

Education Leadership Oklahoma

Oklahoma Commission for Teacher
Preparation

National Board Certification

- ▶ Like board certified doctors, accountants, and architects, teachers who achieve National Board Certification, meet rigorous criteria through intensive study, self-assessment, evaluation, and peer review.
- ▶ Teachers develop what they do to the highest level



Education Leadership Oklahoma

- ▶ As of October 2012, 3051 teachers have earned National Board Certification
 - 375 teachers waiting for scores



State Incentives and Rewards

- ▶ Across the country, NBCTs receive salary supplements that range from \$1000 in North Dakota and Kansas to \$6000 in Mississippi



Why?

- ▶ To elevate teaching to National Standards - Is what I am teaching what they are teaching In North Carolina in fourth grade?
- ▶ Better compensation than Master's degree
- ▶ To be able to move across state lines and be certified

National Board Certification Research

Areas of Research

- ▶ Improving Student Achievement and Learning
- ▶ Developing Effective Teachers
- ▶ Growing Great Teachers and Teacher Leaders
- ▶ Making a Difference in High Needs Schools
- ▶ Retaining Accomplished Teachers

Improving Student Achievement and Learning

- ▶ National Research Council confirmed that NBC has a positive impact on student achievement, teacher retention and professional development
 - National Research Council (2008)
- ▶ NBCTs account for significant achievement gains for students in some grades and subject areas
 - William, Sanders, James Ashton, and S. Paul Wright (2005)

Improving Student Achievement and Learning

- ▶ Students of NBCTs make larger gains in mathematics than students taught by non-NBCTs
 - Linda Cavalluzzo (2004)
- ▶ NBCTs make learning gains equivalent on average to an extra month in school
 - Vandevort, Beardsley & Berlner, (2004)

Improving Student Achievement and Learning

- ▶ Students of NBCTs scored 7 to 15% points higher on year-end tests
 - Dan Goldhaber and Emily Anthony (2004)
- ▶ NBCTs exhibit better writing abilities and comprehension of classroom materials than students of non-certified teachers
 - Bond, Smith, Baker & Hattie, (2000) Smith, Gordon, and Colby & Wong (2005)

Improving Student Achievement and Learning

- ▶ Students of NBCTs are twice as likely as students of non-NBCTs to produce writing that uses complex ideas and integrates subject matter from multiple disciplines
 - Bond, Smith, Baker & Hattie, (2000) Smith, Gordon, and Colby & Wong (2005)

NBCT Comment

- ▶ Because of NBC, I know how to design lessons to highlight student achievement and I know how to find different ways to SHOW achievement. Students reflect on their reading, but they observe themselves as readers and talk about their own perceptions. My kids are more analytical and reflective, a direct result of National Board Certification
 - Claudia Swisher, NBCT, Norman North High School
- ▶ Guymon, 70% minority rate, 72% free/reduced lunch, The English II department received a 97% on state test. I am convinced that those scores were achieved because of practices that I implemented and perfected while becoming a National Board Certified teacher.
 - Laura Brandherm, NBCT, Guymon High School

NBCT Comment

- ▶ 95% pass rate on the Algebra 2 EOI test for the spring of 2012 with 67% of my students scoring advanced and 28% scoring proficient
 - Paula Hargrove, NBCT, Eisenhower High School, Lawton Public Schools
- ▶ I feel that my teaching practice greatly improved during the National Board certification process, because I learned to reflect upon my methods and how they increased student achievement.
 - Jennifer Ingram, NB Candidate, Cooper Middle School, Putnam City Schools

Improving Student Achievement and Learning

- ▶ Ms. Jonetta Jonte', Southeast High School, OKC public schools

Developing Effective Teachers

- ▶ NBC is a "transformative experience" for many teachers and they often apply in the classroom what they learn from the certification process itself improves teachers' ability to improve student learning
 - Sato, Wei and Darling-Hannond, (2008) Lustick and Sykes (2006) Rotberg, Futrell and Lieberman (1996)
- ▶ The NBC process improves teachers' professional development by: (a) enhancing reflection on teaching practice (b) establishing a professional discourse among teachers (c) raising the standards for teaching performance and (d) facilitating collaboration
 - Park, Oliver, Johnson, Graham and Oppong (2007)

Developing Effective Teachers

- ▶ NBC can improve teachers' practice and is a high-quality form of professional development that costs less than some comparable options
 - Lustick and Sykes (2006)
- ▶ National Board Certification is a high-quality and relatively affordable form of professional development
 - Cohen and Rice (2005)

Developing Effective Teachers

- ▶ NBCTs demonstrate in-depth knowledge of teaching skills and subject content
 - Dagenhart (2002), Petty (2002) Ralph (2003)
- ▶ NBCTs create more challenging curricula, demonstrate in-depth knowledge of teaching skills and subject matter, provide better feedback to students and routinely seek educational strategies that better meet students' needs
 - Ralph (2003) Bond, Smith, Baker and Hattie (2000)

Developing Effective Teachers

- ▶ NBCTs demonstrate greater confidence in their abilities to foster student achievement than non-NBCTs
 - Whitman (2002)
- ▶ Certification process equips them to create stronger curricula and improves their ability to evaluate student learning
 - Kowalski, Chittenden, Spicer, Jones & Tocci (1997) Rotberg, Futrell, & Lieberman (1998)

Developing Effective Teachers

- ▶ NBCTs outperformed non-NBCTs on total evaluation score of one standard deviation in Hillsborough County, Florida
 - Bill & Melinda Gates Foundation funded Empowering Effective Teachers peer evaluation and new teacher mentoring program

NBCT Comment

- ▶ As I filmed myself on numerous occasions and then had to reflect on my practice I could see areas where I was weak. It also gave me an opportunity to research topics such as working with low level readers and ELL students and what the best practices were for reaching those students. As I pursued professional development after my National Boards, I knew what I needed to focus on
 - Sandy Dossett, NBCT, Bartlesville Mid High School

NBCT Comment

- ▶ My students showed a 16 point gain in Research and Information from 2009, before NB, and 2011, after NB
 - Ann Palmer, NBCT, Shawnee High School

NBCT Comment

- ▶ Because of the books I read to prepare for the Reading Assessment while doing my NB Writing Portfolio entry, I was able to bring a student from Kindergarten/1st grade reading level to beginning 4th grade. I analyzed her problems and worked to solved them. Knowing her confidence was also a problem we worked before school, lunch time and after school. She also read and discussed work on our online computer program.
 - Christlne Paradise, NBCT, Steed Elementary School, Mid-Del school district
 - Alternative Certified

Developing Effective Teachers

- ▶ Cheryl Wolff, NBCT, Jones Elementary

Growing Great Teachers and Teacher Leaders

- ▶ A survey of NBCTs found that 90% believed they had a responsibility to be a leader and "give something back" to their schools and the profession. 95% reported that they had a responsibility to informally or formally mentor other teachers
 - Oklahoma Technical Assistance Center (2011)
- ▶ NBCTs take on leadership roles that include mentoring and coaching others and developing programs aimed at improving student learning
 - Freund, Russell and Kavulic, (2005) Yankelovich partners (2011)

Growing Great Teachers and Teacher Leaders

- ▶ Since achieving NBC 70% of NBCTs surveyed reported that they were more involved in school initiatives including committee work, curriculum development and school improvement reforms
 - Center for Educator Recruitment, Retention and Advancement (2010)
- ▶ NBCTs give input on curricular decisions, organize professional development opportunities, chair departments, engage with community, reach out to parents and serve as faculty voices to policymakers and other stakeholders
 - Sykes, Anagnostopoulos, Cannata, Chard, Frank, McCrory and Wolf (2006)

Growing Great Teachers and Teacher Leaders

- ▶ NBCTs tend to perform better than non-NBCTs on indicators of teaching expertise
 - Bond (2000), Lustick and Sykes (2006)
- ▶ Non-NBCTs report that they learn more from NBCTs than from their non-NBCT colleagues
 - Anagnostopoulos, Cannata, Chard, Frank, McCrory, Sykes, and Wolfe (2006)

Growing Great Teachers and Teacher Leaders

- ▶ NBCTs demonstrate in-depth knowledge of teaching skills and subject content, and routinely seek educational strategies, and materials that better meet students' needs
 - Dagenhart (2002), Petty (2002), Ralph (2003)
- ▶ NBCTs demonstrate greater confidence in their abilities to foster student achievement than non-NBCTs
 - Whitman (2002)

Growing Great Teachers and Teacher Leaders

- ▶ NBCTs are most often involved in mentoring or coaching other candidates
 - Yankelovich Partners (2001)
- ▶ NBCTs create more challenging curricula, present subject matter in greater depth and provide better feedback to students than non-NBCTs
 - Bond (2000)

Growing Great Teachers and Teacher Leaders

- ▶ The National Board certification process equips them to create stronger curricula and improves their ability to evaluate student learning
 - Kowalski, Chittenden, Spicer, Jones & Tocci (1997) Rotberg, Futrell & Lieberman (1998)

NBCT Comment

- ▶ This year I had to give up Pre-Calculus and teach Algebra I (in addition to Algebra II and Geometry – the "tested" areas) in an effort to bring up test scores. This is due to pressure from parents and Board members. I think that speaks for my abilities and accomplishments as a National Board Certified Teacher.
 - Anna Hodges, NBCT, Waurika High School

Growing Great Teachers and Teacher Leaders

- ▶ I have been actively involved in candidate support and training for 10 years. My Regional Support Group is the most active in the state. These meetings, not only provide support, but also bring teachers together who care about student learning. We all learn from each other at each meeting.
- ▶ Because of Cognitive Coaching, offered by ELO, I know how to focus my feedback to students, ask open-ended questions and encourage deeper responses from students. My students know they will self-assess throughout the semester.
 - Claudia Swisher, NBCT, Norman North High School, ELO Regional Coordinator

Growing Great Teachers and Teacher Leaders

- ▶ The NB process is the most amazing self-directed professional development possible. It made me question my teaching practice and improve. I look at my fellow peers in a different light when I know they have attained NB status.
 - Jennifer Esau, NBCT, Claremont Elementary School, Claremore Public Schools

Making a Difference in High Needs Schools

- ▶ Students of NBCTs outperform students of non-NBCTs on achievement tests, and the positive effect is even greater among minority students
 - National Research Council (2008) Clotfelter, Ladd, and Vigdor (2007) Goldhaber and Anthony (2004) Cavalluzzo (2004)
- ▶ Currently 42% of NBCTs are teaching in schools eligible for Title I funding. Nearly 46% teach in schools where the free and reduced lunch percentage is more than 40%. In recent years, one-half of new NBCTs teach in these schools
 - NBPTS (2008)

Making a Difference in High Needs Schools

- ▶ Teachers in high need schools report that the National Board's Targeted High Need Initiative and Take One! programs improved the quality of their instructional planning and implementation
 - Learning Point Associates (2008)
- ▶ A majority of NBCTs work in rural and suburban schools, and approximately one-third of them work in schools with students from low-income families
 - NBPTS (2007)

Making a Difference in High Needs Schools

- ▶ 12% of NBCTs teach in high-poverty schools and 20% teach in high-minority and/or low performing schools
- ▶ The efforts of NBCTs may be hampered by school leadership that does not allow them to take on new roles and by a teaching culture that does not recognize their expertise
 - Humphrey, Koppich & Hough, (2004)

Making a Difference in High Needs Schools

- ▶ Ms. Jonetta Jonte', NBCT, Southeast High School, OKC public schools

Retaining Accomplished Teachers

- ▶ In South Carolina, nearly 2/3 of NBCTs surveyed said their desire to stay in the classroom increased since obtaining NBC with 1/3 indicating their desire increased greatly
 - Center for Educator Recruitment, Retention and Advancement (2010)
- ▶ North Carolina finds that NBCTs are in some cases less likely to leave the public school system when compared with non-NBCTs
 - Goldhaber & Hansen (2007)

Retaining Accomplished Teachers

- ▶ NBC keeps the most highly accomplished teachers in the classroom. US Secretary of Education Arne Duncan, noted that in Chicago, nearly 90% of NBCTs remain in teaching
 - Sykes (2006)
- ▶ Many NBCTs provide mentoring and guidance to the new or struggling teachers who are most likely to leave within the first 5 years of teaching
 - Yankelovich (2001) Sykes (2006)

Retaining Accomplished Teachers

- ▶ NBCTs report a better understanding of pedagogy, increased opportunities for taking on leadership roles, increased collegiality and renewed enthusiasm for teaching
 - Jenkins (2000), Lustick & Sykes (2006), Sykes (2006) Vandervoort (2004), Wiebke (2000)

NBCT Comment

- ▶ Out of 383 Oklahoma NBCTs, only 19% are actively seeking another profession. While 81% strongly disagree with actively seeking another profession
 - Vallery Feltman, NBCT, Prague High

NBCT Comment

- ▶ The NB process has kept good teachers in the classroom (instead of going into administration). Without the stipend, I fear many will feel rejected by their own state and will not have an incentive to continually improve their practices. The stipends have allowed many teachers to pursue advanced degrees, attend state and national conferences and mentor other teachers to keep improving.
 - Cindy Elkins, MEd, NBCT, Lawton Public schools

Tulsa Teacher Leader Effectiveness Correlation

Classroom Management	6 NB Standards
Instructional Effectiveness	8 NB Standards
Professional Growth	6 NB Standards
Interpersonal Skills	6 NB Standards
Leadership	3 NB Standards

Teacher Leader Effectiveness

- ▶ I am a more effective teacher now than I was before the process, and I base that on looking at the TLE requirements. Each requirement on that rubric can be found on our National Board Standards – no matter what subject you teach. To me, “Know your students”, for example, is all about those “interpersonal skills”, and communicating with “stakeholders.”
 - Kit Parker, NBCT, Music Specialist, Broken Arrow Schools

Common Core

- ▶ After our Common Core training in August, all of us NBCTs at Bethel were just amazed at how much we already do those things in our classroom BECAUSE OF our NB training!
 - Kelli Wilson, Bethel High School
- ▶ I, like other NBCT's already do what Common Core asks of us.
 - Melinda Griffith,

Washington Study

- ▶ Teacher Compensation – such as paying for additional years of experience, induction and NBPTS certification – are aligned with the evidence regarding effectiveness
- ▶ More focused training, such as in-subject master's degrees and content-specific professional development can improve student learning
 - Washington State Institute for Public Policy (2012)

Future Suggestions

- ▶ Show evidence of mentoring/coaching/leadership
- ▶ Salary Step
- ▶ First stipend to reimburse scholarship amount
- ▶ Masters' degree payment
- ▶ Lower the stipend
- ▶ Lower the number of scholarships
- ▶ Higher stipend for those in High Needs Schools

1870

1871

1872

1873

1874

1875

1876

1877

1878

1879

1880

1881

1882

1883

1884

1885

1886

1887

1888

1889

1890

1891

1892

1893

1894

1895

1896

1897

1898

1899

1900

1870

1871

1872

1873

1874

1875

1876

1877

1878

1879

1880

1881

1882

1883

1884

1885

1886

1887

1888

1889

1890

1891

1892

1893

1894

1895

1896

1897

1898

1899

1900

1870

1871

1872

1873

1874

1875

1876

1877

1878

1879

1880

1881

1882

1883

1884

1885

1886

1887

1888

1889

1890

1891

1892

1893

1894

1895

1896

1897

1898

1899

1900

1870

1871

1872

1873

1874

1875

1876

1877

1878

1879

1880

1881

1882

1883

1884

1885

1886

1887

1888

1889

1890

1891

1892

1893

1894

1895

1896

1897

1898

1899

1900

A Research Guide on National Board Certification® of Teachers



1525 Wilson Boulevard, Suite 500
Arlington, VA 22209
Tel: (703) 465-2700
1-800-22TEACH | www.nbpts.org



MISSION STATEMENT

THE MISSION OF THE NATIONAL BOARD FOR PROFESSIONAL TEACHING STANDARDS IS TO ADVANCE THE QUALITY OF TEACHING AND LEARNING BY:

- Maintaining high and rigorous standards for what accomplished teachers should know and be able to do,
- Providing a national voluntary system certifying teachers who meet these standards, and
- Advocating related education reforms to integrate National Board Certification in American education and to capitalize on the expertise of National Board Certified Teachers.

© 2007 National Board for Professional Teaching Standards. All rights reserved. NBPTS, NBCT, National Board for Professional Teaching Standards, National Board Certified Teacher, and National Board Certification are registered service marks or trademarks of the National Board for Professional Teaching Standards. Other marks are trademarks or registered trademarks of their respective organizations.

NBPTS is funded in part with grants from the U.S. Department of Education and the National Science Foundation. Through September 2006, NBPTS has been appropriated federal funds of \$159.0 million, of which \$145.1 million was expended. Such amount represents approximately 34 percent of the National Board Certification project. Approximately \$278.0 million (66 percent) of the project's cost was financed by non-federal sources. No federal funds were used to produce this document.

Prepared by **CommunicationWorks**, L.L.C., for submission under a contract with NBPTS.

A Research Guide on National Board Certification® of Teachers

TABLE OF CONTENTS

FROM THE NBPTS PRESIDENT.....	1
INTRODUCTION.....	3
SUMMARY OF KEY FINDINGS.....	5
WHAT RESEARCH SAYS ABOUT THE IMPACT OF NATIONAL BOARD CERTIFICATION.....	9
CONCLUSION.....	14
BIBLIOGRAPHY.....	15



The Five Core Propositions

- ***Teachers are committed to students and their learning.***
- ***Teachers know the subjects they teach and how to teach those subjects to students.***
- ***Teachers are responsible for managing and monitoring student learning.***
- ***Teachers think systematically about their practice and learn from experience.***
- ***Teachers are members of learning communities.***



FROM THE NBPTS PRESIDENT

MAY 2007

THE NATIONAL BOARD FOR PROFESSIONAL TEACHING STANDARDS® (NBPTS) HAS ALWAYS WELCOMED SCRUTINY OF THE NATIONAL BOARD CERTIFICATION® PROCESS AND THE IMPACT THAT NATIONAL BOARD CERTIFIED TEACHERS® (NBCTs) HAVE ON TEACHING AND LEARNING. AS A RESULT, IN THE 20 YEARS SINCE NBPTS WAS FOUNDED, NATIONAL BOARD CERTIFICATION HAS BECOME ONE OF THE MOST HEAVILY RESEARCHED AREAS IN THE TEACHING FIELD.

Scores of studies, research projects, and other reports have reviewed and evaluated various aspects of National Board Certification. These efforts have covered such areas as the impact of National Board Certification on student performance, the influence of the process on teacher retention, and the quality of assignments planned by National Board Certified Teachers. This report provides summaries of dozens of these studies.

We are pleased to note that most of this research finds that NBCTs and the related certification process have positive impacts overall on teaching quality and student achievement. The research also notes that many teachers who become National Board Certified also become mentors, teacher trainers, and instructional leaders, and assume other leadership positions in their schools. These results, we believe, underscore the added value that results from even one National Board Certified Teacher in a school.

We have learned a great deal from this research — not all of which is positive. For example, researchers find that National Board Certified Teachers are less likely to work in low-income schools than in more affluent schools. African American and Hispanic teachers are less likely to earn the certification than their white and Asian counterparts. School administrators do not always recognize the value of National Board Certified Teachers, thus often failing to use them strategically in ways that could raise student achievement, benefit other teachers, and influence school-wide reform. NBPTS is drawing on these findings to bolster the National Board Certification process, address underrepresentation of minority candidates, and create programs to enhance the presence of NBCTs in all schools, especially in high-need schools.

We believe this report makes the case that National Board Certification is playing an important role in raising the quality of our nation's teaching force and classroom instruction. We look forward to using this information and the findings of future research to improve and expand the influence of National Board Certified Teachers, the certification process, and the overall work of the National Board.

JOSEPH A. AGUERREBERE, Ed.D.
President and CEO
National Board for Professional Teaching Standards





***National Board
Certification is
perhaps the
most-studied
intervention in the
education field.***



INTRODUCTION

IN 1987, THE NATION'S EDUCATION LEADERS AND POLICYMAKERS RESPONDED TO GROWING CONCERNS ABOUT THE QUALITY OF PUBLIC EDUCATION BY CREATING THE NATIONAL BOARD FOR PROFESSIONAL TEACHING STANDARDS. THE NONPROFIT, NONPARTISAN ORGANIZATION TOOK ON THE CHALLENGING BUT CRITICAL MISSION OF RAISING THE STANDARDS FOR TEACHING IN THE UNITED STATES THROUGH AN ADVANCED CERTIFICATION SYSTEM FOR HIGHLY ACCOMPLISHED TEACHERS. BY PROVIDING A STRATEGY FOR RECOGNIZING, REWARDING, AND RETAINING TOP TEACHERS, THE NATIONAL BOARD'S MISSION HAS GROWN INTO A MOVEMENT THAT NOW REPRESENTS THE MOST COMPREHENSIVE, RIGOROUS, AND WIDELY ACCEPTED POLICY TOOL FOR IMPROVING TEACHING IN THE COUNTRY'S HISTORY.

The National Board began its effort by drafting and adopting, where there were none before, professional standards for what the nation's K-12 teachers should know and be able to do in the classroom. Based on those standards, the National Board has devised an assessment system and a voluntary certification process through which accomplished teachers can achieve National Board Certification in 24 fields and developmental levels of instruction. To become National Board Certified, teachers spend from one to three years demonstrating what they know and can do during up to 400 hours of rigorous assessment.

Like board-certified doctors, accountants, and architects, teachers who achieve National Board Certification have met rigorous criteria through intensive study, self-assessment, evaluation, and peer review. National Board Certification assures the public that teachers who have achieved the designation are highly accomplished practitioners in their field.

During the past 20 years, National Board Standards and National Board Certification have become two of the most robust approaches that states and districts can use to strengthen teacher quality. They have fostered a consistent vision of what high-quality teaching looks like and how it can enhance student achievement. National Board

Standards and National Board Certification are helping to improve the quality of professional development and teacher education and dramatically change the culture of teaching and learning in schools with large numbers of National Board Certified Teachers.

National Board Certification also has been a linchpin of some states' efforts to strengthen mentoring for new teachers and develop pay-for-performance programs to encourage more talented teachers to remain in the classroom.

As of January 2007, more than 55,000 teachers have earned National Board Certification. The number is growing, in part, due to provisions in all 50 states and the District of Columbia and in hundreds of school districts to help cover the costs of certification and/or to reward teachers who achieve National Board Certification. Across the country, NBCTs receive salary supplements that range from \$1,000 a year in some school districts, to California's one-time bonus of \$20,000 for working in low-performing schools, to the 10 percent salary bonus that Florida awards its NBCTs.

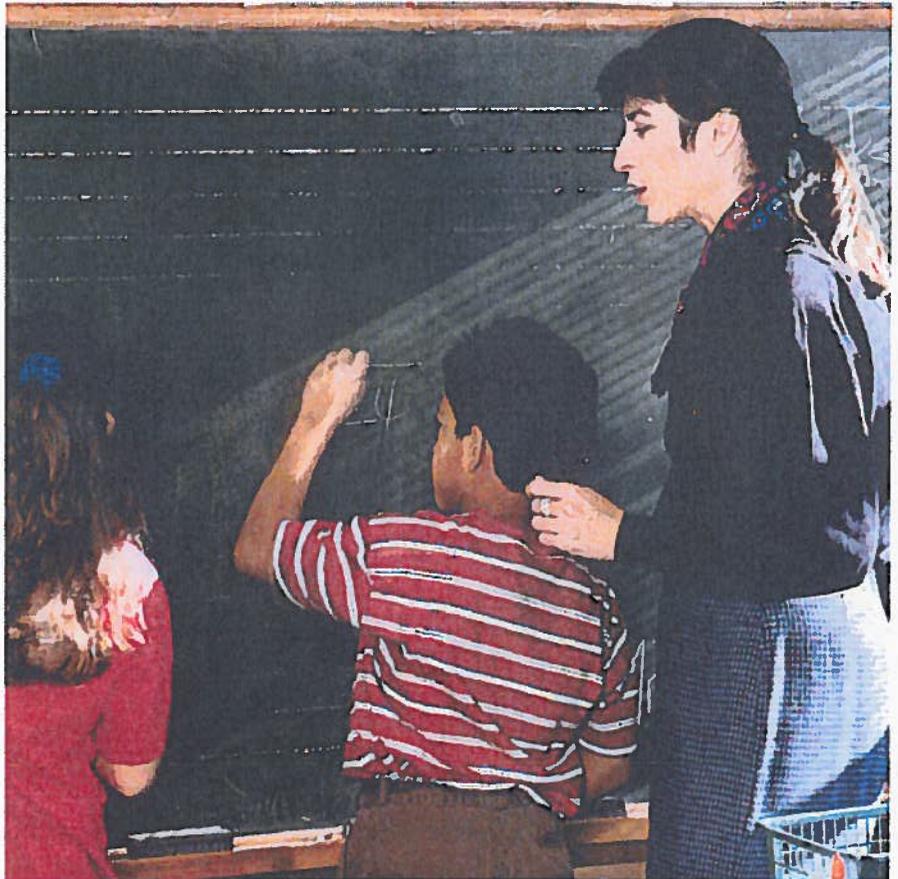
Accordingly, it is important to explore the effectiveness of National Board Certification in raising the quality of teaching and the extent to which National Board Certification has raised teacher retention, improved

professional development, and affected school improvement efforts and student learning. While much of the research into the effectiveness of National Board Certified Teachers focuses on test scores, several studies use broader definitions of learning to measure the impact of National Board Certification on student performance.

Researchers have explored these questions due largely to the support of private philanthropy, making National Board Certification perhaps the most-studied intervention in the education field. To date, there have been scores of studies and reports conducted by independent scholars — including dozens sponsored by the National Board itself. The studies reveal a great deal

about the effectiveness of National Board Certification and, as with most research, they also raise many questions.

Overall, the studies show promising, but in some cases mixed, results regarding the impact of National Board Certification on student achievement as measured by standardized tests. The research is consistently positive about the influence of National Board Certification on teacher practice and morale, professional development, and areas of school improvement — such as leadership development, teacher mentoring, monitoring student performance, team-building, and curriculum development — that are critical to raising student achievement.



SUMMARY OF KEY FINDINGS

Raising student achievement. Several major studies argue that students of teachers who have earned National Board Certification perform better on standardized tests and on other measures than students of non-National Board Certified Teachers. In one large-scale analysis of more than 100,000 student records, Linda Cavalluzzo (2004) demonstrates that students of NBCTs — particularly African American and Hispanic students — make larger gains in mathematics than students taught by non-NBCTs. Another study finds that students of NBCTs make learning gains equivalent on average to an extra month in school (Vandevoort, Beardsley, & Berliner, 2004). Furthermore, an examination of student achievement by Dan Goldhaber and Emily Anthony (2004) reveals that students of NBCTs scored 7 to 15 percentage points higher on year-end tests. These studies also show that minority students benefit even more from instruction by NBCTs. Some studies, however, reach different conclusions. William Sanders, James Ashton, and S. Paul Wright (2005), for example, report large variations in the impact of NBCTs, which leads them to assert that generally no significant differences exist between NBCTs and other teachers. However, their data also reveal that NBCTs account for significant achievement gains for students in some grades and subject areas.

Inspiring deeper learning. Studies show that students with National Board Certified Teachers improve in terms of “deep” learning — the kind of higher-order thinking that policymakers and business officials say is needed for future work and learning in the global economy. These studies find that students of National Board Certified Teachers exhibit much better writing abilities and comprehension of classroom material than students of non-certified teachers (Bond, Smith, Baker, & Hattie, 2000; Smith, Gordon, Colby, & Wang, 2005). The researchers also find that students of NBCTs

are twice as likely as other students to produce writing that uses complex ideas and integrates subject matter from multiple disciplines. They specifically link the improved comprehension of NBCTs’ students to the lessons and assignments designed by their teachers.

Improving teacher practice. A growing body of research finds that NBCTs demonstrate in-depth knowledge of teaching skills and subject content, and routinely seek educational strategies and materials that better meet students’ needs (Dagenhart, 2002; Petty, 2002; Ralph, 2003). Studies also reveal that National Board Certified Teachers tend to perform better than non-NBCTs on indicators of teaching expertise and often apply in the classroom what they learn from the certification process (Bond et al., 2000; Lustick and Sykes, 2006). In addition, research shows that NBCTs create more challenging curricula, present subject matter in greater depth, and provide better feedback to students than non-NBCTs (Bond et al., 2000). In national surveys, NBCTs demonstrate greater confidence in their abilities to foster student achievement than non-NBCTs (Whitman, 2002), and report that the certification process equips them to create stronger curricula and improves their ability to evaluate student learning (Kowalski, Chittenden, Spicer, Jones, & Tocci, 1997; Rotberg, Futrell, & Lieberman, 1998).

Creating transformative professional development. Recent studies show that National Board Certification can improve teachers’ practice and is a high-quality form of professional development that costs less than some comparable options. David Lustick and Gary Sykes (2006), after reviewing research on National Board Certification, conclude that when compared to other professional development options, National Board Certification is a “transformative experience” for many teachers. Lustick and Sykes’ own research shows that the certification process



itself improves teacher knowledge and skills in the areas of advancing and supporting student learning and supporting teaching. A 2005 study by Carol Cohen and Jennifer Rice compared the costs of National Board Certification with other high-quality forms of professional development, such as earning a master's degree, in several jurisdictions. After accounting for fixed as well as hidden costs, they call National Board Certification a high-quality and relatively affordable form of professional development.

Influence on school improvement through mentoring and other leadership activities.

Research consistently demonstrates that National Board Certified Teachers become highly involved in their schools in ways that improve school culture and raise student achievement, and they are viewed as helpful by other teachers. A survey of NBCTs (Yankelovich Partners, 2001) finds that their new roles include mentoring and coaching others, and developing programs aimed at improving student learning. Based on feedback from almost half of the country's nearly 5,000 teachers who achieved National Board Certification before 2000, the survey reveals that NBCTs are most often involved in mentoring or coaching other candidates for National Board Certification (90 percent), mentoring or coaching new or struggling teachers (83 percent), and developing or selecting programs or materials to nurture student learning (80 percent).

Gary Sykes and his colleagues, Dorothea Anagnostopoulos, Marisa Cannata, Linda Chard, Kenneth Frank, Raven McCrory, and Ed Wolfe (2006) report that NBCTs help significantly more teachers in their schools than do non-NBCTs. In addition, non-NBCTs report that they learn more from NBCTs than from their non-National Board Certified colleagues. NBCTs also give input on curricular decisions, organize professional development opportunities, chair departments, engage with the community, reach out to parents, and serve as faculty voices to

policymakers and other stakeholders (Freund, Russell, & Kavulic, 2005; Sykes et al., 2006).

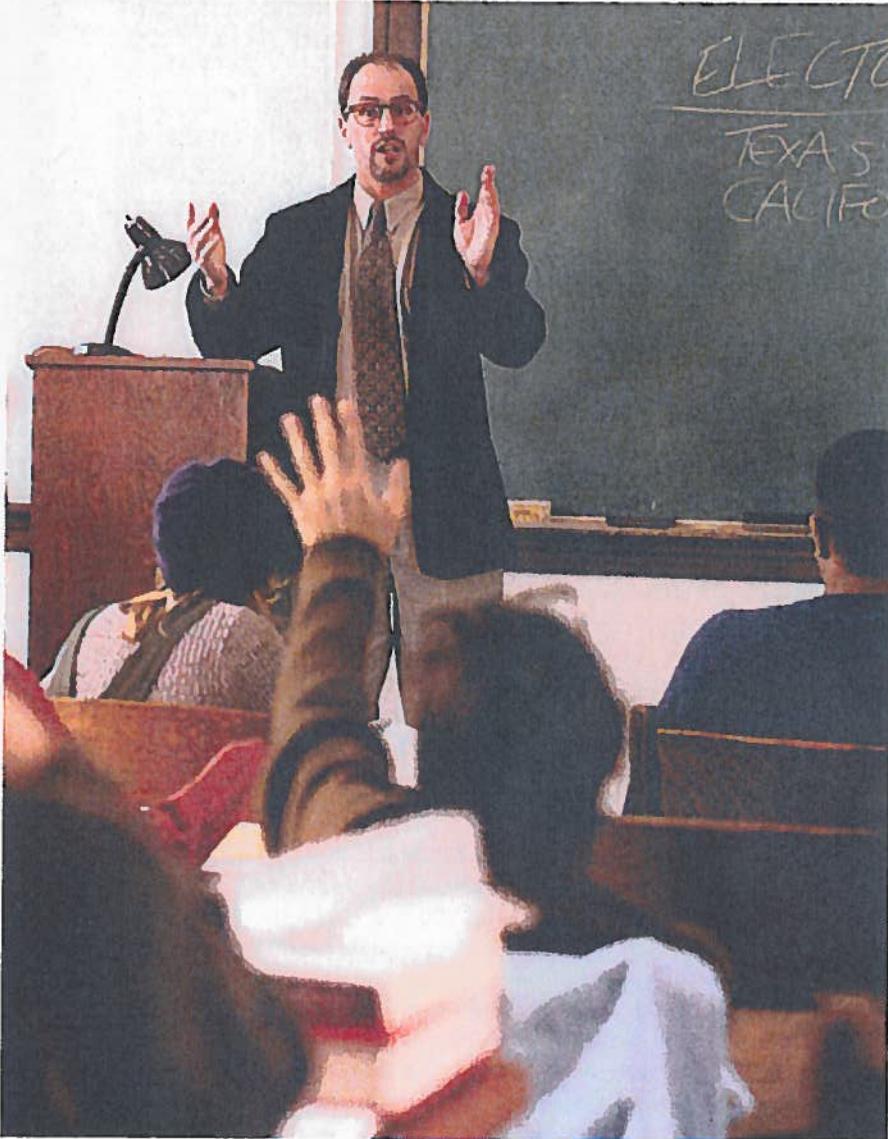
Retaining teachers. Research is beginning to show that National Board Certified Teachers consider staying in the classroom longer than non-National Board Certified Teachers and gain new enthusiasm for the profession as a result of going through the certification process. Sykes et al. (2006) find highly significant differences between NBCTs and the general teaching population regarding how long they plan to stay in teaching. In Ohio, 52 percent of NBCTs plan to stay in teaching "as long as [they] are able," as compared with 38 percent of non-certified teachers. Other research of teachers in North Carolina finds that NBCTs are in some cases less likely to leave the public school system when compared with non-NBCTs (Goldhaber & Hansen, 2007). Because teachers leave the profession for a variety of reasons (including factors related to compensation, opportunity for growth, school environment, collegiality and support, and school leadership) some research tracked the impact of National Board Certification on some of the areas that affect longevity in the field. These studies reveal that a majority of those who have applied for certification (whether they are ultimately certified or not) report a better understanding of pedagogy, increased opportunities for taking on leadership roles, increased collegiality, and renewed enthusiasm for teaching (Jenkins, 2000; Lustick & Sykes, 2006; Sykes et al., 2006; Vandevort et al., 2004; Wiebke, 2000).

Underrepresentation of NBCTs in low-performing schools. Nationally, according to NBPTS data (NBPTS, 2007), a majority of National Board Certified Teachers work in rural and suburban schools, and approximately one-third of them work in schools with students from low-income families. However, in a 2004 survey of the six states in which the most NBCTs teach, results show that only 12 percent of NBCTs teach



in high-poverty schools and fewer than 20 percent teach in high-minority and/or low-performing schools (Humphrey, Koppich & Hough, 2004). Moreover, even in low-performing schools that have NBCTs, the efforts of the NBCTs may be hampered by school leadership that does not allow them to take on new roles and by a teaching culture that does not recognize their

expertise (Koppich, Humphrey, & Hough, 2004). In addition, just as low-performing and minority students are less likely to have an NBCT, non-white candidates for National Board Certification are less likely than white candidates to gain certification, with rates as low as 13 percent for African American candidates. (Howard, Ifekwunigwe, & Williams, 2006).





The National Board for Professional Teaching Standards is drawing on these findings to bolster its certification process, address underrepresentation of minority candidates, and suggest new directions for teacher policy and practice.



WHAT RESEARCH SAYS ABOUT THE IMPACT OF NATIONAL BOARD CERTIFICATION

FOLLOWING IS A MORE DETAILED LOOK AT A BROAD RANGE OF STUDIES THAT PROVIDE VALUABLE INSIGHTS INTO THE STRENGTHS AND WEAKNESSES OF NATIONAL BOARD CERTIFICATION. THE NATIONAL BOARD FOR PROFESSIONAL TEACHING STANDARDS IS DRAWING ON THESE FINDINGS TO BOLSTER ITS CERTIFICATION PROCESS, ADDRESS UNDERREPRESENTATION OF MINORITY CANDIDATES, AND SUGGEST NEW DIRECTIONS FOR TEACHER POLICY AND PRACTICE.

STUDENT ACHIEVEMENT

Many studies of student achievement compare NBCTs and non-NBCTs using student scores on various standardized tests. With some notable exceptions, the studies show significantly higher achievement by students of NBCTs. Four large-scale analyses are especially rigorous.

Goldhaber and Anthony (2004) report that NBCTs, and especially recently certified NBCTs, are producing marked gains in student test scores. Their analysis of databases of North Carolina student and teacher assessment results reveals that students of NBCTs score 7 to 15 percentage points higher on year-end exams. (The scores vary among grades and according to students' race and income levels.) Similarly, Charles Clofelter, Helen F. Ladd, and Jacob L. Vigdor (2007) examined the effects of National Board Certified Teachers on student achievement in North Carolina. They used a test that has been administered for more than 10 years as part of North Carolina's accountability system and is aligned with the state's Standard Course of Study. They find that students of NBCTs generally outperform those of other non-NBCTs at statistically significant levels.

Cavalluzzo (2004) examined 108,000 student records from the Miami-Dade County school system to see if the various professional characteristics of teachers (degrees, experience, National Board Certification status, and six other indicators) related to student achievement in mathematics. She finds that on seven of the indicators,

NBCTs make a statistically significant impact on the academic outcomes of their students. All else being equal, the gains are bigger for Hispanic and African American students.

Finally, in 14 Phoenix-area elementary schools, researchers gathered data comparing the students of NBCTs to those of their non-certified peers (Vandevoort et al., 2004). In almost three-quarters of 48 comparisons (using four years of data and three measures of academic performance across four grades), students of NBCTs surpass students of non-NBCTs. The learning gains are equivalent, on average, to spending about an extra month in school.

Other studies reveal mixed results for National Board Certification. For example, some research indicates that students of NBCTs do not demonstrate significantly better performance in comparison with students of non-NBCTs (Sanders et al., 2005; McColskey & Stronge, 2005).

Harris and Sass also find that when students are compared using results from the standardized test Florida uses for state and federal accountability, the students with National Board Certified Teachers achieve significantly higher gains in reading than their peers without NBCTs. By contrast, when using a norm-referenced test that is not aligned with state standards, students with NBCTs do worse than other students. The authors state that "the choice of test turns out to have significant influence on many of the results."

While these studies find limited impact on student achievement, as measured by

standardized testing, they also identify some benefits of National Board Certification. Sanders et al. (2005), for example, show that, while NBCTs do not account for significant gains in student rates of academic progress overall, they are linked to significant differences among students for some grades and subject areas. In fact, on most indicators, students of NBCTs do better, although the differences seldom rise to the level of statistical significance.

Wendy McColskey and James Stronge (2005) uncover no significant student achievement gains among students of NBCTs. However, they report strong performance by NBCTs in their practice-related areas, such as graduate coursework, student-assignment design, and quality of planning practices; there is statistically more complexity in reading comprehension assignments by NBCTs and sophistication in their classroom management.

INSPIRING DEEPER LEARNING

Researchers have devoted much energy to studying the effects of NBCTs on “depth of learning” as measured by students’ understanding of complex classroom content. These studies show that students of NBCTs exhibit “deeper understanding” of concepts presented in class and have better writing skills. Moreover, one study indicates that NBCTs’ classroom practices are designed to elicit this “deeper” learning.

Lloyd Bond, Tracy Smith, Wanda Baker, and John Haltie (2000) find that student work in response to assignments from NBCTs exhibits a more integrated and coherent understanding of the concepts targeted in instruction and a higher level of abstraction than understanding achieved by other students. Three-quarters (74 percent) of NBCTs’ students demonstrate “deep” understanding, compared with only 29 percent of non-certified teachers’ students.

Smith and several colleagues (2005) addressed the depth of NBCTs’ students’ learning both as elicited by their teachers’ assignments and practices and as demonstrat-

ed on student work samples. When taken as a whole, eight indicators of teacher practice show no statistically significant difference between NBCTs and non-NBCTs. But when each indicator is evaluated individually, the authors find that in seven of the eight areas, the students of NBCTs obtain higher average scores that are statistically significant. For instance, on the indicator of instructional aims, NBCTs are judged twice as likely to produce “deep learning” outcomes as other teachers, by expert assessors. Smith also finds that students of NBCTs show significant differences on all indicators of writing performance, including such aspects as organization and sentence structure, and are twice as likely to demonstrate “deep learning” outcomes in writing samples.

IMPROVING TEACHER PRACTICE

National Board Certification requires candidates to submit videotapes of classroom instruction, examples of student assignments, and evaluations of student work. That process, according to much research, improves the teaching skills of those who participate. (About 40 percent of candidates achieve certification the first year; about 65 percent do so by the end of the three-year cycle.) Nationwide surveys of National Board Certified Teachers commissioned by NBPTS and conducted by Yankelovich Partners find that NBCTs have a higher sense of teaching efficacy, or the belief that they can affect student achievement, than other teachers (Whitman, 2002; Yankelovich Partners, 2001).

Several studies cataloging NBCTs’ professional priorities — access to classroom materials, time for research and study in their content area, time for professional development, teaching autonomy, and leadership opportunities — generally find that NBCTs desire a wider range of educational resources than other teachers (Dagenhart, 2002; Petty, 2002; Ralph, 2003). The research indicates that NBCTs have high aspirations for their practice and for their students, and want the resources needed to achieve their goals.

Also, National Board Certified Teachers tend to perform better than non-NBCTs on indicators of teaching expertise and what they bring from the certification process to the classroom (Bond et al., 2000; Lustick & Sykes, 2006). The research shows that NBCTs use more challenging curricula, present it in a more complex way, and provide more feedback to students.

In a frequently cited study, Bond, Smith, Baker, and Hattie (2000) identified 13 features of teaching expertise consonant with other educational research. Then they compared a group of NBCTs with another group of experienced teachers (who applied for certification, but did not receive it). NBCTs outperform the other teachers in all 13 categories, with differences rising to statistical significance in 11 of the 13, including the challenge offered by curricula, the depth of subject matter represented, and teacher feedback to students.

Two groups of scholars (Kowalski, Chittenden, Spicer, Jones, & Tocci, 1997; Rotberg, Futrell, & Lieberman, 1998) propose that the certification process and the National Board's standards serve as "resource[s] for learning" for teachers. That was later confirmed by the National Board's own research (NBPTS, 2001b), in which 92 percent of candidates report that the certification process has made them better teachers. In the same 2001 study, based on a nationwide survey of National Board candidates, 89 percent of respondents report that the process has equipped them to create stronger curricula and more effectively evaluate student learning.

BOLSTERING PROFESSIONAL DEVELOPMENT

Evidence shows that National Board Certification is, as it was designed to be, an efficient and cost-effective form of teacher professional development. Research shows that participation in National Board Certification strengthens the practice of teachers who achieve certification as well as the practice of those who do not achieve the designation. In addition, other research

documents that the process is a relatively cost-effective professional development option.

In a 2006 report, Lustick and Sykes asked, "What are teachers learning [from National Board Certification]?" They conclude from their literature review that the discourse communities that form around the candidacy experience are avenues for candidate learning, that National Board Standards are an inherently valuable resource for teachers, and that teachers become "more reflective practitioners" as a result of the certification process. Lustick and Sykes also show that the process improves teacher knowledge and skills in the areas of advancing student learning.

Lustick, in qualitative analyses of his interviews, finds that about 40 percent of study participants display what he calls "dynamic learning," meaning that they immediately incorporate the lessons from the certification process into their classroom work. For these candidates, the process is transformative, changing their teaching beliefs and practices. He considers the 40 percent rate highly successful. Most other teachers in the study demonstrate "technical" or "deferred" learning, meaning that they find the process informative, although it is unclear whether they apply what they learn in their teaching practices.

While comparative research is scarce, studies show that National Board Certification aligns closely with many attributes of high-quality professional development and at least one study shows that its costs are in the same range or lower than other common approaches to professional development.

In a 2005 report, Cohen and Rice compared the total cost of National Board Certification with that of other high-quality professional development, such as earning a master's degree. They find that the cost — including the fees, candidate-support-program and administrative expenses, and the time spent by all parties involved — is still lower than the cost of the least expensive master's degree program considered (night-time enrollment at the University of Virginia).



INFLUENCE ON SCHOOLS IN AREAS THAT LEAD TO IMPROVED LEARNING

Studies suggest that the roles individual National Board Certified Teachers play in their schools — particularly through mentoring and other leadership activities — influence the practices and effectiveness of their colleagues and the outcomes of students in other teachers' classrooms.

In a 2001 survey of nearly 5,000 NBCTs by Yankelovich Partners on behalf of NBPTS, 99.6 percent of respondents say they are engaged in at least one leadership activity. The average National Board Certified Teacher is engaged in almost 10 leadership activities. More than eight in 10 (83 percent) NBCTs say they mentor struggling, new, or future teachers, while 90 percent report that they mentor National Board candidates. Almost all of those surveyed (90 percent) say that National Board Certification has enhanced their credibility with other educators, and 81 percent report that new leadership opportunities are made available to them as a result of becoming certified.

In a 2006 study, Sykes et al. explored the impact that NBCTs have on individual schools and measured their leadership involvement using the statements of their fellow teachers at about 1,500 schools. Sykes and his colleagues conclude that nearly all NBCTs are involved in leadership activities within their schools and that their involvement increases over time. His study also notes that NBCTs help significantly more of their colleagues than do non-NBCTs.

One of the key ways that National Board Certified Teachers become more active leaders is through mentoring, a highly effective form of professional development that provides a variety of benefits to mentors and those being mentored (White & Mason, 2001).

RETAINING TEACHERS

One recent study indicates that National Board Certification contributes to keeping excellent teachers in the classroom. Other research explains why: National Board Certified Teachers experience new enthusiasm for teaching and better relations with fellow faculty members.

Sykes and colleagues find (2006) that National Board Certified Teachers intend to remain in teaching longer than the general teaching population. Their study reveals highly significant differences between NBCTs and the general teaching population on this count. In Ohio, for instance, 51.9 percent of NBCTs plan to stay in teaching "as long as they are able," versus 37.5 percent of all the state's teachers. The figures for South Carolina are similar.

Another recent report suggests that National Board Certification may influence teacher mobility. Goldhaber and Hansen find that NBCTs are more likely to stay in their schools and less likely to leave the North Carolina public school system compared with non-applicants. Compared with unsuccessful applicants, NBCTs are more likely to leave the North Carolina public school system.

National Board Certification affects teachers in a variety of ways that are key to keeping teachers in schools. For example, analyses show that National Board Certification sparks professional growth on a number of levels, the most basic of which is a "revitalization of practice," or a renewed enthusiasm for teaching (Iovachini, 1998; Jenkins, 2000; Wiebke, 2000). Also, the certification process spurs candidates to reflect more about their practice (Areglado, 1999; and Wiebke) and creates enduring "discourse communities" within some schools (Burroughs, Schwartz, & Henricks-Lee, 2000; Gardiner, 2000; Rotberg et al., 1998). Furthermore, NBCTs report increased collegiality with other teachers regardless of certification status (Jenkins, 2000; Wiebke, 1999; Rotberg et al.).



UNDERREPRESENTATION OF NBCTs IN LOW-PERFORMING SCHOOLS

Research indicates that the expertise and leadership capacity of NBCTs have the potential to turn around low-performing schools and fundamentally change student outcomes. Unfortunately, NBCTs are not evenly distributed among the schools that need them most, and those who do teach in low-performing schools often do not receive the tools or the freedom they need to take leadership roles. Nationally, according to 2006 NBPTS data (NBPTS, 2007), a majority of National Board Certified Teachers work in rural and suburban schools, and approximately one-third work in schools with students from low-income families.

Using 2004 data from NBPTS on NBCTs certified since 1998, Daniel Humphrey, Julia Koppich, and Heather Hough (2004) find, based on a survey of six states, that poor, minority, and low-performing students are less likely than their more affluent peers to be taught by an NBCT. Only 16 percent of NBCTs teach in high-minority schools (more than 75 percent minority); 12 percent in high-poverty schools (more than 75 percent of students' households in poverty); and 19 percent in low-performing schools. The same study finds that 6 percent of North Carolina NBCTs work in high-minority schools and only 6 percent of Ohio NBCTs are in high-poverty schools. Moreover, while 16 percent of Florida NBCTs teach in high-need schools, 43 percent teach in high-performing (test scores in the top three deciles) schools.

Just as high-need and minority students are less likely to be taught by an NBCT, minority NBCT candidates are less likely than their white counterparts to gain certification. Although African American and Hispanic teachers enter the National Board Certification candidacy pool in numbers proportional to their representation in the U.S. teaching force, they earn certification at much lower rates (Wayne, Chang-Ross,

Dantels, Knowles, Mitchell, & Price, 2004). Dan Goldhaber, David Perry, and Emily Anthony (2003) note that African American teachers are more likely to apply for certification than other ethnic groups but are less likely to gain certification.

Tyrone Howard, Ann Ifekwunigwe, and Rae Jean Williams (2006) note that implementing a support structure with writing assistance, technological training, and intense mentoring increases African American candidates' certification rate to nearly 50 percent. Maxine Freund, Victoria Kane Russell, and Christy Kavulic (2005) reach a similar conclusion.

A major cause of the disparities in certification rates seems to be that minority candidates are more likely to teach in high-need and high-poverty schools where support structures are limited, while white teachers are more likely to teach in affluent schools (Goldhaber et al., 2003). Urban schools also have difficulty attracting the most talented teachers, minority or otherwise, because of poor working environments (Humphrey et al., 2004).

Julia Koppich and her colleagues Daniel Humphrey and Heather Hough (2004) find that the influence of NBCTs in high-need schools may be lower than that of their counterparts in high-performing ones. In low-performing schools, principals often do not know how to take advantage of NBCTs' leadership abilities, which in turn results in fewer NBCTs taking on roles outside the classroom.

Research also indicates ways to raise the number of NBCTs in high-need schools. Candidates for National Board Certification are more likely to achieve certification if their mentors are specifically trained for their role (Freund et al., 2005).



CONCLUSION

THE EXTENT OF RESEARCH ACROSS THE KEY TOPICS CONSIDERED HERE SPEAKS TO A BROAD-BASED NATIONWIDE EFFORT TO MORE FULLY UNDERSTAND THE IMPACT OF NATIONAL BOARD CERTIFICATION ON TEACHERS, STUDENTS, AND SCHOOLS. EACH STUDY PROVIDES IMPORTANT ANSWERS BUT ALSO RAISES QUESTIONS FOR NEW RESEARCH.

What constitutes student learning? Should the assessment of learning be based solely on achievement tests? How does National Board Certification compare with other models of pay-for-performance? To what extent do National Board Certified Teachers in shortage areas, such as math, science, and special education, help raise student achievement? How much does the increased presence of National Board Certified Teachers in low-performing schools contribute to better student outcomes, and what is the critical mass of NBCTs necessary for making a difference in these schools?

In addition, concerns and questions about the research itself must be addressed. For example, most quantitative studies of NBCTs' impact on student achievement use complex statistical techniques to simulate a controlled environment. These techniques, however, face the basic challenge of trying to distinguish the impact that a single teacher is having on his or her students' learning — especially student achievement as measured by standardized tests. Hundreds of factors weigh on a student's performance on a particular test. Demographics, school characteristics, and even whether the child had breakfast on test day have all been shown to have noticeable effects on test scores.

Another challenge facing researchers is the lack of a definition of learning. Today, learning often is treated as a one-dimensional output (standardized test scores) rather than as a process affecting many areas of a child's

development, or even many different output measures (e.g., higher-order thinking skills, complex problem solving, engagement in learning). Given the differences in findings between, and within, different studies on student achievement and National Board Certification, the National Board does not take the results of any one study as the final word. Studies of student achievement based on test scores are only one aspect of the research on National Board Certification.

As researchers move forward, they face a host of related questions. What kinds of tests and other representations of student skill and knowledge should be used to measure the impact of NBCTs on student learning? What constitutes a significant impact? What are the most appropriate approaches and methodologies to account for the effects of schools and non-teacher factors on student performance?

The National Board and other organizations are convening experts to discuss these issues to further elucidate what the research shows and provide additional guidance to researchers in measuring the impact of National Board Certification. This impact encompasses not only teacher effectiveness and its contribution to student achievement as measured by standardized testing, but also student engagement and higher-order learning (e.g., the mastery of complex ideas and the integration of subject matter, writing, and analysis) — skills that are essential for success in the global economy.



BIBLIOGRAPHY

* Available on the NBPTS Web site at
<http://www.nbpts.org/resources/research>

- Areglado, N. (1999). I became convinced: How a certification program revitalized an educator. *Journal of Staff Development*, 20(1), 35-37.
- Armor, D., Conroy-Oseguera, P., Cox, M., King, N., McDonnell, L., Pascal, A., Pauly, E., & Zellman, G. (1976). *Analysis of the school preferred reading programs in selected Los Angeles minority schools*. Report no. R-20070-LAUSD. Santa Monica, Calif.: RAND Corporation (ERIC Document Reproduction Service No. 130 243).
- Bond, L., Smith, T., Baker, W.K., & Hattie, J. A. (2000, September). *The certification system of the National Board for Professional Teaching Standards: A construct validity study*. Greensboro, N.C.: Department of Education Research Methodology and Center of Educational Research and Evaluation, University of North Carolina.*
- Burroughs, R., Schwartz, T.A., & Henricks-Lee, M. (2000). Communities of practice and discourse communities: Negotiating boundaries in NBPTS Certification. *Teachers College Record*, 102(2), 344-374.
- Cavalluzzo, L. (2004, November). *Is National Board Certification an effective signal of teacher quality?* Retrieved February 2005, from <http://www.cna.org/expertise/education>.*
- Clofelter, C., Ladd, H.F., & Vigdor, J.L. (2007). *How and why do teacher credentials matter for student achievement?* National Center for Analysis of Longitudinal Data in Educational Research. Retrieved March 2007 from http://www.caldercenter.org/PDF/1001058_Teacher_Credentials.pdf.
- Cohen, C. E. & Rice, J.K. (2006). *National board certification as professional development: design and cost*. Retrieved October 2006.*
- Dagenhart, D. B. (2002). *Comparing the wants and needs of National Board Certified with non-National Board Certified middle school teachers for personal job success and satisfaction*. Unpublished doctoral dissertation, University of North Carolina, Chapel Hill.
- Freund, M., Russell, V. K., & Kavulic, C. (2005). *A study of the role of mentoring in achieving certification by the National Board for Professional Teaching Standards*. Washington, D.C.: The George Washington University Graduate School of Education and Human Development.*
- Gardiner, S. (2000). I leave with more ideas than I can ever use. *Journal of Staff Development*, 21(4), 14-17.
- Goldhaber, D., Perry, D., & Anthony, E. (2003). *National Board Certification: Who applies and what factors are associated with success?* Unpublished manuscript, University of Washington, Seattle.
- Goldhaber, D. & Anthony, E. (2004). *Can teacher quality be effectively assessed?* Retrieved October 2006 from http://www.urban.org/UploadedPDF/410958_NBPTSOutcomes.pdf.*
- Goldhaber, D., & Hansen, M. (2007). National Board Certification and teacher career path: Does NBPTS Certification influence how long teachers remain in the profession and where they teach? *Journal of Labor Economics*, forthcoming. Retrieved March 2007.*
- Harris, D., & Sass, T. (2007). *The effects of NBPTS-Certified Teachers on student achievement*. National Center for Analysis of Longitudinal Data in Educational Research. Retrieved March 2007 from http://www.caldercenter.org/PDF/1001060_NBPTS_Certified.pdf.*
- Howard, T., Ifekwunigwe, A., & Williams, R.J. (2006) *Closing the achievement gap in National Board Certification: Optimal support for African American teacher candidates*. Los Angeles: UCLA NBPTS Grant Project. Retrieved September 2006.*
- Humphrey, D.C., Koppich, J.E., & Hough, H.J. (2004). *Sharing the wealth: National Board Certified Teachers and the schools that need them most*. Menlo Park, Calif.: SRI International. Retrieved September 2006.*
- Iovacchini, L.C. (1998). *National Board for Professional Teaching Standards: What are teachers learning?* Unpublished doctoral dissertation, College of Education, University of South Carolina, Columbia.

- Jenkins, K. (2000). Earning Board Certification: Making time to grow. *Educational Leadership*, 57, 46-48.
- Koppich, J.E., Humphrey, D.C., & Hough, H.J. (2006). Making use of what teachers know and can do: Policy, practice, and National Board Certification. *Education Policy Analysis Archives* 15(7), 1-30. Retrieved April 2007 from <http://epaa.asu.edu/epaa/v15n7/v15n7.pdf>.
- Kowalski, K., Chittenden, E., Spicer, W., Jones, J., & Tocci, C. (1997, March 24-28). *Professional development in the context of National Board for Professional Teaching Standards Certification: Implications beyond certification*. Paper presented at the Annual Meeting of the American Educational Research Association, Chicago, Ill.
- Lustick, D. & Sykes, G. (2006). *National Board Certification as professional development: What are teachers learning?* Retrieved October 2006.*
- McCloskey, W. & Stronge, J. (2005). *Teacher effectiveness, student achievement, and National Board Certified Teachers*. Retrieved October 2006.*
- National Board for Professional Teaching Standards. (2001a). *I am a better teacher: What candidates for National Board Certification say about the assessment process*. Retrieved September 2006.*
- National Board for Professional Teaching Standards. (2001b). *National Board Certification candidate survey*. Retrieved September 2006.*
- National Board for Professional Teaching Standards. (2007). *2006 National Board for Professional Teaching Standards score release data*. Unpublished raw data.
- Petty, T.M. (2002). *Identifying the wants and needs of North Carolina high school mathematics teachers for job success and satisfaction*. Ann Arbor, Mich.: Proquest Information and Learning Co.
- Ralph, D.E. (2003). *National Board Certified Teachers' views of the certification process and its effect on the professional school culture*. Ann Arbor, Mich.: Proquest Information and Learning Co.
- Rotberg, I., Futrell, M., & Lieberman, J. (1998). National Board Certification: Increasing participation and assessing impacts. *Phi Delta Kappan*, 79, 462-466.
- Sanders, W.L., Ashton, J.J., & Wright, S.P. (2005). *Comparison of the effects of NBPTS Certified Teachers with other teachers on the rate of student academic progress*. Cary, N.C.: SAS Institute.*
- Smith, T.W., Gordon, B., Colby, S.A., & Wang, J. (2005). *An examination of the relationship between depth of student learning and National Board Certification status*. Office for Research on Teaching, Appalachian State University, Boone, N.C. Retrieved October 2006.*
- Sykes, G., Anagnostopoulos, D., Cannata, M., Chard, L., Frank, K., McCrory, R., & Wolfe, E. (2006). *National Board Certified Teachers as an organizational resource*. Retrieved March 2007.*
- Vandevoort, L.G., Amrein-Beardsley, A., & Berliner, D.C. (2004). National Board Certified Teachers and their students' achievement. *Education Policy Analysis Archives*, 12(46), 7-38. Retrieved September 2006.*
- Wayne, A., Chang-Ross, C., Daniels, M., Knowles, K., Mitchell, K., & Price, T. (2004). *Exploring differences in minority and majority teachers' decisions about and preparation for NBPTS Certification*. Arlington, VA: SRI International. Retrieved October 2006.*
- White, M., & Mason, C. (2001). *Mentoring induction principles and guidelines*. Reston, Va.: Council for Exceptional Children.
- Whitman, B.A. (2002). *Professional teachers for quality education: Characteristics of teachers certified by the National Board for Professional Teaching Standards*. New Brunswick, N.J.: Rutgers University.
- Wiebke, K. (2000, November/December). My journey through National Board Certification. *Instructor*, 110, 26-27.
- Yankelovich Partners. (2001). *Leading from the classroom: Highlights from the 2001 NBPTS National Board Certified Teacher leadership survey*. Retrieved October 2006.*

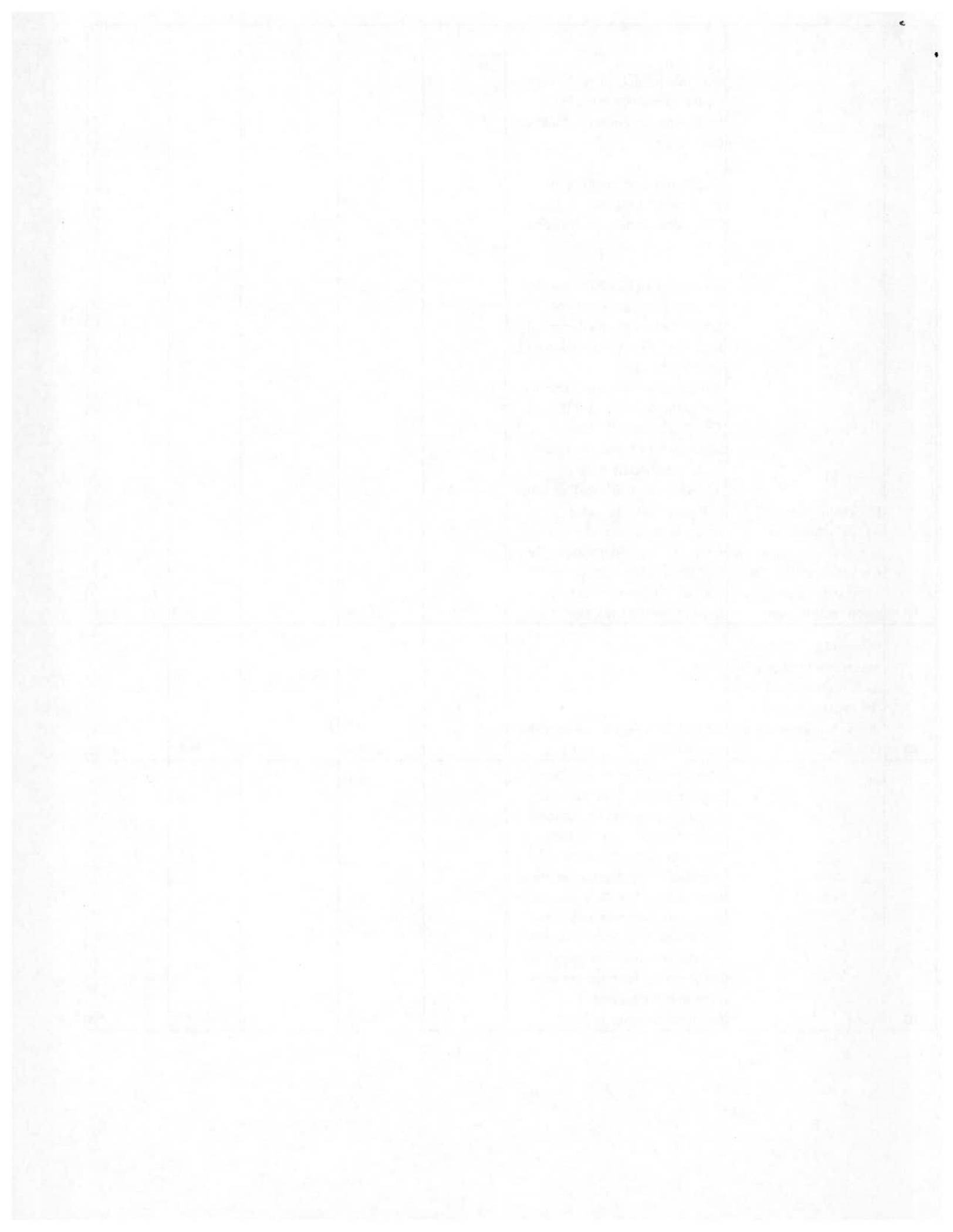


Created by educators and policymakers in 1987, the National Board for Professional Teaching Standards (NBPTS) is an independent, nonprofit, nonpartisan and nongovernmental organization. NBPTS advances the quality of teaching and learning by developing professional standards for accomplished teaching, creating and administering National Board Certification, a voluntary system to certify teachers who meet those standards, and integrating certified teachers into educational reform efforts. Today, more than 55,000 National Board Certified Teachers (NBCTs) are making a positive difference in the lives of students across the nation.

FOR MORE INFORMATION ABOUT NBPTS AND NATIONAL BOARD CERTIFICATION, VISIT THE NBPTS WEB SITE AT WWW.NBPTS.ORG.

State	State Fee Support *Individual districts may offer support	State Financial Incentives *Individual districts may offer additional incentives	Support Programs	Total Number of Teachers* *	NBCTs Certified in 2010-2011	Total NBCTs	% of Teachers who are NBCTs
AK	None			8,171	14	135	1.7%
AL	None	\$3,500 salary supplement	X	49,363	123	2133	4.3%
AR	Full funding for eligible first-time candidates	\$5,000 annual bonus	X	34,273	311	2,005	5.9%
AZ	\$2,000 and \$1,250 scholarships available to eligible first-time candidates through Arizona K12 Center		X	50,031	80	847	1.7%
CA	None		X	260,806	383	5291	2.0%
CO	\$250 for eligible first-time candidates	\$1,600 annual bonus for all NBCTs; an additional annual \$3,200 for NBCTs in low-performing schools (all subject to available appropriations)		48,543	93	641	1.3%
CT	None	the Connecticut Federation of Educational and Professional Employees (formerly known as the Connecticut Federation of Teachers) will pay ten \$1,000 grants per academic year to federation members teaching in high poverty rural and urban areas.		42,951	3	139	0.3%
DC	None			5,925	10	76	1.3%
DE	None			8,933	0	440	4.9%
FL	None	Annual salary bonus of up to 10% for ten years only still in law; funding has been suspended since 2010.		175,609	94	13618	7.8%
GA	None	10% salary increase is available to those who applied for National Board Certification prior to March 1, 2009.		112,460	9	2611	2.3%

HI	<p>Fee reimbursement of \$1,500 paid upon completion of process; the remainder of the fee is reimbursable upon certification</p>	<p>A \$5,000 bonus per year for each public school teacher who maintains current National Board Certification;</p> <p>\$1,500 upon completing the certification program of the National Board for Professional Teaching Standards</p> <p>An additional \$5,000 bonus per year for each public school teacher who maintains current National Board Certification and who teaches at: A school that is in restructuring under the No Child Left Behind Act, Public Law 107-110; A school with a high turnover rate, as determined by the department; A school that is not making adequate yearly progress, but is not in restructuring under the No Child Left Behind Act, Public Law 107-110; or A hard-to-fill school, as determined by the department.</p>	X	11,396	60	343	3.0%
IA	<p>Payment of half the assessment fee as well as reimbursement of the remaining half upon completion of the process</p>	<p>\$2,500 per year for ten years for eligible NBCTs.</p>		34,642	1	665	1.9%
ID	None	<p>Idaho legislation, Senate Bill 1184, removes the state incentive program for National Board Certification teachers. However, districts will be required to use the money they receive from the state for leadership bonuses under the pay-for-performance plan to pay out the remainder of the \$10,000 in incentives for teachers who earned National Board Certification prior to 2011.</p>	X	15,673	3	372	2.4%



IL	Up to \$2,000 for eligible first-time candidates	Illinois state appropriations, when sufficient, provide an annual \$3,000 stipend for National Board Certified Teachers who hold the Illinois Master Certificate as defined by statute – Illinois Teaching Excellence Program - Public Act 095-0996. In addition, NBCTs are eligible to receive incentives for providing professional development or mentoring to new or experienced teachers.	X	132,983	462	5152	3.9%
IN	None		X	58,121	4	155	0.3%
KS	Up to \$1,000 for eligible first-time candidates	State legislation stipulates that a school district employing a NBCT shall pay a salary incentive bonus of \$1,000 in each school year the teacher retains National Board Certification.	X	34,644	13	355	1.0%
KY	Upon certification, up to 75% reimbursement of out-of-pocket expenses of the National Board Certification fee paid by the candidate	A \$2,000 annual salary supplement for the life of the certificate each year the NBCT teaches or mentors for 50% or more of their time in the certificate area and grade range in which the NBCT certified.	X	42,042	289	2456	5.8%
LA	None	\$5,000 per year stipend for the life of the certificate.		48,655	103	1783	3.7%
MA	None			68,754	15	534	0.8%
MD	Pending the continued availability of state funding, Maryland will pay for 2/3 of the \$2,500 fee for up to 1,000 candidates	A stipend up to \$2,000 a year is available as a dollar-for-dollar match to local school systems if the NBCT teaches in a high-need school otherwise the annual matching stipend from the state is \$1,000. A \$1,500 stipend is available for teachers who hold an Advanced Professional Certificate and work in schools identified by the State Board of Education as having comprehensive needs.		58,428	241	2214	3.8%

Handwritten text in the top right corner, possibly a date or page number, including the number "100".

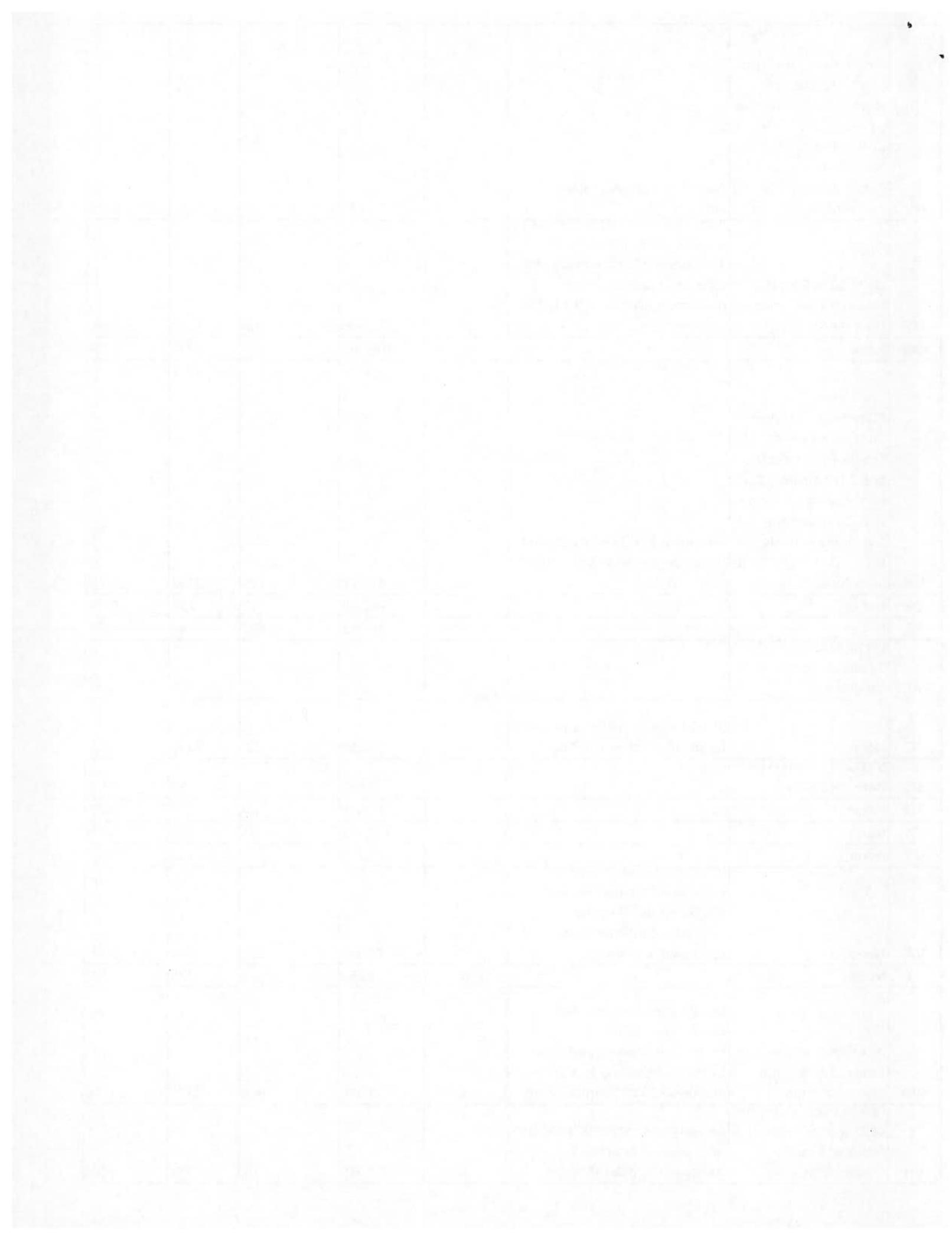
Handwritten text in the middle right section of the page.

Handwritten text in the lower middle right section of the page.

Handwritten text in the bottom right section of the page.

ME	The Maine Department of Education shall award an amount equal to the cost of the certification program, less any other funds received by the applicant, on a first-come first-served basis for the first 20 teachers accepted into the certification program annually	Annual stipend of \$2,500 to any NBCT who teaches in their area of certification and for the life of his or her contract.	X	15,384	11	211	1.4%
MI	None			88,615	9	357	0.4%
MN	None			52,672	14	367	0.7%
MO	None		X	66,735	57	727	1.1%
MS	Reimbursement of the \$2,500 assessment fees upon completion of the certification process (whether certification is achieved or not)	NBCTs receive a salary supplement of \$6,000 per year for the life of the certificate.	X	32,255	92	3317	10.3%
MT	None	One-time \$3,000 stipends for up to 20 NBCTs as funding is approved each biennium	X	10,361	11	103	1.0%
NC	Offers a low interest loan that will pay the assessment fee (\$2500) to eligible teachers	12% salary differential upon achievement, good for the life of the certificate	X	98,357	1,247	19195	19.5%
ND	Up to half the assessment fees for a limited number of qualifying first-time candidates	North Dakota will pay an individual who received National Board Certification before July 1, 2007, one thousand dollars (\$1,000) for each year the individual has maintained and continues to maintain National Board Certification		8,417	4	36	0.4%
NE	None			22,345	9	95	0.4%
NH	None			15,365	1	20	0.1%
NJ	None		X	110,202	12	224	0.2%
NM	None	National Board Certified Teachers in New Mexico receive an annual stipend which is equal to 1.5 program units	X	22,437	95	675	3.0%

NV	Based on availability of funds, the State of Nevada may reimburse a portion of out-of-pocket fees paid after National Board Certification is achieved and verified	Annual five percent salary increase		21,839	29	518	2.4%
NY	Up to \$2,000 for the first 210 eligible first-time candidates	If the school district applies and is approved by the state, an annual \$10,000 stipend may be for 3 years to teach in low-performing schools and mentor new teachers	X	211,606	165	1302	0.6%
OH	None			109,282	33	3296	3.0%
OK	Placed a moratorium on National Board Scholarships for 2011 and 2012 meaning that no scholarships will be issued through the Oklahoma Commission for teacher Preparation after June 30, 2010	An annual \$5,000 salary stipend (as per regulation) for the life of their certificate	X	41,278	175	2992	7.2%
OR	None		X	28,109	12	256	0.9%
PA	None		X	129,911	133	904	0.7%
RI	Up to \$750 for the first 75 eligible first-time candidates		X	11,212	22	439	3.9%
SC	None	\$5,000 annual salary supplement for the life of their certificate	X	45,210	359	8139	18.0%
SD	\$2,000 for eligible first-time candidates			9,512	15	90	0.9%
TN	None		X	66,558	49	535	0.8%
TX	None			334,997	81	711	0.2%
UT	None			25,677	8	213	0.8%
VA	None	Initial \$5,000 award with a subsequent annual award of \$2,500 for the life of the certificate contingent upon continued funding	X	70,947	195	2378	3.4%
VT	None		X	8,382	4	128	1.5%
WA	A conditional loan that funds \$2,000 of the assessment fee	\$5,000 annual bonus upon certification; NBCTs in challenging schools, as defined by the state, will receive an additional \$5,000 annual bonus	X	53,934	946	6175	11.4%
WI	Reimbursement for the costs associated with National Board Certification	Annual grants of \$2500 or \$5000 for 9 years after achieving National Board Certification	X	57,625	67	851	1.5%



WV	Reimbursement for up to \$2,000 of the assessment fee	Reimbursement of \$600 for certification expenses; annual \$3,500 supplement for life of certificate	X	20,338	53	635	3.1%
WY	\$1,000 for eligible first-time candidates	A bonus of \$4000 per year for the life of the certificate	X	7,127	51	365	5.1%

**As of 2010, these states offered license reciprocity*

***SOURCE: Common Core Data (CCD): 2010-2011, National Center for Education Statistics / State Education Data Profiles*

Year	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Population	100,000	105,000	110,000	115,000	120,000	125,000	130,000	135,000	140,000	145,000	150,000
Area	100	100	100	100	100	100	100	100	100	100	100
Population Density	1,000	1,050	1,100	1,150	1,200	1,250	1,300	1,350	1,400	1,450	1,500

The following table shows the population and area of the region from 1950 to 1960. The population density is calculated as the population divided by the area.

Year	Population	Area	Population Density
1950	100,000	100	1,000
1951	105,000	100	1,050
1952	110,000	100	1,100
1953	115,000	100	1,150
1954	120,000	100	1,200
1955	125,000	100	1,250
1956	130,000	100	1,300
1957	135,000	100	1,350
1958	140,000	100	1,400
1959	145,000	100	1,450
1960	150,000	100	1,500

National Board Certified Professional Educator

Survey of Oklahoma National Board Certified Teachers (NBCTs)

NBCTs from across the state of Oklahoma

86.6 % earned bachelors' degrees from an Oklahoma university

44.6 % hold Master's degrees

4.3% hold Doctorate's degree

53% teach in Title I schools

Primary motivation for initially pursuing NB:

- ♦ financial reward
- ♦ professional development

Skills affected by the NB process:

- ♦ critical analysis of their own teaching skills
- ♦ student assessment data to inform instruction
- ♦ improving student learning
- ♦ improve students' critical thinking skills

NBCTs described both:

- ♦ Quantitative changes
 - ♦ Improvement in students' test results over time
- ♦ Qualitative changes
 - ♦ Student understanding of concepts

"My class average at the beginning of the year on the assessment test was 51%. At the end of the year, my class average was 91%."

"I am constantly assessing, evaluating and analyzing my teaching."

"Through the intensive reflection of my teaching techniques, I learned what was important and what was not. I learned how to replace quantity with quality."

"My student scores have risen from being a 54 in U.S. history to 78 . . ."

"My elementary school has 9 NBCTs, at least one in each grade level except for third. Our music/art teachers are also NBCTs. My school has scored 1500 API for three consecutive years. We were one of 16 schools in the state that scored over 1400 this past year with the new standards."

*"I learned how to differentiate instructions and assessments so that **all** students could make progress."*

Conclusion:

- ♦ Substantial positive impact on teaching practices and achievement of students.
- ♦ NBCTs know how to identify student learning needs and use assessment data to develop instruction to improve student learning.

