

Raising standards in American schools: improving teacher quality

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The visit also yielded further data which, when analysed, will be included in a paper that will be submitted for peer review in early autumn.

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Introduction

Over twenty years ago, the US government published a searing indictment of the state of the American public school system. The document was called *A nation at risk* and it forcefully condemned the 'rising tide of mediocrity' that was eroding the nation's schools:

‘If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war’ (NCEE 1983)

It was to become the most important US education reform document of the twentieth century (Ravitch 2003). Along with falling or stagnating levels of pupil performance in American public schools, it was the quality of the teaching profession that excited the most attention. The authors of the report were particularly concerned that teachers were being drawn disproportionately from the lowest quartile of graduating high school and college students and that in certain shortage subjects, such as mathematics, science and English, teachers were simply not qualified to teach (NCEE 1983). Among their recommendations was a call for strengthening the teaching profession by raising its standards for training, entry and professional development, one aspect of this being the requirement that prospective teachers take fewer courses in education and more in the subjects they expect to teach.

According to some commentators, in the two decades following the publication of *A nation at risk* little has changed (Koret Task Force on K-12 Education 2003). Teachers are still being drawn from the bottom ranks of college graduates, and while teacher salaries may have risen in real terms since the early 1980s, they still lag behind that of other professions (Hoxby 2003, Hanushek and Rivkin 2004, Manzo 2005). In 2000, only 63% of grade 7-12¹ mathematics teachers nationwide had both a major in their field and full teacher certification. In the state of Nevada only 38% of teachers met this requirement (Blank *et al* 2004). In addition in 2000-2001, each of the 21 States participating in the PRAXIS Pre-professional Skills Testing Programme for prospective teachers set their pass rates for the test well below the test's median score (US Department of Education 2003), and when 59% of candidates did not pass at least one part of the Massachusetts teacher licensing basic competency test in 1998, the calls for a reform of the teaching profession intensified (Peterson 2003).

In 2002 the US government passed into law *No Child Left Behind*: a piece of legislation that has provided the federal government with a mandate for education reform on an unprecedented scale. For the nation's public school teachers, *No Child Left Behind* means complex systems of performance and accountability measures aimed at addressing concerns over teacher quality and to increase the number of highly qualified teachers in

¹ National Curriculum year 8-13.

America's schools. Through an examination of the early impact of this piece of legislation and an exploration of two state's efforts to fully comply with this new federal mandate, this chapter considers how close the American public school system will come to its goal of having every child taught by a highly qualified professional by the end of the 2005-2006 school year.

No Child Left Behind

In January 2002, President George W Bush signed into law what is arguably the most important piece of US educational legislation for the past 35 years. In broad terms, the *No Child Left Behind Act* (NCLB) links government funding to strict improvement and accountability policies for America's public schools. Much of the attention already given to NCLB has focused on its mandate to raise the achievement levels of all students (for example Smith 2005). However that is not the limit of the Act, it also legislates for reform in the way in which teachers are trained and recruited. As it applies to teacher quality, *No Child Left Behind* has two key objectives, the first is to ensure that every teacher is highly qualified in the subjects they teach and the second is to reduce the barriers to becoming a teacher by 'retooling' traditional teacher education programmes and opening up alternative routes into the profession (US Department of Education 2004). Both have proven to be controversial.

According to *No Child Left Behind*, every teacher of core academic subjects² must be highly qualified by the end of the 2005-2006 academic year. By the term 'highly qualified' the legislation stipulates that the teacher must have obtained 'full state certification as a teacher (including certification obtained through alternative routes to certification) or passed the State teacher licensing examination, and holds a licence to teach in such a State' (US Department of Education 2002, p4). For new teachers (those employed after the start of the 2002-2003 academic year) this means that they must possess at least a bachelor's degree and, for elementary school teachers, must pass a state test in subject knowledge and teaching skills in all areas of the basic elementary school curriculum. New secondary school teachers must either pass a state academic test or must successfully complete, for each of their teaching areas, an academic major, graduate degree or coursework equivalent to an academic major. Veteran teachers (those hired before the start of the 2002-2003 school year) must meet the same criteria as newly qualified teachers or must demonstrate competence in all the subjects that they teach according to a High Objective Uniform State Standard Evaluation, or HOUSSE (US Department of Education 2002). Each State is free to develop their own HOUSSE criteria but must address teachers' skills in both subject-matter knowledge and teaching practice as well as provide coherent information about the teacher's attainment of content knowledge in the subjects that they teach (CEP 2005).

It is quite clear that the emphasis throughout the HOUSSE, and indeed all aspects of the Highly Qualified Teacher requirements, is that teachers must prove that they have sufficient content knowledge for the subjects that they teach. This presents obvious

² Core subjects are English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history and geography.

difficulties for secondary school science teachers who may have a physics major but may additionally be required to teach chemistry classes, and indeed NCLB does offer some flexibility here (US Department of Education 2004a). But the situation for elementary, middle school and special education teachers is even more complex. Here teachers are expected to teach a range of core subjects and most possess a general elementary or special education teaching certificate rather than an individual subject major. The expectation under NCLB is that they must demonstrate content knowledge for each subject they teach in order to be deemed 'highly qualified'. Conceivably, this could result in them either having to take state tests to demonstrate competency for each of their subjects or meet the criteria through HOUSSE.

As the HOUSSE criteria are established by each individual State, these requirements do differ with some States adopting more rigorous HOUSSE criteria than others. For example in Colorado, a state that has been praised for embracing the spirit of NCLB in its HOUSSE plan (Walsh and Snyder 2004), veteran teachers do not really have a HOUSSE option at all, they must demonstrate content knowledge either by undertaking content-focused professional development or pass a subject-matter test. In Pennsylvania, veteran teachers will have to achieve 'highly qualified' teacher status in the same way as new teachers: through academic coursework or state tests (Keller 2005). California, on the other hand has adopted a points system for meeting HOUSSE requirements whereby a veteran teacher can potentially accumulate 90% of the required points by having assumed leadership and service roles (Walsh and Snyder 2004). In California, a teacher with 5 year's teaching experience can gain 50 points out of the 100 HOUSSE points needed to become NCLB compliant. This can differ markedly from some other states who have adopted a similar HOUSSE point system, for example in Alabama a teacher with 5 years' teaching experience would earn only 10 HOUSSE points (Education Trust 2003, ECS 2004).

Training to teach

At the start of the 1999-2000 school year, there were almost 3.5 million teachers teaching in public and private schools in the US, a number that has risen by almost one million since 1988. The number of new entrants to the profession has remained relatively constant throughout this time, at around 15% (NCES 2005). Of these new entrants, approximately 60% had followed the traditional undergraduate route into teaching (Newman 2002). Most trainees who follow the undergraduate route major in education; while others major in another field, perhaps an arts or science discipline and take the additional education courses that are required in order to obtain a state licence to teach. Each state is responsible for setting its own licensing standards and procedures and the requirements do vary. For example, the number of credits of prescribed education coursework that are required for obtaining a state license can range from 18-40, depending on the state (Darling Hammond 2000). Obtaining a secondary school teaching license in Maryland requires 27 credit hours of education coursework and 36 credit hours of content coursework (Walsh 2001). In Nevada, secondary teachers are required to have a bachelor's degree and complete 22 credit hours in professional secondary education

(Nevada Department of Education 2005). These differing criteria also mean that a teacher who is licensed in one state will not be able to practice in another until they obtain the necessary state license, although some mid-Atlantic states are in the process of developing new regional teacher licenses (Jacobsen 2005). In addition to the undergraduate route, 47 out of the 54 States and territories³ offer at least one alternative route into teaching. In fact, nationwide there are around 89 alternative routes available, while all require a bachelor's degree, only around 60% require any teaching practice (US Department of Education 2004).

Producing high quality teachers

No one denies the need for a good teacher. Some estimations of the value of having a good teacher can be quite staggering. For example having three consecutive years of good teachers (those placed in the 85th percentile or above in terms of quality) could overcome the average achievement deficit between low-income students and others (Hanushek 2002, Hanushek and Rivkin 2004). Value added studies in Tennessee have estimated that, at the extreme, 5th grade students who had experienced highly ineffective teachers for three years were likely to score around 50 percentile points below their peers of comparable previous achievement who had been taught by highly effective teachers for the same period (Rivers and Sanders 2002). However, the key issue is how to obtain good teachers, especially when research does not find any 'systematic link between teacher characteristics and student outcomes' (Hanushek and Rivkin, 2004, p.7).

Such uncertainty over the most effective way to train the teacher workforce underlies much of the controversy that has surrounded *No Child Left Behind's* Highly Qualified teacher requirements, and no other area seems to have excited such debate as the issue of teacher certification. This key area has divided opinion between those who favour a move towards a decentralised teacher licensing system governed by choice and market forces where prospective teachers can enter the profession by a variety of pathways, and those who advocate that teacher preparation should include training in teaching methods and pedagogy and should remain largely within the schools of education. In many respects, the two sides would appear to share much common ground: both wish to attract and retain highly trained and motivated individuals into teaching. Where they differ is on the amount of education coursework that a prospective teacher ought to undertake in order to become certified. Proponents of the decentralised system favour pathways into teaching that are free from the education coursework requirements of many of the traditional routes (Walsh 2001). They argue that the current system whereby prospective teachers without undergraduate coursework in education have to cover additional education programmes, often up to a year in length, before becoming eligible for state certification, acts as a deterrent to highly able individuals who might otherwise enter teaching: it is a system which allows 'too many poorly qualified individuals into the classroom while creating barriers for the most talented candidates' (US Department of Education 2002, p12). They place the emphasis on teachers having high verbal skills and subject expertise

³ The 50 States, the District of Columbia and the territories of Puerto Rico, Guam and the Virgin Islands.

rather than the pedagogic skills taught in schools of education, and criticise traditional routes into teaching for failing to provide teachers with sufficient subject knowledge to enable them to teach their subject effectively (Walsh 2001, Finn 2004). On the other hand, those that advocate the existing centralised system contend that the current certification process already assesses prospective teachers for their skills in content knowledge and verbal ability, as well as their teaching ability, and that state tests are already effective in ensuring that only high quality teachers are admitted to the profession (Darling-Hammond 2000, Darling-Hammond and Youngs 2002). According to them, the policy objectives of *No Child Left Behind* for improving teacher quality essentially mean the 'dismantling of teacher education systems and the redefinition of teacher qualifications to include little preparation for teaching' (Darling-Hammond and Youngs 2002, p13). That NCLB's focus is almost exclusively on subject matter knowledge while appearing to sideline pedagogy and other professional knowledge and skills excites particular concern: 'we should not confuse a highly qualified taker of tests about teaching with a highly qualified classroom teacher' (Berliner 2005, p208, also Cochran-Smith 2005, Kaplan and Owings 2003).

Both perspectives cite a research base that provides the evidence for their preferred approach and both criticise the other for the lack of scientific rigour in the studies they use to support their claims (Walsh 2001, Darling-Hammond 2002). However, overall the evidence-base on which both sides base their claims does remain unclear (Archer 2002). The lack of experimental studies and the use of different outcome measures and definitions of certification, coupled with selective citation of research findings can make evidence that supports links between students achievement and teacher certification or alternative routes into the profession hard to determine (Hanushek 2004).

Whatever one's perspective and whatever the research evidence suggests, it is clear that with *No Child Left Behind*, what was once an academic debate now has a national focus. The following section will describe the progress that states are making towards full compliance with *No Child Left Behind's* Highly Qualified Teacher mandates. We consider some of the criticisms of missed opportunities that have been levied against some states and examine the progress that two states, Wisconsin and California, are making towards ensuring that all their public school teachers are 'highly qualified' by the 2005-2006 deadline.

No Child Left Behind in practice

That the federal government has sought to play such a large role in education through *No Child Left Behind* is unprecedented. Traditionally the government, and Republican administrations in particular, have played only a limited part in education policy. However, Bush was governor of Texas where education was and is a big priority. Unlike the UK and many other industrialised countries, the US has a very de-centralised system of education, with much of the control over schools devolved to school districts which act on behalf of the state. There is no national assessment system nor a national curriculum, the responsibility for ascertaining standards, assessment tools and curriculum coverage lies with the individual states. However, just like in the UK, a 'crisis account' exists over falling academic standards in American schools. Legislation like *No Child Left Behind* is designed, through complex systems of school accountability and sanctions, to remedy this.

This level of federal intervention in an area that has long been the domain of the states has raised concerns about whether *No Child Left Behind* is in fact constitutional (McCull 2005). Indeed, from the perspective of many state and local educators, the NCLB provisions constitute an 'unprecedented federal intrusion into their authority to establish policies and programmes appropriate to their respective communities' (McDermott and Jenson 2005, p45). In the US, federal funds only contribute around 7-8% of total public school funding; the remainder is split between the state (typically around 48%) and local taxes (around 45%), although the proportions do vary (The Education Trust 2002). With *No Child Left Behind* it is, according to Margaret Dayton, the Chairman of the Utah Education Committee, a case of '7% of money dictating 100% of policy' (Dayton 2005). In theory, states could forgo their federal funding and so be exempt from many of NCLB's mandates. While there is a suggestion that some states and school districts are considering doing this, it is likely that any shortfalls in this funding will have a disproportionate impact on disadvantaged students – the main recipients of such funds (McDermott and Jenson 2005).

By September 2003, each state was required to submit to the US Department of Education a detailed workbook outlining the steps they would take to ensure full compliance with *No Child Left Behind's* requirements for teacher quality by the end of the 2005-6 academic year. This workbook would serve as a baseline for measuring states' progress and states were required to report in the following areas:

- State certification and licensing requirements for new teachers, including those that enter through traditional and alternative routes
- State-wide pass rates on recent state assessments of graduates from teacher preparation programmes
- The numbers of teachers on waivers or emergency and temporary permits
- Information on teacher standards and their alignment with student standards
- Criteria for identifying low performing schools of education

While the Department of Education reports that states have made good progress towards reaching compliance in some of these areas, several issues do arise concerning the data collection process, teacher certification and testing, and the employment of teachers on temporary teaching licences or waivers (US Department of Education 2004, US Department of Education 2005). Putting it more strongly, the Education Trust, an organisation dedicated to the closing of achievements gaps in public schools, writes that while some states have provided honest accounts of their progress towards compliance with NCLB, others have reported figures that 'border on farce and veer into tragedy' (Education Trust 2003, page 1). For example, nine states failed to report even the most basic information on the proportions of classrooms taught by highly qualified teachers in time for the 2003 deadline (Education Trust 2003), 15 States and territories did not require a content-specific bachelor's degree for initial certification and 20 either did not assess academic content for individuals seeking initial teacher certification or had no State wide testing at all (US Department of Education 2004). In addition, since 2003, only a minority of states have set suitable and demanding criteria for their HOSSE (Walsh and Snyder 2004, CEP 2005) and others have been criticised for weak HOSSE plans for veteran teachers (Olson 2004). Such criticisms include having HOSSE plans that exempt veteran teachers from coursework commitments or allow them to gain credit for activities that have little connection with the subject they teach, such as serving on committees (Jacobsen 2005a). According to the Education Commission for the States (ECS 2004), while almost all States have testing procedures in place for newly qualified elementary teachers, not one State has fully established an annual measurable objective to meet the goal for 'highly qualified' teachers in every classroom. Most worryingly perhaps, according to the Education Commission for the States, in March 2004 no state was on track to meet the Highly Qualified Teacher requirement by the 2005-2006 deadline (ECS 2004).

In contrast to the concerns raised by the US Department of Education and interest groups like the Education Trust, the majority of states report that they are on track to meet the 2005-06 deadline with at least four out of five classes in the core subjects already being taught by teachers who are 'highly qualified' (Keller 2003). All this leads to a conflicting picture about the likelihood that states will comply with the NCLB Highly Qualified Teacher requirements by the end of 2005-2006. One of the reasons for this apparent lack of clarity is NCLB's failure to provide uniform licensing requirements and to leave the decision about what constitutes a Highly Qualified teacher in the hands of the states. The apparent mismatch between the federal and state determinations of what it means to be 'highly qualified' was highlighted recently when federal officials over-ruled the Highly Qualified Teacher status of most of the elementary teachers in Utah and North Dakota (Keller 2005a). Despite having many years of teaching experience and, for the majority of teachers, an elementary education major from a state institution, the state's teaching credential was deemed insufficient to meet the standards of NCLB. The dispute was later settled with federal officials announcing that these teachers were now considered 'highly qualified' (Davis 2005).

As we can see, the national picture regarding whether or not states will meet the Highly Qualified teacher requirements is unclear. There are a number of possible reasons for

this: many states had not collected such data on their teacher workforce prior to NCLB and the assimilation of such large amounts of information may have resulted in inaccurate baselines being set back in 2003, there is uncertainty about the status of teachers on emergency or temporary certification and much variation exists between states in their definition of what constitutes a highly qualified teacher.

In order to better understand the likelihood of states meeting *No Child Left Behind's* requirements, we focus on two case study states: Wisconsin and California. Both states are very different: Wisconsin is relatively affluent and reported having the highest proportions of highly qualified teachers in the nation in 2003, while California - a state with diverse social and economic characteristics, reported among the lowest. Even so, both provide a useful illustration of the issues and concerns that many states face in ensuring that all their teachers are highly qualified. The data used here was retrieved from the Department of Education websites for Wisconsin and California. The quality and scope of this publicly available data varies considerably, California maintains a comprehensive database containing district and school level contextual and performance information that has been collected over several years. The data available from the Wisconsin site is less wide ranging. In this section, we consider the profiles of each states' teachers in order to help understand how reliable the states have been in their estimation of progress towards ensuring all teachers are highly qualified.

As described earlier, *No Child Left Behind* mandates for improvement in the basic skills of all students as well as in areas of teacher quality. In order to determine whether a school is meeting the requirements of NCLB for student achievement, the Act requires that by 2005, states assess performance annually in grades 3 to 8⁴ in Language Arts Literacy and Mathematics, and in Science by 2007 (US Department of Education 2002). If students reach the required proficiency targets in these tests then the school is considered to have made Adequate Yearly Progress (AYP). If a school fails to make AYP, a series of sanctions can be administered by the school district. The form of these sanctions ranges from district level monitoring through to giving parents the option to transfer their children out of 'failing' schools and providing students who remain in the school with additional tutoring. In more extreme cases, where a school fails to make AYP for four or more consecutive years, that school can be faced with having to replace staff, aspects of the curriculum or, at the extreme, be re-structured as a Charter school or one run by a private company. The AYP status of a school is therefore crucial in determining the organisation, funding and operation of a school. It is also the case that schools labelled as not making Adequate yearly Progress are disproportionately those who serve urban or low income areas, often with high proportions of minority students (for example Kane and Staiger 2003, Smith 2005). In the analysis that follows, the data for teacher quality is disaggregated according to whether a school is successful in making AYP or not.

Highly qualified to teach in Wisconsin

⁴ National Curriculum years 4 to 9

Following their submission of the September 2003 teacher quality workbook, Wisconsin proclaimed itself the 'best in nation' for teacher quality. The state reported that 98.6% of classes were being taught by Highly Qualified teachers and gave the figure for classes in high poverty districts to be as high as 96.9% (Education Trust 2003). Wisconsin is considered a 'high standards' state that has a strong set of education requirements for future teachers. For example, high school teachers must have a major in the subject they plan to teach, while middle school teachers must have at least a minor in their subject areas and trainee teachers must take basic skills tests for entry to teacher preparation programmes (Education Week 2005, NCTQ 2005). Teacher education is a four and a half to five year process, all prospective teachers must spend at least 18 weeks on teaching practice and from September 2004 student teachers must pass a content examination before entering their final semester of training (Darling-Hammond 2000, University of Madison-Wisconsin 2005). These standards are strictly enforced. In 1994 no new elementary or high school teachers were hired without a licence in their field, compared with Louisiana where 31% of all new entrants were unlicensed (Darling-Hammond 2000). Students in Wisconsin also score above the national average in state wide tests of academic performance (NCES 2005). A trend that is linked by Darling-Hammond not only to the state's relatively low rates of poverty and high expenditure in education but also to its policies regarding teacher training and development (Darling-Hammond 2000).

Perhaps because of these strict entry requirements, Wisconsin does not require a content-specific bachelor's degree nor, until recently, did it employ any content-related testing of its prospective teachers (US Department of Education 2003). Neither did Wisconsin develop a separate HOUSSSE plan, stating that for all its elementary, middle and high school teachers:

"All teachers licensed in Wisconsin must have completed an approved program at a college or university, either in this state or in another state. All current middle and high school teachers who teach core academic subjects are in the HOUSE (sic)". (ECS 2004).

The Wisconsin Department of Education provides little information on its web site about the progress of individual schools towards achieving compliance with *No Child Left Behind's* Highly Qualified Teacher requirements (Wisconsin Department of Education 2005). The teacher level information that is available shows that high proportions of Wisconsin's teachers have college degrees, and that this varies little among the type of school in which they teach (table 1). In 2003-2004, % of Wisconsin's schools were determined not to have made Adequate Yearly Progress (AYP). These schools employ around % of Wisconsin's total teacher workforce, almost all of whom hold at least a bachelor's degree qualification.

Table 1: Teacher qualifications, according to school type.

Teacher qualifications	Non-AYP schools		Other schools		All schools	
	N	%	N	%	N	%
Less than a Bachelor's degree	6		54		60	
Bachelor's degree	851	55	34161	57	35012	57
Master's degree	650	42	25241	42	25891	42
6-year specialist degree	5	0.3	61	0.1	66	0.1
Doctorate	12	0.8	109	0.2	121	0.2
Other	18	1	85	0.1	103	0.2
Total	1542	100	59711	100	61253	100

Source: Wisconsin Department of Education 2005a

In the 2003-2004 school year almost all maths and science teachers had at least a bachelor's degree (table 2). While the data does not tell us whether these teachers were certified or whether this was a major in the field of mathematics or science or an education major, the high numbers are in line with those reported by the state in September 2003 (Education Trust 2003). However, according to the Schools and Staffing Survey undertaken by the National Centre for Education Statistics in 1999-2000, only 75% of grade 7-12 mathematics teachers and 82% of science teachers had a major in their field, the numbers for those with a major and certification were the same for mathematics but lower (77%) for science (Blank *et al* 2004). This disparity between the figures reported by the states and those cited by external organisations underlines some of the difficulties in obtaining reliable high quality data on the numbers of NCLB compliant teachers in all schools, regardless of the state.

Table 2: Teacher qualifications, selected subjects.

Teacher qualification	All teachers		Science teachers		Maths teachers	
	N	%	N	%	N	%
Less than Bachelor's degree	60	.0	2	0.1	3	0.1
Bachelor's degree	35012	57	1696	54	1772	54
Master's degree	25891	42	1389	45	1496	45
6-year specialist degree	66	0.1	4	0.1	2	0.1
Doctorate	121	0.2	16	0.5	8	0.2
Other	103	0.2	2	0.1	2	0.1
Total	61253	100	3109	100	3283	100

Source: Wisconsin Department of Education 2005a.

This table only includes data for regular school teachers, not substitute teachers, although similarly high proportions of substitute teachers in Wisconsin have subject majors so their exclusion is unlikely to effect the results.

While prospective teachers in Wisconsin have been required to take content-related examinations since September 2004, there were no such requirements in place for teachers qualifying before this date (US Department of Education 2004). The state's

assertion that almost all of its teachers were 'highly qualified' in 2003 and the reiteration of this through their HOUSSE plans, has increased the criticism levied against Wisconsin for abusing the flexibility that it has been granted under NCLB for assessing the content-knowledge requirements of veteran teachers by 'claiming simply that all certified teachers have met them' (Education Trust 2003, p7). With respect to its HOUSSE criteria, Wisconsin is accused of 'making the conceptual leap of equating the question of whether teachers have sufficient subject matter knowledge...with the question of whether they have complete an accredited teacher education programme' (Education Trust 2003, p7).

The situation in Wisconsin provides us with a good example of a state that appears to have long established and rigid criteria for the selection and training of its teachers. Such standards may be the reason why the state can claim that almost all its teachers already meet NCLB's Highly Qualified Teacher requirements. However, there are commentators who disagree with Wisconsin's estimations. Most vocal perhaps is the Education Trust who dismiss the state's reporting of highly qualified teacher numbers as a 'definitional slight of hand' and accuse the state of 'sugar-coating' the results so as to undermine serious attempts to raise standards and improve teacher quality in Wisconsin's schools (Education Trust 2003, p8). Moreover, according to the Education Commission of the States (ECS 2004), Wisconsin is fully on track to comply with NCLB in only one of the three additional reporting areas: new tests for elementary school teachers. Uncertainty over whether the states' subject matter competency tests will equally apply to veteran teachers and confusion over the state's definition of 'highly qualified' mean that Wisconsin is considered to be only partially on track for these remaining two areas (ECS 2004a).

This confusion over the definition of highly qualified teachers particularly with regard to the possession of content specific degrees and the status of teachers with emergency or temporary certification is typical of the uncertainty surrounding the accuracy of states' estimations over the extent to which they will comply with *No Child Left Behind* in this area. For Wisconsin, the lack of recent publicly available, disaggregated data on the numbers of certified and NCLB compliant teachers makes an independent evaluation of the state's progress difficult to undertake.

Highly qualified to teach in California

California is the most populous state in the US, it has approximately 9000 public schools with around 300,000 teachers teaching over 6 million students, almost a quarter of whom are English language learners (NCES 2005). With its rising living costs contrasted against blighted urban schools and state-wide budget deficits – it has been described as a 'poster state' for many of the problems facing those who wish to train, recruit and retain good teachers (Quality Counts 2003). A recent report by the RAND Co-operation charts the slow decline of the state's educational fortunes. Three decades ago what was once regarded as one of the best education systems in the US now has among the lowest performing students, the poorest school facilities and teacher salaries which have not increased in real terms since 1969 (RAND 2005). The current struggle to support

education at the minimum levels mandated by the state's constitution point to a state requiring long-term solutions and 'serious school finance reform' (Slack 2005, p23).

To be termed 'highly qualified' in California, a teacher of core academic subjects must have a bachelor's degree; a state credential or have held an intern certificate/credential for no more than three years and demonstrated core academic subject matter competence (California Department of Education 2004). In order to fully comply with the NCLB mandate, California, unlike Wisconsin, has instigated a complex HOUSSE system for its veteran teachers. Using the HOUSSE, a teacher must obtain 100 points from a range of activities including teaching experience, professional development, academic coursework and leadership and service to the profession (ECS 2004). California has received some criticism for its HOUSSE plans: the National Council for Teacher Quality awarded the state an 'F' grade for its HOUSSE plan (Walsh and Snyder 2004).

In 1996, California implemented an ambitious \$1.6 billion a year programme to reduce class sizes from kindergarten through to the third grade from 30 students to 20. One consequence of the class size reduction programme was a dramatic increase in the recruitment of inexperienced and uncertified teachers, resulting in large gaps in the distribution of qualified teachers between schools attended by low-income and non-white students and others (Jepsen and Rivkin 2002, RAND 2005). As a result, in 2000 only 50% of grade 7-12 mathematics teachers had both a major in their field and state certification (Blank *et al* 2004). In order to meet the mandates of NCLB, California has invested large sums in programmes to recruit and train teachers. In addition to a well-funded teacher induction programme, California has increased the amount it spends on programmes to recruit teachers from around \$14 million in 1998 to \$160 million two years later (RAND 2005).

In its September 2003 Consolidated State Application, California estimated that around 48% of classes in core academic subjects were taught by “highly qualified” teachers, while in “high poverty” schools, the figure was 35% (table 3). However, according to the state’s Consolidated Performance Report for the 2003-2004 school year, this data was not 'entirely consistent with the requirements established by NCLB' and make it 'unfeasible' to generate baseline estimates of teacher quality that are based on this data (California Department of Education 2005, p36). This resulted in revised baseline estimates for teacher quality being established early in Spring 2004 (table 4).

Table 3: Classes taught by ‘highly qualified’ teachers, baseline and target data.

	Classes taught by ‘highly qualified’ teachers (%):	Classes taught by ‘highly qualified’ teachers (%):
	State aggregate	High-Poverty Schools
2002-2003 Baseline	48	35
2003-2004 Target	65	57
2004-2005 Target	83	79
2005-2006 Target	100	100

Source: California Department of Education 2003

Table 4: Number of classes in the core academic subjects being taught by “highly qualified” teachers October 2003.

School Type	Total number of core academic classes	Percentage of core academic classes taught by ‘highly qualified’ teachers
All Schools in State	630,647	52%
<i>High-Poverty Schools</i>	153,922	40%
<i>Low-Poverty Schools</i>	165,591	60%
<i>Elementary schools</i>	162,164	49%
<i>Secondary schools</i>	468,483	53%

Source: California Department of Education 2005, page 37.

While these new estimates are very similar to the original baseline estimates reported in September 2003, they do represent a relatively low starting point from which the state has to meet its targets for compliance with *No Child Left Behind's* Highly Qualified Teacher requirements by 2005-2006 (table 4). Between 2000 and 2003, California has reduced the percentage of under-qualified teachers by an average annual rate of 9%, to comply with *No Child Left Behind*, the state would have to continue to reduce the numbers of these teachers at a rate of 60% a year (Futernick 2003). As for the other three areas in which states must reach compliance, California appears to be on track to comply with NCLB in two of them: these are defining Highly Qualified Teachers and developing tests for elementary school teachers. Uncertainties with California’s HOUSSSE mean that it was only rated as partially on track for the third area: subject matter competency (ECS 2004a).

In its October 2003 census, California estimated that only 45% of teachers who teach in schools that failed to make Adequate Yearly Progress (AYP) were NCLB compliant, this compares with 60% of the teachers in schools who made AYP (table 5). NCLB's teacher quality targets notwithstanding, overall, California's teachers appear to be well-trained and experienced professionals. Around 90% of teachers have teaching credentials, while over a third possess a Masters' degree or higher (table 5). The proportion of teachers who are teaching on emergency certificates or waivers also remains quite small. Overall, the distribution of qualified teachers among schools that do not make AYP is generally less favourable than in schools that were successful on this indicator, although the differences can be quite small, particularly with the proportion of teachers with emergency certification or waivers. However, as we have seen earlier, just because teachers have a bachelor’s degree and certification to teach, it does not mean that they are ‘highly qualified’ under NCLB – that designation depends on them additionally demonstrating sufficient content knowledge for their subject areas.

Table 5: Teacher qualifications in California, according to school type.

	All schools		Schools not making AYP		Schools making AYP	
	N	%	N	%	N	%
Classes taught by NCLB compliant teachers	637586	52	283128	45	354458	60
Teachers with teaching credentials	300312	91	112430	87	187882	93
Teachers with a Masters degree or higher	300312	35	112430	34	187882	35
Teachers with waivers	300312	0.4	112430	0.5	187882	0.3
Teachers with emergency certificates	300312	5	112430	7	187882	4

Source: California Department of Education 2005a

Despite around 15% of California's workforce being newly employed (RAND 2005), their age and experience profiles are evenly distributed across the different types of schools (table 6). However, gaining a teaching license in California is very different to gaining a license to teach in Wisconsin. In 1999-2000 only 46% percent of school districts in California required full standard state certification in the field to be taught, and only 30% of California's districts required a major or minor in the field (RAND 2005). The concern among many commentators is that it is teachers with less experience and with fewer teaching credentials who are disproportionately teaching in California's poorest and non-white schools (Quality Counts 2003). However, the evidence available to us from the state's publicly available database only offers limited support for this contention – at least when school success is determined according to NCLB's Adequate Yearly Progress targets. The only indicator on which there are clear differences in 'teacher quality' between schools that do and do not make AYP is in the number of classes taught by NCLB compliant teachers (there is no disaggregated data readily available that cites the numbers of *teachers* who are NCLB compliant). The reason for this is unclear, perhaps schools that are meeting AYP have been able to invest in recent professional training programmes in order to assist their staff in becoming *No Child Left Behind* compliant, perhaps other concerns schools who are failing to make AYP mean that professional training is not given the same priority as in other schools.

Table 6: Teacher experience in California, according to school type.

	All schools		Schools not making AYP		Schools making AYP	
	N (schools)	years	N	years	N	years
Mean teaching experience (district)	9163	11	3164	10	5999	11
Mean teaching experience (total)	9163	14	3164	13	5999	14
Mean age of teachers	9162	44	3164	44	5998	44

Source: California Department of Education 2005a

Discussion

Much of what is undertaken in *No Child Left Behind* is praiseworthy, the Act is essentially equitable for it ensures that all pupils, including those who have traditionally done less well in school, achieve minimum competency levels in key subjects and are taught by teachers who are 'highly qualified'. That the effort of a nation like the United States can be directed towards this goal is surely laudable. However, despite the missed opportunities and compromises of which the architects of the Act are now being accused, several issues do emerge and which are particularly relevant to efforts to improve the quality of teachers. First, the definition of highly qualified is linked only to an individual's knowledge of the subjects that they teach as defined by content tests that can often be overly complicated and confusing (Berliner 2005). There are no provisions under NCLB's highly qualified teacher criteria to link teacher performance directly to student achievement or to assess classroom performance, indeed some alternative routes into teaching do not require that prospective teachers spend any time on teaching practice at all (US Department of Education 2004). More fundamentally, the evidence base underpinning many of the key aims of NCLB's highly qualified teacher provisions is unclear. We still do not know what qualities make a good teacher, high verbal skills and strong knowledge of the subject that they teach may certainly be among them but this list is unlikely to be exhaustive. The research evidence is also unclear about the value of a teaching certificate, as we have seen it is an area that excites much debate, but the issue does remain largely unresolved. Neither do we know how effective alternative routes into teaching can be in ensuring that 'highly qualified' teachers are placed in classrooms, while the absence of detailed experimental studies in this area limits the use of the approach. Nevertheless, along with improved content knowledge, support for alternative routes is a core requirement of NCLB. There is also concern among some advocates that the Highly Qualified Teacher provisions will be 'brought down by the burden of NCLB's internal compromises and ambiguity and by state's unwillingness to cede control no matter how important the cause' (NCTQ 2004, page 1). On the other hand, some educators are unhappy with the level of federal influence in education and even question the constitutionality of the reform.

No Child Left Behind's silence on how teacher quality should be assessed and certified, also increases the uncertainty over whether states really will meet the 2005-2006 deadline, as we have seen with recent wranglings over elementary school teacher compliance in Utah and North Dakota. It is clear that different states have very different criteria for meeting compliance, whether they will all succeed in delivering a 'highly qualified' teacher into every class during the coming months remains to be seen. Equally interesting will be the extent to which the federal government will actually be able to determine how reliable states have been in their estimations, does the Department of Education have a mandate to check the teaching credentials of every compliant teacher, or will they rely on the states' estimates? The sanctions for non-compliance are also unclear. While some states are busy reassuring teachers that if they are not NCLB compliant by the 2005-2006 deadline, this does not mean that they will be fired (California Department of Education 2005). What might be the consequences be for school districts who fail to comply and who might face the loss of millions of dollars of federal funding? But if the federal government decides to desist from applying sanctions than will school districts simply stop working to ensure that every teacher is 'highly qualified'? However what is perhaps most fascinating is that even at this late stage, it is still unclear whether by the end of the 2005-2006 school year every child will be being taught by a 'highly qualified' teacher.

References

- Archer, J., (2002), Research: Focusing in on teachers, *Education Week*, 3rd April 2002, 21(29), pages 36-39
- Berliner, D.C., (2005), The near impossibility of testing for teacher quality, *Journal of Teacher Education*, 56(3), pp205-213.
- Blank, R.K., Langesen, D., Laird, E., Toye, C., de Mello, V.B., (2004), Meeting NCLB Goals for Highly Qualified Teachers: Estimates by State from Survey Data, *Education Policy Analysis Archives*, 12(70), December 2004.
- California Department of Education (2003), California's Consolidated State Application, September 1, 2003, Submission, retrieved July 2005 from www.cde.ca.gov/nclb/sr/sa/documents/yr04csa0901.pdf
- California Department of Education (2004), NCLB Teacher Requirements: A Resource Guide, retrieved from www.cde.ca.gov/nclb/sr/tq/documents/nclbresourceguide.pdf, July 2005.
- California Department of Education (2005), California's Consolidated State Performance Report: Part I, retrieved from www.cde.ca.gov/nclb/sr/rt/documents/usdecsprjanfinal.doc, July 2005.

California Department of Education (2005a), California Basic Education Data System, retrieved from www.cde.ca.gov/ds/sd/cb/, June 2005.

Centre on Education Policy (2005), From the Capital to the Classroom: Year 3 of the No Child Left Behind Act, Washington DC: Centre of Education Policy, available at www.ctredpol.org/pubs/nclby3/press/cep-nclby3_21Mar2005.pdf

Cochran-Smith, M., (2005), NCLB: three years and counting, *Journal of Teacher Education*, 56(2), pp99-103.

Darling-Hammond, L., (2000), Teacher Quality and Student Achievement: A Review of State Policy Evidence, *Education Policy Analysis Archives*, 8(1), January 2000.

Darling-Hammond, L., Younge, P., (2002), Defining 'Highly-Qualified' Teachers: What does 'scientifically-based' research actually tell us? *Educational Researcher*, December 2002, pp13-25.

Davis, M.R., (2005), Utah Teachers OK'd as 'Highly Qualified', Education Week, 2nd March 2005, 24(25), page 17.

Dayton, M., (2005), The future of the *No Child Left Behind* Act, speech given at the Cato Institute Policy Forum, 31st May 2005, available at www.cato.org/events/050531pf.html, July 2005.

Education Commission of the States (2004), ECS Report to the Nation, Chapter 7 and Appendix B, retrieved from www.ecs.org/html/Special/NCLB/ReportToTheNation/docs/Indicator_7.pdf, June 2005.

Education Commission of the States (2004), 50-State HOUSSE and HOUSSE Status Report (All Levels) <http://mb2.ecs.org/reports/Report.aspx?id=140>

Education Commission of the States (2004a), No Child Left Behind: Projects and Centers, State Status, retrieved July 2005 from <http://nclb2.ecs.org/NCLBSURVEY/NCLB.aspx?Target=SS#ln82>

Education Trust (2003), Telling the Whole Truth (or not) About Highly Qualified Teachers, New State Data, December 2003.

Education Trust, (2002) *The Funding Gap: Low-income and Minority Students Receive Fewer Dollars*, The Education Trust, August 2002, www2.edtrust.org/EdTrust/Product+Catalog/special+reports.htm#2003 [accessed May 2004].

Education Week (2005), Quality Counts: The Wisconsin Report Card, 6th January 2005, p137.

Finn, C.E., (2003), Teacher reform gone astray, in *Our Schools and Our Future... are we still at risk?* Peterson, P.E. editor, California: Hoover Institution Press.

Futernick, K., (2003), California and The Federal No Child Left Behind Act, Education Commission for the States, retrieved from www.edfordemocracy.org/TQI/index.htm, June 2005.

Hanushek, E.A., (2002), Teacher Quality, in *Teacher Quality*, Izumi, L.T., Evers, W.M., eds., Hoover Institution Press Publication No. 505.

Hanushek, E.A., Rivkin, S.G., (2004), How to improve the supply of high-quality teachers, in *Brookings Papers on Education*, Ravitch, D., ed., Washington DC: Brookings Institution Press.

Hoxby, C.M., (2003), 'What has changed and what has not?' in *Our schools and our future ...are we still at risk?*, ed., Peterson, P., California: Hoover Institution Press.

Jacobsen, L., (2005), Reciprocal licence bestowed on new teachers, *Education Week*, 12th January 2005, p5.

Jacobsen, L., (2005a), States criticised on standards for veteran teachers, *Education Week*, 5th January 2005, p11.

Jepsen, C., Rivkin, S., (2002), *Class Size Reduction, Teacher Quality and Academic Achievement in California Public Elementary Schools*, San Francisco: The Public Policy Institute of California.

Kane, T.J., Staiger, D.O., (2003) Unintended consequences of racial subgroup rules, in *No Child Left Behind? The Politics and Practice of School Accountability*, Peterson, P., and West M., (eds), Washington DC: The Brookings Institution.

Keller, B., (2003), States Claim Teachers Are 'Qualified', *Education Week*, 29th October 2003, 23(9), pages 1,16.

Keller, B., (2005a), N.D., Utah Dispute Federal Findings on Teacher Quality, *Education Week*, 12th January 2005, 24(18), page 5.

Koret Task Force on K-12 Education (2003), '... are we still at risk?', Findings and recommendations, in *Our schools and our future ...are we still at risk?*, ed., Peterson, P., California: Hoover Institution Press.

Manzo, K.K., (2005), Study finds teachers are losing ground on salary front, *Education Week*, 1st September 2005, p12.

National Centre for Educational Statistics (2005), *The Nation's Report Card: State Profiles*, retrieved from <http://nces.ed.gov/nationsreportcard/states/>, July 2005.

Nevada Department of Education (2005), Teacher licensing requirements, retrieved from www.doe.nv.gov/teachers/license4teachers.html, July 2005.

National Commission on Excellence in Education (NCEE) (1983), *A Nation at Risk*, US Department of Education, Washington DC: US Printing Office.

NCES (2005), Special Analysis 2005, Mobility in the Teacher Workforce, National Centre for Education Statistics, retrieved from *get website*, June 2005.

Newman, J.W., (2002), *America's teachers: an introduction to education*, 4th edition, Boston: Allyn and Bacon.

Olson, L., (2005), Analysts worry NCLB won't solve teacher issues, *Education Week*, 24th November 2004, p25.

Peterson, P., (2003), Our schools and our future... are we still at risk? Findings of the Koret Task Force on K-12 Education, Peterson, P., ed., California: Hoover Institution Press.

Ravitch, D., (2003), A Historic Document, in Our Schools and Our Future... are we still at risk? Peterson, P.E. editor, California: Hoover Institution Press.

Rivers, J.C., Sanders, W.L., (2002), Teacher Quality and Equity in Educational Opportunity: Findings and Policy Implications, in Teacher Quality, Izumi, L.T., Evers, W.M., eds., Hoover Institution Press Publication No. 505.

Slack, J.L., (2005), New report details not-so-golden state of California Education, *Education Week*, 12th January 2005, p1, 23.

Smith, E., (2005), Raising standards in American schools: The case of *No Child Left Behind*, *Journal of Education Policy*, 20(4), pp507-524.

University of Madison-Wisconsin (2005), School of Education: Teacher Certification Programme Requirements, retrieved from www.wisc.edu/pubs/ug/06education/cert.html, July 2005.

US Department of Education (2002), No Child Left Behind: Executive Summary, www.ed.gov/nclb/overview/intro/presidentplan/page_pg3.html, accessed June 2004.

US Department of Education (2002a), Meeting the Highly Qualified Teachers Challenge: the Secretary's Annual Report on Teacher Quality, Washington DC.

US Department of Education (2003), Meeting the Highly Qualified Teachers Challenge: the Secretary's Third Annual Report on Teacher Quality, Washington DC.

US Department of Education (2004), *Meeting the Highly Qualified Teachers Challenge: the Secretary's Second Annual Report on Teacher Quality*, Washington DC.

US Department of Education (2005), Title II Technical assistance, retrieved July 2005 from www.title2.org/index.htm

US Department of Education (2005a), *New No Child Left Behind Flexibility: Highly Qualified Teachers*, retrieved June 2005 from www.ed.gov/nclb/methods/teachers/hqtflexibility.html

Walsh, K., (2001), *Teacher certification reconsidered: stumbling for quality, Maryland: The Abell Foundation*, retrieved June 2005, from www.educationnext.org/unabridged/20021/walsh.pdf

Walsh, K., Snyder, E., (2004), *Searching the Attic: How States Are Responding to the Nation's Goal of Placing an highly Qualified Teacher in Every Classroom*, The National Council on Teacher Quality.

Wisconsin Department of Education (2005), Wisconsin Department of Public Instruction, www.dpi.state.wi.us, accessed June 2005.

Wisconsin Department of Education (2005a), *Public School Data: School and Staff Salary Data*, retrieved from www.dpi.state.wi.us/dpi/dltcl/lbstat/newasr.html June 2005.