* 14–15 (Nat'l Bureau of Econ. Research, Working Paper No. 9545, 2003), available at <http://www.nber.org/papers/w9545>.

16. Goldhaber, *supra* note 14; Charles T. Clotfelter, Helen F. Ladd & Jacob L. Vigdor, *Teacher Credentials and Student Achievement in High School: A Cross-Subject Analysis with Student Fixed Effects* 60 (Urban Institute, Working Paper No. 11, 2007).

individuals with higher incomes or insurance coverage, this form of regulation results in higher quality. Moreover, licensing may further serve to exacerbate the variation in the relative quality of service received or “consumption” by lower income individuals relative to those with higher incomes.

AN OVERVIEW OF RESULTS OF EMPIRICAL STUDIES ON THE BENEFITS OF OCCUPATIONAL REGULATION

Studies of demand for occupational regulation have attempted to overcome the problem of variability in outcomes by making quality adjustments based on occupational human capital characteristics and ability of the persons providing the service. There is no assurance, however, that the services actually received by consumers are positively correlated with these proxy measures of input productivity, and the distinction between the number of inputs employed and the quality of outputs received may not be consistent. For example, a less competent teacher may require multiple attempts to explain a concept that a more skilled teacher could accomplish at once. Furthermore, there is little to no published research on the relationship between performance on a licensing exam and an individual’s ability to perform on the job.¹⁷

In field studies of the impacts of licensing on quality, the Federal Trade Commission (FTC) used field experiments to examine the relationship between licensing and outcomes to consumers. These studies ranged from optometry to television repair, and found zero or negative influences on quality. Overall, these studies of demand and quality indicate that there are few cases that show significant benefits of occupational regulation. For example, Kleiner and Kudrle find no impact of tougher licensing for dentists and Kleiner and Todd find generally negative influences for mortgage brokers on foreclosures and higher loan prices.¹⁸ A more convincing study, however, would provide a randomized experiment of consumers going to unlicensed versus regulated service providers and then measure the outcomes of the service. Unfortunately, this type of analysis has not been implemented. Instead, most analysis of licensing examines more highly regulated regimes relative to less regulated ones. In these cases

17. Since licensure tests are not trying to measure performance but rather competence there has been virtually no work on this topic by psychologists. The Standards for Educational and Psychological Testing (American Educational Research Association, 1999) notes that for licensure testing one relies on “content validity” (whether the test samples a specified “content domain”) as opposed to “criterion-related validity” (whether the test correlates with subsequent performance).

18. Morris M. Kleiner & Richard T. Todd, *Mortgage Broker Regulations That Matter: Analyzing Earnings, Employment, and Outcomes for Consumers*, STUDIES OF LABOR MARKET INTERMEDIATION 183–231, (David Autor, ed., 2009), available at <http://www.nber.org/papers/w13684>; Morris M. Kleiner & Robert T. Kudrle, *Does Regulation Affect Economic Outcomes?: The Case of Dentistry*, 43 J.L. & ECON. 547, 547 (2000).

the results show that licensing has modest to no effects on the demand for the service or on the quality of service received by consumers other than thorough potential price effects.

QUALITY EFFECTS AS MEASURED THROUGH INSURANCE PREMIUMS

One method of determining whether licensing has an impact on the quality of a service is through the premiums charged to individuals in regulated and unregulated states for malpractice insurance. The rationale for this evaluation is that if licensing serves to keep out incompetent potential practitioners relative to states that do not have licensing, then there would be a reduction in law suits which could lead to lower premiums. In an interview, officials at the Chubb Insurance Company expressed the view that licensing makes an occupation more visible and sets up rules and regulations that make law suits easier to file. The impact of this more structured procedure is to drive up premiums. The greater visibility for the occupation, and the greater ability to file law suits due to licensing's structure, compensates for any benefits from the quality aspects of licensing from the perspective of the insurance industry. The results for a number of professional organizations showed that insurance companies do not think that licensing reduces the likelihood of malpractice claims due to incompetent or unscrupulous practitioners. Although the analysis was not implemented specifically for teachers, there is no apparent reason that estimates for professionals who are occupational therapists, psychologists or nurses would be much different.¹⁹

EVIDENCE ON RESTRICTING THE SUPPLY OF TEACHERS

Perhaps as a consequence of the market structure of their employer, teachers have not been able to significantly enhance their earnings through licensing. Unlike doctors, dentists and lawyers, teachers work primarily for large institutions such as school boards. School administrators have incentives to reduce costs within their organization and likely put pressure on legislatures to ease licensing restrictions to ensure an ample supply of practitioners as a countervailing force.

Estimates that I have developed for a number of occupations show that, with the exception of teachers, all have some positive earning effects from occupational licensing relative to their selected "opportunity cost" occupations.²⁰ This would include not only the cost of obtaining additional education, but also the forgone earnings of continuing to work in the occupation. This is true even though public school teaching has been one of

19. MORRIS M. KLEINER, LICENSING OCCUPATIONS: ENHANCING QUALITY OR RESTRICTING COMPETITION? 56-58 (2006).

20. *Id.* at 71-75.

the fast growing areas of licensing growth and increasing restrictions on entry. Licensing the teaching occupation is a relatively new phenomenon in comparison with the other occupations, such as law and the medical professions, as most of the states began to engage in tougher licensing standards for teachers during the 1980s. Licensing with state administered exams only became the norm during the 1990s. Although some recent analysis has suggested that the regulation of teachers has had little quality effect as measured by human capital, there has been little analysis of the impact of regulation in similar occupations.²¹

In all licensed occupations individuals who attempt to move to the state from elsewhere are met with a further set of requirements. These requirements include similar general and specific statutory education requirements to those for new teachers, but with several exceptions. Often times, out of state applicants must retake certain specific parts of the original licensing exam to practice in a new state. As an alternative to retaking the state exam some states require working with a licensed practitioner to ensure the out of state applicant follows current state procedures. Reciprocity agreements establish virtual “treaties” between states that allow them to accept each other’s licensed practitioners without additional education or tests. The statutes and agreements with other political entities vary from accepting any applicant from another state who has a valid license to endorsement, to acceptance of applicants if they meet the entry requirements in force at the time of initial licensure, to currently in force within the state, to reciprocity only with states that have signed agreements.²² In allowing licensed practitioners from other states or countries to enter and work within their political jurisdiction, states have established different rules for different occupations. For teachers, lack of reciprocity across states would limit mobility. States with tougher barriers to entry would have both lower in-migration and out-migration. They would have lower in-migration because tougher restrictions and time for becoming licensed keep out of state teachers from moving to the state. Moreover, teachers within the state would be more reluctant to move because the barriers to entry keep potential migrants out and would raise earnings relative to other states, and native teachers would stay within the state to take advantage of these higher earnings.

OCCUPATIONAL REGULATION POLICIES FOR TEACHERS

In Table 1, using data from both federal and state sources, I show the regulations in 2007 for teachers seeking to work in public education across

21. Angrist & Guryan, *supra* note 15.

22. Morris M. Kleiner, Robert S. Gay and Karen Greene, *Barriers to Labor Migration: The Case of Occupational Licensing*, 21 INDUS. REL.: J. ECON. & SOC. 383, 383–391 (1982).

states, as well as the percentage of teachers not fully licensed by state. The meaning of unqualified in this context means an unlicensed teacher, or a teacher that is not a fully licensed teacher. The results show large variations from more than sixty percent for Alabama to less than one-percent for North Dakota and Pennsylvania. Many states provide for provisional licenses to teachers who, for example, work in the Teach for America (TFA) program or for individuals who are transitioning into teaching from another occupation. Further, states allow teachers who are working toward, but have not achieved, full licensing status to teach. This policy is similar to provisions that are given to certified public accountants who have not passed all parts of the licensing exam. Analysis by Professor Thomas Kane and others suggests that new teachers who have provisional licenses and are transitioning into teaching from programs, that target professionals from other occupations or highly motivated recent college graduates, do as well as fully licensed teachers in enhancing the educational achievement of students in New York and Los Angeles.²³ Although the additional requirements that licensing provides may enhance the ability of teachers seeking public school instruction as a full time career, easing the requirements for able instructors may benefit student achievement. Providing a “one-size-fits-all” approach for the state licensing of school teachers may not fit the diverse elements and kinds of schools that exist in particular districts.²⁴ Further, rural districts may have a difficult time attracting highly qualified teachers. Urban schools in high crime or low income areas may also find it difficult to find and attract fully licensed teachers.

CONCLUSIONS AND POTENTIAL PUBLIC POLICIES ON OCCUPATIONAL REGULATION

Occupational regulation has grown significantly in the U.S. over the past sixty years to encompass almost thirty percent of the workforce. Part of the growth has been the result of a movement toward a service-oriented economy, which is less influenced by labor unions. State regulation of these occupations has been serving as a substitute for the “web of rules” usually created by unions through collective bargaining. Teachers and their unions have been following the trend towards seeking state regulation. The legal requirements for being a public school teacher have increased and now may encompass residency requirements, tests, and a variety of general and

23. Thomas J. Kane, Jonah E. Rockoff & Douglas O. Staiger, *What Does Certification Tell Us About Teacher Effectiveness? Evidence From New York City*, 27 *ECON. OF EDUC. REV.* 615–631 (2008).

24. Daniel D. Goldhaber, *Why Do We License Teachers?*, in *A QUALIFIED TEACHER IN EVERY CLASSROOM? APPRAISING OLD ANSWERS AND NEW IDEAS* 81–100 (Frederick M. Hess, Andrew J. Rotherham & Kate Walsh eds., 2004).

specific educational requirements. These mandated licensing requirements have resulted in wealthier urban districts being able to attract the highly qualified teachers who more than meet the standards for licensure. On the other hand, districts with geographic or cultural challenges face a difficult time recruiting fully licensed teachers, who may be lured away by districts with more amenities. If the pool only consists of licensed teachers, then poorer districts have to eliminate programs or increase class sizes, and as a consequence may reduce the quality of education provided to their students. Teachers in states such as Minnesota engage in active public relations campaigns to only approve licensed teachers for both full time and substitute teachers. These types of campaigns, if successful, can lead to larger class sizes and fewer options for TFA or other innovations using nontraditional instructors for public education.

Unlike licensed doctors who work independently or often in small groups, public school teachers work for state-regulated school districts, where monitoring is heavy and requirements well-specified. Moreover, licensed physicians work where the health and safety of the patient is sometimes at stake, and the cost of the misdiagnosis of diseases can be costly to the patient and to the community. In general, the argument for licensing physicians is stronger than for the regulation of teachers because the social cost of unethical or unscrupulous doctors to society is much greater than for teachers.

As Ballou and Podgursky suggest in the opening quotation to this paper, teacher salaries may rise as a consequence of licensing and attract more highly skilled individuals.²⁵ However, the costs of licensing through the “fencing out” of skilled practitioners who are able and committed to teaching may be greater than the benefits of individuals selecting to enter the profession as a result of higher salaries.

An alternative to licensing that may aid many districts and their students is certification. With certification, information would be given to the school district on the qualifications of the teacher including degrees obtained, good moral character, and any relevant general or specific human capital education characteristics. School districts would have the opportunity to hire school teachers who may not meet all the formal requirements for licensing. This policy would increase the potential supply of able teachers by allowing new college graduates who are in the TFA program and other professionals who are transitioning into teaching as a second or third career to obtain permanent teaching positions without the expense and difficulty of meeting licensing requirements. The individuals in these programs do at least as well as more heavily regulated teachers in

25. Ballou & Podgursky, *supra* note 1.

enhancing student performance.²⁶ School districts would have more choice and could select teachers based on the fit within the district rather than state licensing where the requirements may not be necessary to meet the needs of the school district, where math, business, and the sciences are in high demand. If certification were to take the place of licensing, even greater accountability would need to be in place for public schools. Tests of students and graduation rates would need to be monitored more closely. Additionally, high and low powered financial work-based incentives would need to be implemented for administrators and their teachers to motivate their students to achieve academically. The “production,” however, of high quality students would be the objective, and the districts could decide where and what types of teachers and other auxiliary employees would be necessary to achieve these objectives. Certification would be more effective than state licensing in meeting these focused objectives since it provides government sanctioned monopolies on the supply of labor. In contrast, certification would provide useful information on the quality of the teacher, but it would not fix the requirement for all teachers.

26. Kane, Rockoff & Staiger, *supra* note 23.

Table 1: Licensing Requirements by State: Teachers (Elementary) Evaluation Year 2007

State, 2007	Occupation specific education	Exam	Reciprocity*	Percent not fully licensed
Alabama	(A)	Yes	Yes, NASDTEC	64.7% (C)
Alaska		Yes	Yes, NASDTEC	31.1% (D)
Arizona	(B)	Yes	Yes, NASDTEC	1.5% (D)
Arkansas	(B)	Yes	Yes, NASDTEC	5% (D)
California		Yes	Yes, NASDTEC	10% (D)
Colorado	(B)	Yes	Yes, NASDTEC	7.89% (D)
Connecticut		Yes	Yes, NASDTEC	3.2% (D)
Delaware		Yes	Yes, NASDTEC	11.4% (D)
Florida		Yes	Yes, NASDTEC	7.7% (D)
Georgia		Yes	Yes, NASDTEC	2.9% (D)
Hawaii		Yes	Yes, NASDTEC	11% (D)
Idaho		Yes	Yes, NASDTEC	0.59% (D)
Illinois	(B)	Yes	Yes, NASDTEC and Midwest	5.48% (D)
Indiana	(B)	Yes	Yes, NASDTEC	9.1% (D)
Iowa	(B)	Yes	Yes, Midwest	1.4% (D)
Kansas	(B)	Yes	Yes, NASDTEC and Midwest	2.9% (D)
Kentucky		Yes	Yes, NASDTEC	3.1% (D)
Louisiana		Yes	Yes, NASDTEC	Unavailable
Maine		Yes	Yes, NASDTEC	5% (D)
Maryland		Yes	Yes, NASDTEC	12.7% (D)
Massachusetts		Yes	Yes, NASDTEC	2.11% (D)
Michigan	(B)	Yes	Yes, NASDTEC and Midwest	3% (D)
Minnesota	(B)	Yes	SEE BOTTOM	3.87% (D)
Mississippi		Yes	Yes, NASDTEC	7% (D)
Missouri	(B)	Yes	Yes, Midwest	3.6% (D)
Montana		Yes	Yes, NASDTEC	0.4% (D)
Nebraska	(B)	Yes	Yes, Midwest	0.35% (D)
Nevada		Yes	Yes, NASDTEC	19.62% (D)
New Hampshire		Yes	Yes, NASDTEC	2.7% (D)
New Jersey		Yes	Yes, NASDTEC	4.1% (D)
New Mexico	(B)	Yes	Yes, NASDTEC	6.2% (D)
New York		Yes	Yes, NASDTEC	Unavailable
North Carolina		Yes	Yes, NASDTEC	11% (D)
North Dakota	(B)	Yes	Yes, NASDTEC	0.35% (D)
Ohio	(B)	Yes	Yes, NASDTEC	18% (C)
Oklahoma	(B)	Yes	Yes, NASDTEC and Midwest	7.45% (D)
Oregon		Yes	Yes, NASDTEC	5.15% (D)
Pennsylvania		Yes	Yes, NASDTEC	0.78% (D)
Rhode Island		Yes	Yes, NASDTEC	19% (D)
South Carolina		Yes	Yes, NASDTEC	8% (D)
South Dakota	(B)	Yes	Yes, Midwest	15.8% (D)
Tennessee		Yes	Yes, NASDTEC	6.17% (D)

State, 2007	Occupation specific education	Exam	Reciprocity*	Percent not fully licensed
Texas		Yes	Yes, NASDTEC	2.29% (D)
Utah		Yes	Yes, NASDTEC	4.1% (D)
Vermont		Yes	Yes, NASDTEC	8% (C)
Virginia		Yes	Yes, NASDTEC	3.5% (D)
Washington		Yes	Yes, NASDTEC	2.1% (D)
Washington DC		Yes	Yes, NASDTEC	43.8% (D)
West Virginia	(B)	Yes	Yes, NASDTEC	5.8% (D)
Wisconsin	(B)	Yes	Yes, Midwest	1.1% (D)
Wyoming	(B)	Yes	Yes, NASDTEC	4.4% (D)
Content field contains math, social studies, science, English, physical development, the fine arts Combined with Lib Ed				
(A): Teachers with elementary licensure must have 12 semester hours in the content field(s), appropriately distributed				
(B): Student teacher programs vary by the college or university offering the program				
(C): found in article http://www2.edutrust.org/NR/rdonlyres/C638111D-04E3-4COD-9F68-20E709498A6/0/tellingthetruthteachers.pdf				
(D): found in HQT Revised State Plans http://www.ed.gov/programs/teacherqual/hqtplans/index.html				
The North Central Association of Colleges and Schools (NCA) accredits all types of schools.				
Accredited K-12 schools agree to meet minimum standards that encompass, among other things, qualifications for teachers				
NASDTEC: National Association of State Directors of Teacher Education and Certification				
Minnesota does not have licensure reciprocity with other states.				
<p><i>* Editor's Note: Due to space restrictions, this table was modified from its original format and phrases were substituted. Thus:</i></p> <p><i>"NASDTEC" signifies the original phrase, "with all states that recognize the NASDTEC Interstate Contract";</i></p> <p><i>"Midwest" has replaced "with all states that recognize the Midwest Regional Exchange";</i></p> <p><i>and</i></p> <p><i>"NASDTEC and Midwest" has replaced "with all states that recognize the NASDTEC Interstate Contract and the Midwest Regional Exchange".</i></p>				