Study of the Incentive Program for Washington's National Board Certified Teachers

Prepared for
Washington State Board of Education

June 2010

by

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Executive Summary

Introduction and Study Purpose

Across the nation considerable resources have been invested in supporting teachers through the National Board for Professional Teaching Standards (NBPTS) certification process and beyond as a means of improving the quality of the teacher workforce. The rapidly growing cadre of National Board Certified Teachers (NBCTs) in Washington state and the state policy incentives that support them prompt a closer look at their distribution within and across districts and schools. The purpose of this study is to provide research and analyses in relation to two statewide incentives for acquiring National Board (NB) certification and serving in challenging schools. Due to substantial investments in these policies, the State Board of Education is interested in baseline information on the initial impact of the policy incentive program. In this report, we describe these baseline results regarding the supply, distribution and retention of NBCTs in Washington state. In 2007-08, the Washington State Legislature increased the annual salary enhancement for NBCTs to $5,000 and added an additional bonus of $5,000 for those who work in the state's highest poverty schools. In this study, we examine the teacher workforce both prior to and after recent changes in the state's incentive program.

Study Methods and Findings

The study was conducted using surveys and secondary analyses of state databases to examine the characteristics of NBCTs, the types of schools and districts in which they work, the assignments they assume, their retention and mobility patterns, and the views of teachers and principals regarding NB certification and the state's incentives. Comparisons are made to all teachers statewide and to a similar group of teachers who have not obtained NB certification. Surveys of a sample of NBCTs, non-NBCTs and administrators were conducted during the 2009-10 school year. Secondary analyses of state datasets included all Washington NBCTs working in public schools over a four year period (2006-07 through 2009-10). This Executive Summary provides an overview of the major findings.

Increasing Numbers of NBCTs Statewide

From 2000 onward the number of teachers applying for achieving NB certification has grown considerably. Washington state ranked second in the nation for the number of new NBCTs in 2009 (1,251), and now ranks fifth nationally in the total number of NBCTs (4,006). The number of NBCTs working as classroom teachers in K-12 public education in Washington more than tripled from 2006-07 to 2009-10, raising the proportion of teachers who are NBCTs from 1.9 to 6.0 percent of the total teacher workforce. The vast majority of those who achieve NB status work as classroom teachers, both prior to and after NB certification.

Characteristics and Distribution of NBCTs has Changed with Increasing Numbers

Thirty-one percent of all Washington NBCTs certified in 2009. Washington NBCTs are increasingly younger with mid-career levels of experience, and a larger proportion are female or hold advanced degrees than teachers statewide. The NBCTs certified in 2009 reflect increasing proportions of teachers of color, though still lower than state averages. The regional distribution of NBCTs in teaching assignments roughly corresponds to the statewide pattern, with the exception of the Central Puget Sound region where 43 percent of NBCTs are located compared to 37 percent of teachers statewide. A slightly smaller proportion of NBCTs are located in schools within towns or rural areas, and a slightly larger proportion of NBCTs work in middle schools and high schools compared to other teachers.

While a larger proportion of NBCTs are located in low-poverty schools and in schools where students typically perform better on the state's student assessments (e.g., Washington Assessment of Student Learning), the proportion of NBCTs located in higher-poverty schools (over 60 percent students served by Free or Reduced Price Lunch program - FRPL) has increased in recent years and is growing closer to the state average (20 percent of NBCTs compared to 22 percent of non-NBCTs in 2008-09). NBCTs were located in schools with similar proportions of students of color compared to teachers statewide. Proportionately more NBCTs hold endorsements in mathematics, science and English/Language Arts than other teachers, though due to data limitations it is not possible to know if those holding a particular endorsement teach in their endorsement area.

Most NBCTs Remain in the Classroom; Few Change Formal Assignments

The overwhelming majority of Washington NBCTs (91 percent) work as classroom teachers for at least a portion of their formal assignment. The remaining 9 percent of NBCTs serve in other support, specialist or administrative roles. From one year to the next, approximately five percent of NBCTs working as classroom teachers change from a teaching position to another type of assignment, most often to a support staff, specialist or school administrative position.

NBCTs Add New Leadership Responsibilities

Survey results show that NBCTs hold a variety of both formal and informal roles, and that the types of roles they assume increase following certification. Surveys confirm that the most common types of roles taken up after certification include school-based coach or lead teacher, and district curriculum or subject matter specialist. The majority of NBCTs indicated they are somewhat or very interested in future leadership roles, particularly with regard to mentoring beginning teachers or experienced teachers in a content area.

Teacher Retention Rates Rise in Recent Years for Both NBCTs and Non-NBCT; NBCTs Move More Frequently but Exit at Lower Rates

Since 2006, the percentage of teachers who stay in the same school from one year to the next has risen from 83 to 87 percent, due in part to the recent economic downturn. Retention rates are similar for NBCTs and non-NBCTs, though NBCTs have higher rates of mobility from one school or district to another, and lower rates of exiting the workforce compared to teachers statewide. We also examined the retention and mobility patterns of NBCTs to a comparison group of teachers similar to NBCTs but who had not obtained NB certification. We found that NBCTs and the comparison non-NBCT teachers had similar rates of retention but that NBCTs showed a pattern of higher rates of mobility (movement between schools and districts) and lower rates of exiting the workforce. However, for both NBCTs and comparison non-NBCTs, as the proportion of students of color in a school increases, the percentage of teachers who stay in the school from one year to the next, declines. Retention rates do not vary substantially for teachers holding endorsements in mathematics and science, though they reflect higher rates of mobility among NBCTs in some fields. Analyses by regional location or school level (e.g., elementary, middle, or high) reveal minimal differences between NBCTs and comparison non-NBCTs, with differences driven in part by the NBCTs overall higher rates of mobility in and out of district.

Challenging Schools Are Among the State's Lowest Performing

The "challenging schools" criteria was established by the state specifically for the purpose of awarding the additional bonus of $5,000 for NBCTs working in identified schools. The current challenging schools criteria, which is based on student poverty, captures most of the state's lowest performing schools and reflects a segment of the student population that is struggling academically. Among the schools on the state's school improvement lists (persistently lowest achieving schools identified as Tier I or II), all 26 Tier I schools and 19 of the 21 Tier II schools also are identified as challenging schools. The remaining two Tier II schools that did not meet the poverty criteria cut off included a middle school and a junior high. In our analysis of the challenging schools, very few of the schools served students who scored at or above the state mean on 4th, 7th or 10th grade reading or mathematics assessments in any given year. Overall, challenging schools also serve larger proportions of students of color than schools statewide.

Change in Challenging Schools Criteria Impacts Types of Schools and Number of Teachers Eligible for Incentive

The revision of the challenging schools criteria in 2008, which lowered the poverty cutoff for middle and high schools (from 70 percent, to 60 and 50 percent FRPL, respectively), increased the number of secondary schools eligible for the challenging schools incentive. The total number of eligible schools increased by 43 percent from 2007-08 to 2009-10. The change increased both the proportion of secondary schools and the proportion of schools with 800 or more students enrolled. The proportion of challenging schools located in Eastern Washington declined from 58 to 49 percent, though the actual number of schools identified as challenging increased in the region. Changing the school criteria also increased the potential number of NBCTs eligible to receive a bonus, either by NBCTs staying in a school now designated as challenging, or by increasing the potential options to move to an opening in a challenging school.

More NBCTs in Challenging Schools and Districts After Incentive, but Many Schools Still Have None

Both the overall number and proportion of NBCTs working in challenging schools and districts increased during the first three years of the incentive. The total number of NBCTs working as classroom teachers in challenging schools increased from 79 in the Baseline Year (2006-07) to 746 in Year Three (2009-10) of the incentive program. The increase is partly due to the changing school criteria after the first year. However, the percentage of NBCTs of the total workforce in challenging schools increased three percent alone in Year Three indicating that the number of NBCTs was increasing substantially, even after the change in criteria. The number of NBCTs located in a single school also increased during the first three years of the incentive. Fifteen percent of the challenging schools in Year Three had four or more NBCTs working as classroom teachers, compared to only two schools in the Baseline year. Prior to the incentive program, 69 percent of the districts with challenging schools had no NBCTs in their district. By Year Three, this percentage had dropped to 40 percent, and the number of districts with more than ten NBCTs jumped from two to 24.

Nevertheless, three years into the initiative, 42 percent of challenging schools had no NBCTs teaching in their buildings. A disproportionate number of challenging schools without NBCTs are located in rural areas, especially rural and remote areas, and in Western Washington outside of ESD 121. These challenging schools are also more likely to be small (enrollment under 200 students). However, among challenging schools that serve the highest percentages of students of students of color (75 percent or more), a similar proportion have NBCTs as those that have none.

More Teachers in Challenging Schools Earning NB Certification; NBCTs Stay in Challenging Schools

The most common pattern for increasing the number of NBCTs in challenging schools was for teachers within that school to earn NB certification. A small number of NBCTs moved from a non-challenging to a challenging school in any given year (between four and ten percent). While the policy encouraged more teachers in challenging schools to pursue NB certification than resulted in moves by NBCTs into challenging schools, it can be argued that both strategies are valid. Some would suggest that “growing your own” staff capacity within a high-need school is an effective strategy for school improvement. The study also found that NBCTs are retained at higher rates in challenging schools than other teachers in challenging schools, and NBCTs statewide. Survey responses confirm that among NBCTs certified in 2008 and working in challenging schools, 79 percent indicated that the bonus significantly or moderately contributed to their decision to stay. The fact that NBCTs tend to move at higher rates within their districts than other teachers suggests that they might also be willing to relocate to a challenging school, particularly if they didn’t have to change districts. However, the data also indicate that within the current economic climate, fewer teachers are exiting the workforce, and as a result, the number of opportunities to move from one school or district to another may be limited.

Challenging School Bonus a Factor in Teachers' Decisions to Pursue Certification

While many factors influence a teachers' decision to pursue NB certification, such as viewing the process as a professional development opportunity to strengthen their teaching (two-thirds of NBCTs report this as a strong reason), monetary factors have become another important consideration. Survey respondents in challenging schools provide evidence that after 2007, the monetary incentives were a strong factor in the decision of NBCTs to pursue certification. Seventy-three percent of NBCTs working in challenging schools who certified in 2008 or 2009 indicated that the potential for increased compensation was a strong reason to pursue certification compared with 33 percent of NBCTs working in challenging schools who certified in 2007 or earlier. Sixty-four percent of teachers in challenging schools who have not yet chosen to pursue NB certification reported that the bonus would have a "high impact" on their decision to pursue certification, and an additional 23 percent indicated a moderate impact on that decision. The survey responses of principals in challenging schools confirm that the challenging schools stipend had an impact on encouraging staff to pursue certification with 85 percent indicating a high impact and 15 percent indicating moderate impact. More than any other support or incentive offered, principals agreed that the challenging schools stipend was an important factor in the decision of teachers in their school to pursue certification.

NBCTs Positive Contributions to Instruction, Student Learning and School Community

Based on survey findings, NBCTs report that earning NB certification positively impacted their ability to evaluate individual student needs, use assessments to inform instruction, use multiple instructional strategies and make a difference in student achievement outcomes. In addition, NBCTs in challenging schools reported that becoming an NBCT impacted their ability to understand how cultural and linguistic factors, as well as poverty, affect student learning. Principals confirm that NBCTs had a positive impact on the teachers' ability to work with students and their contribution to the quality of the professional community. In particular, 78 percent of principals indicated a very positive impact of NBCTs' ability to contribute to the quality of the professional community, and 74 percent identified as very positive their ability to assume coaching and mentoring responsibilities.

Policy Implications

The current incentive program for NBCTs has served as an important policy lever in several ways. First, it has acknowledged and rewarded teachers statewide who earned NB certification. The current policy recognizes that all students should have access to high quality teachers, and by rewarding all NBCTs, it recognizes a high standard of professional practice across school contexts. The current policy also acknowledges that not all schools and students have equitable access to high quality instruction. By encouraging NBCTs to work in challenging schools, it promotes and supports their work in schools where they are most needed. Additionally, the incentive program has supported a mechanism for promoting high-quality professional development through the certification process itself, which may positively impact teachers' professional practices regardless of whether or not they earn the credential.

While a number of positive outcomes have occurred during the initial implementation of the incentive policies, there remain areas for improvement so that a greater impact can result across a broader range of school and district contexts. These areas of improvement include the following:

- **The policy is not yet reaching all schools**. While there has been an improvement in the equity of the distribution of NBCTs across schools and districts during this time period, areas of concern remain. There are proportionately fewer NBCTs in challenging schools that are small and in rural or remote areas of the state, particularly in Western Washington outside the Central Puget Sound region.

- **Additional attention is needed to further diversify both the overall teacher workforce and those who become NBCTs**. While the proportion of NBCTs who are teachers of color has increased over this time period, it is still lower than the statewide average. The striking mismatch between the proportion of students of color and teachers of color continues to be a challenge, both for all teachers statewide and for NBCTs.

- **Some academically struggling schools do not meet the current criteria for a "challenging school."** There remain a few schools on the state's list of persistently lowest achieving schools that are not identified as challenging (e.g., do not meet the poverty threshold).

- **The implementation of the incentive program is largely driven by individual teacher choice.** The challenging schools bonus is dependent on individual teachers locating and pursuing potential openings in identified schools, and also dependent on the frequency and availability of potential openings. These openings are influenced by regional labor market conditions and varying teacher retention rates. For some, the uncertainty of future legislative funding and the timing in late spring of the notification for eligible schools also may present unintended obstacles for those who might consider NB certification.

- **There is no explicit link to other state or local improvement efforts.** The incentive to support NBCTs could be linked to the state's school improvement plans or other initiatives to support student learning. The current incentive does not contain any mechanism to systematically match teachers to schools where their skills may be most useful. Many NBCTs have interests and abilities in areas of leadership, mentoring and coaching that could be better tapped.

- **The current policy does not offer differential approaches to address local needs**. Giving districts greater discretion or capacity in identifying from among their own schools those they deem "most challenging" might help them tailor the placement of NBCTs in the most strategic way. This would allow districts to make adjustments to their individual contexts and conditions. The state policy does not address differential district ability to support candidates through the NB process. It is important to recognize that individual district capacity to support teachers through the NB certification process

varies greatly, and indeed less than half of the districts with challenging schools (58 of 136) currently offer any kind of local support for their candidates (e.g., release time or help with videotaping).

Potential Policy Options

Given the outcomes to date and the areas for potential improvement of the state's incentive program, there are a number of options for potential consideration by policymakers. Provided below are several suggestions that are intended as prompts for further policy conversations:

- **Continue with the incentives in place as they are currently constructed.** The incentives both reward accomplished teaching more broadly while strategically targeting the state's highest-need schools. If this option is selected, it would be important to further monitor whether the positive outcomes continue in subsequent years.

- **Make a minor adjustment to ensure that all schools identified as persistently low-achieving are included in the list of challenging schools.** The criteria for identifying challenging schools could be amended to consider both poverty and student performance by including any of the remaining Tier I or Tier II schools on the state's school improvement list that are not also identified as challenging (e.g., do not meet the poverty threshold). In any given year, this would likely be a small number of schools.

- **Consider strategies that may further support increases in the number of NBCTs in challenging schools, particularly those currently untouched by the policy.** As previously described, proportionately larger numbers of challenging schools in rural and remote areas of the state, have no NBCTs. One strategy to consider is to improve the access to information about NB certification to teachers in these areas. This could be accomplished by utilizing NBCTs to deliver informational sessions and have conversations with colleagues. Districts without access to NBCTs could be provided with supports and incentives for teachers who decide to pursue certification. Another approach would be to consider expanding the support for Take One, a professional development opportunity that allows teachers to complete one National Board entry. This strategy provides an introduction to the certification process. School teams could also be encouraged to participate in Take One together. Another strategy would be to develop specific incentives that would encourage groups of NBCTs to move together to challenging schools. This approach has been utilized in other states.

- **Focus on developing an information network that would assist in linking the specific staffing needs of challenging schools with teachers' skills and experiences.** One option would be to **c**reate an information system using online resources that encourages leaders to customize their communication with NBCTs who might be interested in relocating to a challenging school. This system could include information about a school's specific improvement plans and specify the types of teacher knowledge, skills, and abilities that are most needed in that context.

- **Give high-need districts greater discretion to decide which schools are "challenging."** Another option would be for the state to consider giving high-need districts greater discretion or capacity in identifying from among their own schools those they deem "most challenging." This increased flexibility might help districts tailor the placement of NBCTs in the most strategic way, given the individual contexts and conditions present within the district. There are considerable challenges implied in trying to design and implement a more flexible approach, and these factors would need to weighed against potential benefits.

Future Lines of Inquiry

This study provides a baseline for understanding the initial impact of state policy on NBCTs and the teacher workforce statewide and in challenging schools. It is unclear if the current trends regarding an overall increase in NBCTs and their distribution in challenging schools will continue. Given tight budgets due to the economic downturn, it is not possible to predict the trends in hiring, staffing, and retirement rates that may impact the number and types of available openings for NBCTs to consider. Therefore, it will be important to continue to monitor the changing labor market conditions and its relation to the impact of the incentive program.

As the incentive program matures, it will be important to inquire about the impact of NBCTs on student learning. Given that the state is making progress in developing the capacity to link individual students and teachers, this type of inquiry will be possible in the future. In designing an inquiry of this type, it will be necessary to have a carefully constructed comparison group of teachers. Additionally, it is important to recognize that NBCTs are part of a larger solution for improving the quality of instruction in schools. Addressing achievement gaps and improving student learning is complex work in challenging schools. Thus, assessing the impact of NBCTs on student learning involves understanding the variance in the demographic conditions, access to resources and supports, school culture and community, and leadership dynamics within the schools and districts in which teachers work.

In sum, our analyses of the initial implementation of the state's incentive program for NBCTs indicates that there is evidence of improvement in addressing the dual goals of increasing the overall numbers of NBCTs and providing increased access to NBCTs in challenging schools. It will be important to watch whether these trends continue in subsequent years.

Introduction

High-quality teachers are one of the most valued resources in any school system as good teaching is essential to support student learning. The National Board for Professional Teaching Standards (NBPTS) has been at the forefront of efforts to raise the professional status of teachers and to encourage high quality teaching. Since 1993, NBPTS has been setting standards for accomplished teaching and certifying teachers who meet the criteria. National Board (NB) certification has become one of the most visible nationwide efforts to recognize and reward teaching quality. States have invested considerable resources in supporting teachers through the certification process and beyond, as a means of improving the quality of the teacher workforce.

Washington state now ranks fifth nationally in the total number of National Board Certified Teachers (NBCTs). The rapidly growing cadre of NBCTs in the state and the state policy incentives that support them prompt an examination of their characteristics and distribution within and across schools and districts. In 2007-08, the Washington State Legislature increased the annual salary enhancement for NBCTs and added a bonus for those who work in the state's highest poverty schools. In this report, we describe the baseline results from a study of the supply, distribution and retention of NBCTs in Washington state, both prior to and after recent changes in the state's incentive program.

The study was conducted using surveys and secondary analyses of state databases to determine the characteristics of NBCTs, the types of schools and districts in which they work, the assignments they assume, their retention and mobility patterns, and the views of teachers and principals regarding the impact of NB certification and the state's incentives. Comparisons are made to all teachers statewide and to a similar group of teachers who have not obtained NB certification.

Study Purpose

The purpose of this study is to provide research and analyses in relation to two statewide incentives for acquiring NB certification and serving in challenging schools. Due to substantial investments in these policies, the State Board of Education (SBE) is interested in baseline information on the initial impact of the policy incentive program. The study questions are as follows:

Overall Question: Do the incentives for attaining National Board certification and serving in challenging schools make a difference in the mobility, distribution and retention patterns among NBCTs compared to teachers with similar characteristics who teach in schools with similar characteristics and do not obtain this certification?

Sub-questions:

1. What are the characteristics of the teaching workforce in challenging schools, both prior to, and after the incentive began, and how have these characteristics changed over time?
2. In what ways are the characteristics of NBCTs different from other teachers statewide, in terms of: a) the level of education and experience; b) the types of schools (elementary, middle or high) and districts in which they teach; c) overall retention/mobility rates; d) gender, age and race/ethnicity; and d) the certification and endorsements held?
3. What are the mobility/retention patterns of NBCTs in different types of schools and districts (e.g., elementary, middle, high, socioeconomic status) and how do these patterns compare with teachers with similar characteristics who do not obtain this certification, both before and after the incentive program began?
4. What are the characteristics of the schools and districts in which NBCTs are located statewide (e.g., by region, socioeconomic status level, percent students of color, student performance), and in what ways are they similar and different from state averages?
5. What proportion of NBCTs work as classroom teachers either full or part-time? Who and how many have moved from teaching to principal, assistant principal, or some duty root other than that of a classroom teacher (e.g., instructional support specialist, librarian, etc.)?
6. In what ways do NBCTs affect the culture of the school/department where they work, and does it depend on other factors as well, such as the proportion or number of other NBCTs that are present?
7. What do educators believe are the strengths and weaknesses of the current incentive program, and how could the weaknesses be addressed?
8. What are the policy implications of these findings?

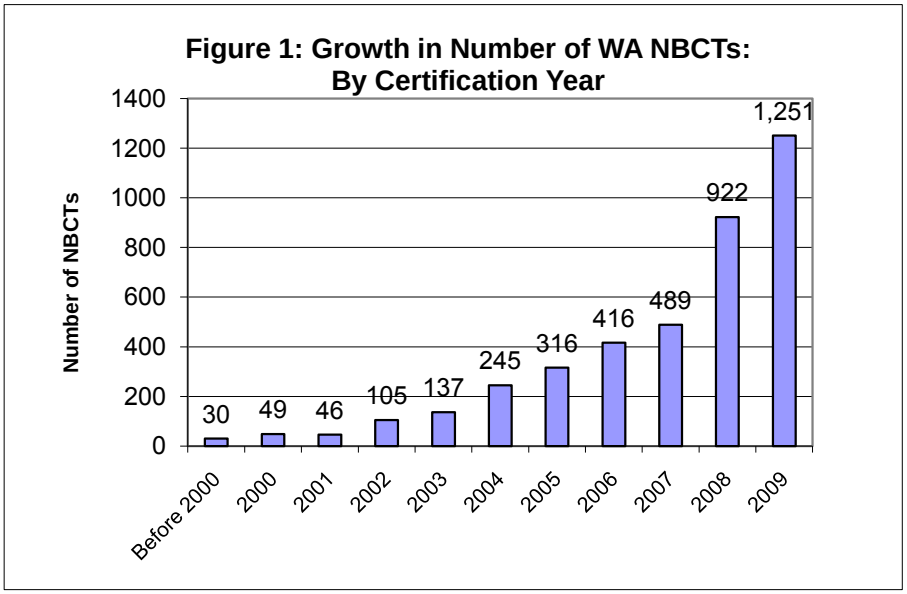
In this report, we provide data and analyses in response to these questions. Additional detailed data tables and other supporting documents are located in the Appendices.

The State Policy Context for National Board Certified Teachers in Washington[1]

In the early years of the NBPTS effort in Washington state (from 1994 to 1999) only 30 Washington teachers received NB certification. However, in the past decade, the number of teachers applying for and achieving NB certification has grown considerably. As of November 2009, the total number of Washington teachers with NB certification reached 4,006. Though some have since retired and others work elsewhere, the vast majority (92 percent or 3,686) were working in the Washington public education system in the 2009-10 school year. As a result of this substantial growth of NB teachers in recent years, Washington state ranked second in the nation for the number of new NBCTs

[1] For a brief summary of the research literature about National Board Certified Teachers, please see Appendix A.

in 2009 (1,251), and now ranks fifth nationally in the total number of NBCTs (4,006). Figure 1 shows the growth rate in the number of individuals awarded NB certification in Washington state since 2000.



In 2000, the Washington State Legislature passed a $3,500 bonus for NBCTs. A year later, the Washington Initiative for National Board Teacher Certification began as an effort to recruit and support teachers through the process of certification and to build the infrastructure for a network of accomplished teachers throughout the state. Promoted as a means of improving teacher quality, the goal was ultimately to help Washington students achieve higher standards. Through joint funders,[2] the Washington Initiative provided more than $4 million to support assessment fees, development of a network, increased awareness of NBPTS and candidate support programs at universities around the state (Stokes, St. John, Helms & Maxon, 2004).

In 2007-08, the Washington State Legislature increased the annual salary enhancement for teachers who achieve NB certification from $3,500 to $5,000. Beginning in 2007-08, NBCTs were also eligible to receive an additional $5,000 bonus as a teacher or other certificated instructional staff in schools identified as "challenging" by the state. Challenging schools were initially defined by 70 percent of students participating in the Free or Reduced Price Lunch Program (FRPL). Given the predominance of elementary schools identified as challenging using this measure, the 2008-09 Washington State Legislature changed the criteria to include 50 percent of student FRPL headcount for high schools, 60 percent for middle schools and 70 percent for elementary schools.

[2] This effort was funded by the Bill and Melinda Gates Foundation, the Stuart Foundation and Washington Mutual.

In the past, most candidates who applied also were awarded a scholarship to pursue certification. In 2009-10, however, the scholarship was changed to a conditional loan. Compounding this analysis is the economic downturn in which teachers may have fewer opportunities to move from one school or district location to another as nearly half of the districts in the state issued reduction in force (RIF) notices to three percent of the state's workforce in Spring 2009. While an analysis of the impact of RIF notices revealed that 87 percent of teachers were later rehired (Plecki, Elfers & Finster, 2010), the considerable uncertainty generated by layoff procedures may have influenced the number of potential openings for NBCTs to consider.

Study Methods

In order to respond to specific research questions about how incentives for attaining NB certification may have impacted the distribution, retention and mobility patterns of Washington NBCTs in challenging schools and throughout the state, we employed two research strategies: 1) analyses of longitudinal databases encompassing all of the state's classroom teachers from 2006-07 to 2009-10; and 2) surveys of NBCTs, teachers identified as potential candidates to pursue NB certification, and principals during the 2009-10 school year.

Database Analyses

The University of Washington (UW) research team provided a rigorous quantitative analysis of existing data through a longitudinal, multiple-year design. The design permits comparisons to be made between NBCTs and other teachers statewide beginning in 2006-07 (baseline) and in three successive years (2007-08, 2008-09 and 2009-10).[3] While a number of state databases are used in this study, the core data comes from the Washington state personnel database (S-275), the certification database, and school and district demographic information.[4] We were able to integrate data across the various state databases and match information with lists of NBCTs who received certification. The resulting quantitative analyses generate a portrait of how NBCTs are situated, both statewide and in challenging schools, as compared to the overall teacher workforce in Washington.

We identify teachers as NBCTs in the school year in which they receive certification. Non-NBCTs include those teachers who have never pursed NB certification as well as those who were unsuccessful or who have not completed the certification process. To focus more closely on how NBCTs are distributed across districts and schools, we compare district and school characteristics of NBCTs to those of teachers statewide (non-NBCTs), as well as a group of non-NBCTs who share similar

[3] Analyses with the 2009-10 data are based on preliminary personnel data.
[4] At the time of the writing of this report, the school demographic data was not uniformly available for the final year of analysis (2009-10) and consequently, some data elements were not used for Year Three. Additionally, given the timing of the state's student assessments, student performance data was not yet available for 2009-10.

characteristics. We calculate retention and mobility rates through the use of four categories: stayers in the same school, movers in district, movers out of district and exiters. Definitions of these terms are located in Appendix B. We are also interested in how district and school characteristics change when teachers moved from one school or district to another following the incentives. The year prior to the changes in incentives (2006-07) serves as a baseline for the study and we refer to it throughout the report as the Baseline Year. The first year of the challenging schools incentive for NBCTs was 2007-08 and we refer to it as Year One. In Year Two (2008-09), the state's definition of a challenging school changed. The final year of the study is 2009-10, and is referred to as Year Three.

Surveys

Washington's existing state databases do not provide information on why teachers decide to pursue NB certification, the impact of incentives on their decision to pursue certification or move to a challenging school or their views regarding the contribution of NB certification on classroom practice, student learning and school community. To understand how NB certification and the incentive program may have impacted teachers' decisions and professional practice, a series of surveys were designed.

The Center for Strengthening the Teaching Profession (CSTP) launched three online surveys on October 1, 2009. One survey was designed specifically for currently certified Washington NBCTs, while a second survey targeted their principals. A third survey was sent to teachers identified by NBCTs or their principals as strong future NBPTS candidates. The NBCT survey was emailed directly to NBCTs, with a request to forward the non-NBCT survey and the principal surveys. The Association of Washington School Principals (AWSP) sent a message to all principals on October 2, requesting that they forward the non-NBCT survey to their school staff who would be strong potential NB candidates. The surveys closed on October 15, 2009. In November, NBPTS certification results were announced for the 2009 NBCTs. In March 2010, a fourth survey was sent to 1,224 of the new 2009 NBCTs. Data on response rates is located in Appendix C.

NBCT survey respondents represent a cross-section of NBCTs statewide. The Washington NBCT respondents proportionately matched NBCTs across the state along a number of characteristics including gender, years of teaching experience, highest degree earned and ethnicity. However, proportionately fewer NBCTs from the Central Puget Sound region (ESD 121) (25 percent) responded to the survey compared to the overall population of NBCTs in that region (43 percent).

For the NBCT survey administered in October 2009 (NBCTs certified through 2008), the proportion of respondents from challenging schools (23 percent) was slightly higher than the state average (17 percent). Respondents to the 2009 NBCT survey administered in March, also reflected a higher proportion of NBCTs in challenging schools (36 percent) compared with the statewide average (22 percent). See Appendix C for more detailed information on survey respondents.

Study Findings

The findings for this study are presented in five parts. First, we examine characteristics of NBCTs in Washington state and the schools and districts in which they work and provide comparisons with state averages. Next, we analyze retention and mobility patterns for NBCTs, including a comparison with teachers who have similar characteristics but did not obtain NB certification. Third, we examine the characteristics of the state's challenging schools and the teachers who work in them, noting changes that occurred prior to and since the incentives were enacted. Fourth, we consider the contributions of NBCTs to instruction, student learning and school community from the survey findings. The report concludes with a discussion of policy implications.

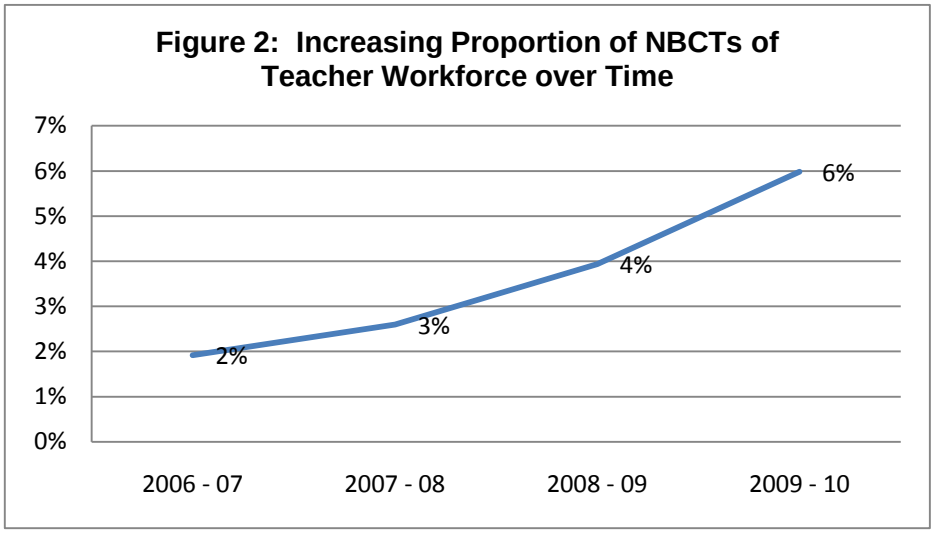
Characteristics and Distribution of the NBCT Workforce in Washington

Key Findings at a Glance

The number of NBCTs in Washington has dramatically increased since 2006. The vast majority of NBCTs work primarily as classroom teachers, both before and after NB certification. After certification, some NBCTs do assume additional informal teacher leadership roles and responsibilities. When compared to teachers statewide, a greater proportion of NBCTs have mid-career levels of experience and are more likely to hold a Masters degree. As it true for all teachers statewide, the proportion of NBCTs who are persons of color is much lower than the proportion of students of color served in the state. However, NBCTs are located in schools with similar proportions of students of color compared to teachers statewide.

The regional distribution of NBCTs roughly corresponds to teachers statewide, with the exception of Western Washington outside ESD 121 where they are under-represented. Compared to other teachers, a slightly larger proportion of NBCTs work in middle and high schools and in low-poverty schools. However, in recent years, the proportion of NBCTs located in the highest poverty schools has increased and is now close to the state average for all teachers.

As mentioned earlier, from 2000 onward the number of teachers applying for and achieving NB certification has grown considerably. As of November 2009, Washington gained 1,251 new NBCTs, though not all of them work in the state's K-12 public education sector. As Figure 2 shows, the number of NBCTs working as classroom teachers in K-12 public education in Washington more than tripled from 2006-07 to 2009-10, raising the proportion of teachers who are NBCTs from 1.9 to 6.0 percent of the total teacher workforce. The percent of NBCTs represented in the teacher workforce in Washington is twice the national average of 3 percent (NBPTS, 2010). In addition to those with NB certification who work as classroom teachers, approximately nine percent of NBCTs work in other roles in public education. Appendix D-1 provides a table summarizing the number of individuals who earned NB certification and the total number of NBCTs working in the Washington education system in the baseline year and in the first three years of the incentive programs.



In 2009-10, the overwhelming majority of NBCTs (91 percent) were in classroom teaching positions for a least a portion of their assignment (3,352 teachers of 3,686).[5] The remaining 334 NBCTs (9 percent of all NBCTs) worked in other support, specialist or administrative roles, such as a counselor (26 percent), library media specialist (20 percent), or in administrative roles such as a certificated administrator (16 percent).[6] We refer to these individuals as "other NBCTs."

A small proportion of NBCTs change assignments from one year to the next. Fewer than five percent of NBCTs working as classroom teachers move to a different

[5] In our examination of how NBCTs are distributed across Washington state, we compare the characteristics of NBCTs to all teachers in the state who do not hold NB certification. We chose to display and discuss Year Three, the most recent year available (2009-10) since our analysis indicates that the overall descriptive statistics show little variation over this time period.

[6] Due to limitations in the data elements collected by state data systems, we cannot know specifically about some kinds of roles and specific duties that teachers often assume (e.g., mentor, coach, department head, etc.).

primary assignment in the following year. Of those who change from classroom teaching as a primary duty, the majority work in other support staff positions (e.g., library media specialist, counselor, etc.). In two of the three time periods examined, approximately one quarter of those changing assignments moved into a role in school administration (fewer than 15 individuals in any year). A small number of other NBCTs (not classroom teachers) change formal assignments (less than 40 individuals in any given year). For these individuals, the most common move was back to an assignment as a classroom teacher (for more information, see Appendix D-2).

While we are able to track changes in formal assignments from state data, we recognize that NBCTs are involved in other informal teacher leadership roles. Consequently, survey findings allow us to understand more about the informal roles teachers hold. The CSTP surveys asked NBCTs to indicate what role(s) they held prior to and following NBPTS certification. Results of the survey show that 95 percent of NBCT respondents indicated they were classroom teachers before certification, and 77 percent were classroom teachers after.[7] Some NBCTs (18 percent) assumed other teaching roles after certification, serving as Teachers on Special Assignment/lead teachers, and curriculum specialists or coaches, roles that give NBCTs the opportunity to help their colleagues improve. Only 2 percent of survey respondents indicated that they left the classroom after certification for administrative roles such as principals or other school/district administrators. NBCTs indicated that they assumed additional leadership roles after certification, including mentoring, consulting, and working with universities. Many respondents indicated that after certification they worked to assist colleagues through the NBPTS process as support facilitators (see Table 1 for more information).

[7] The survey respondents are not an identical group to the NBCTs represented in the database analyses and survey questions were framed in way that would capture different kinds of information. Therefore, responses to these questions will reflect differences based on the data source and population represented.

Table 1: October NBCT Survey: What positions did you hold prior to and following NB Certification? *n=1,133*			
	Prior to NB Certification	After NB Certification	Percentage Change
Teaching Roles			
Classroom teacher	95% (1,073)	77% (875)	-18%
School Librarian/Technology Specialist	4% (49)	5% (56)	1%
Teacher on Special Assignment (TOSA)	3% (30)	6% (67)	3%
School-based Coach/Lead Teacher	13% (152)	21% (235)	8%
District-Level Curriculum/Subject Matter Specialist or Coach	8% (86)	15% (165)	7%
Administration			
School Principal	0.5% (6)	1% (12)	0.5%
Other School-Level Administrator	0.6% (7)	2% (19)	1.4%
District Administrator	0.2% (2)	0.7% (8)	0.5%
Leadership Roles			
Mentor	24% (269)	29% (328)	5%
School-level Department Head	21% (238)	20% (231)	-1%
NBPTS Support Facilitator	0.5% (6)	22% (245)	21.5%
Private Consultant	3% (39)	6% (71)	3%
College or University Lecturer	6% (66)	9% (102)	3%

Of those NBCTs working as classroom teachers,[8] over half have between five and fourteen years of experience (59 percent as compared to 39 percent of all classroom teachers), and the vast majority (93 percent) are full-time employees. There are fewer NBCTs at either end of the experience and age continuum, as would be expected given the minimum number of years of teaching experience required for certification. More than two-thirds of NBCTs are in their thirties and forties (68 percent), while 50 percent of the state's teachers fall in this age range. A higher percentage of NBCTs hold a Master's or higher degree compared to other teachers (85 versus 64 percent). Both Washington teachers and teaching NBCTs are primarily white and female, with non-NBCTs having a slightly higher proportion of teachers of color (8 percent) compared with NBCTs (6 percent). The proportion of NBCTs who identify as Asian-American is identical to all teachers statewide (2.6 percent), but the proportion of NBCTs who identify as African-American, Hispanic and Native American is lower than for all Washington teachers. Over one-third of Washington students (35 percent) represent racial and ethnic minorities, while 92 percent of the state's teachers are white (see Table 2).

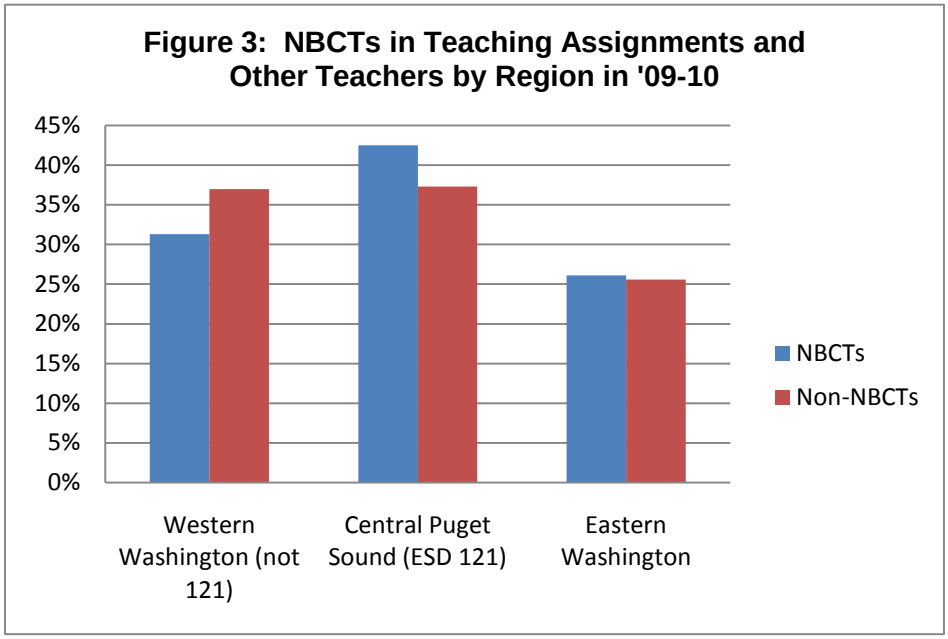
[8] In this report, we define "classroom teacher" as any individual who has been identified for any portion of their FTE assignment in the S-275 with a duty root designation of 31, 32 or 33. See Appendix B for a definition of terms.

Table 2: Student and Teacher Race/Ethnicity: NBCTs and Other Teachers (2009-10) Compared to Students (2008-09)			
Race/Ethnicity	NBCTs N= 3,352	Non-NBCTs N= 52,700	Students Statewide
Asian/Pacific Islander	2.6%	2.6%	8.6%
African American	0.5%	1.5%	5.5%
Hispanic	1.7%	2.7%	15.3%
Native American	0.5%	0.8%	2.6%
White	94.9%	92.0%	64.8%

Given the large number of NBCTs who certified in 2009, some differences emerge when comparing the most recent cohort of NBCTs with NBCTs who certified earlier. For example, nearly as many Hispanic NBCTs certified in 2009 (n = 35) as did Hispanic NBCTs who certified in all prior years (n = 41). This was true for nearly all teachers of color, as the number who certified in 2009 alone at least doubled. NBCTs in nearly all of the When examining years of teaching experience, 21 percent of NBCTs who certified in 2009 had less than six years of teaching experience, compared to just five percent of those who certified in prior years (see Appendix D-4 for details).

The regional distribution of NBCTs in teaching assignments roughly corresponds to the statewide pattern for all teachers. NBCTs are somewhat over-represented in the Central Puget Sound region (ESD 121) where 43 percent of all NBCTs are located but only 37 percent of all teachers. In Western Washington outside the Central Puget Sound region, NBCTs are somewhat under-represented (31 percent compared to 37 percent of all teachers). As Figure 3 indicates, Eastern Washington has nearly identical proportions of NBCTs and non-NBCTs (26.1 and 25.6 percent, respectively). Additionally, nearly identical proportions of NBCTs are in schools located within suburbs or towns as compared to non-NBCTs.[9] A slightly larger proportion of NBCTs are in schools located in cities (31 percent as compared to 28 percent). Half of NBCTs teach at the secondary level (middle or high schools) compared with 45 percent of non-NBCTs statewide. Proportionately more non-NBCTs teach at the elementary school level than NBCTs (47 versus 41 percent). Appendix D-5 provides additional details.

[9] Based on school locale codes as defined by the National Center for Education Statistics (NCES).

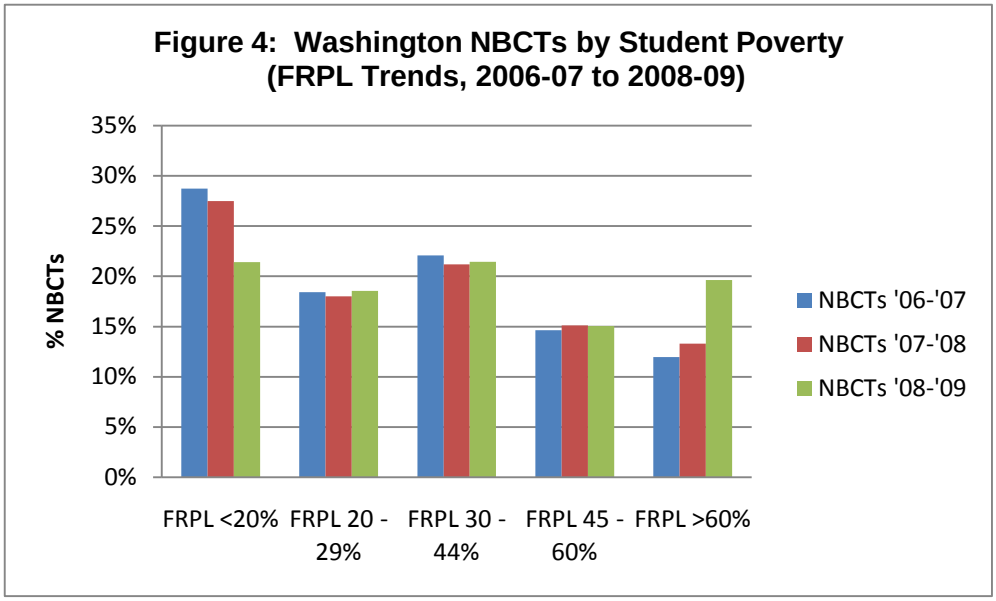


As is the case for all teachers statewide, approximately half of NBCTs are endorsed to teach at the elementary level (see Appendix D-6).[10] Higher proportions of NBCTs hold endorsements in math, science, and English/Language Arts than all teachers statewide. In 2009-10, for example, 14 percent of NBCTs held a science endorsement and 12 percent held a math endorsement, compared to 8 percent for all teachers statewide in both math and science. With respect to English/Language Arts, 22 percent of NBCTs held this endorsement compared to 14 percent of non-NBCTs. Due to data limitations, we are not able to determine if those with a particular endorsement were actually teaching in those areas.

Student Characteristics in Schools where NBCTs and Other Teachers are Located

Overall, a slightly higher percentage of NBCTs are located in the lowest poverty schools (FRPL less than 20 percent) than teachers statewide (21 versus 17 percent). However, in recent years, the proportion of NBCTs located in high-poverty schools (over 60 percent students served by FRPL) has increased and is growing closer to the state average (20 percent compared to 22 percent of non-NBCTs in 2008-09). Figure 5 shows the marked shift in the proportion of NBCTs from the lowest to the highest poverty schools over this time period, particularly from Year One to Year Two. NBCTs were located in schools with similar proportions of students of color compared to teachers statewide in 2008-09.

[10] These proportions represent duplicated counts, as it is common for teachers to hold more than one type of teaching credential or subject matter endorsement. Endorsement data also is more limited for teaches with 25 more years of experience due to changes in the types of credentials awarded over time.



A larger proportion of NBCTs are located in schools where students typically perform better on the state's assessments (e.g., Washington Assessment of Student Learning). By examining the percentage of students scoring at or above grade level in reading and math, we found a nine percent difference in reading and a seven percent different in math between the proportion of NBCTs serving in these schools compared with other Washington teachers. Unfortunately, this dataset does not allow us to examine the distribution of NBCTs within schools at the student level. At this time, we cannot measure the extent to which NBCTs or other classroom teachers are associated with gains made by the students that they teach. For more detailed information on the proportion of NBCTs and non-NBCTs by student FRPL, race/ethnicity and state assessments, see Appendix D-7.

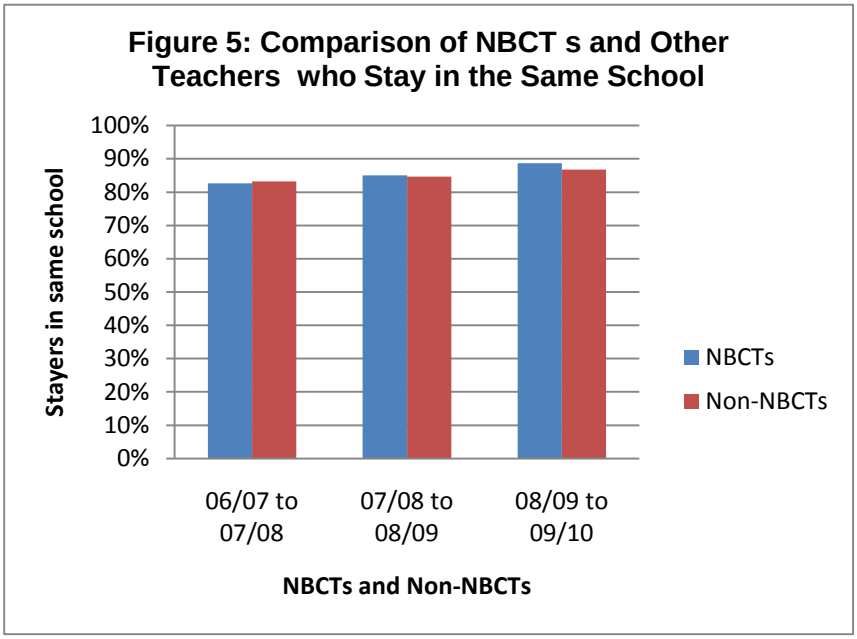
Retention and Mobility Patterns of NBCTs and Other Washington Teachers

Key Findings at a Glance

NBCTs are retained in their schools from one year to the next at rates that are comparable to all teachers statewide. NBCTs have higher rates of mobility from one school or district to another, and lower rates of exiting the workforce compared to other teachers. The same differences are also found when comparing NBCTs to a similar group of teachers who work in the same schools as NBCTs but are not NB certified.

When examining retention rates by endorsement areas, no large differences were noted between NBCTs and the comparison group. Proportionately more NBCTs hold endorsements in mathematics and science than other teachers, though retention rates are not substantially different than other endorsement areas.

On average, annual teacher retention rates in Washington are not substantially different from rates seen nationally (Marvel et al., 2006); approximately 84 percent of Washington teachers remain in their school as a teacher from one year to the next. By examining the teacher workforce in one-year intervals, similar patterns of mobility can be seen for NBCTs in teaching assignments and other Washington teachers. From one year to the next, between 83 and 87 percent of teachers are retained in the same school (see Figure 5). A slightly higher proportion of NBCTs move within their district (8 to 9 percent) compared to non-NBCTs (6 to 7 percent). A similar proportion relocate to another district in any given year (for more information see Appendix D-8).



The proportion of teachers who leave the workforce from one year to the next is lower for NBCTs (3 to 4 percent) than other Washington teachers (6 to 7 percent). This may be attributable, at least in part, to the lower proportions of novice teachers and teachers with 25 or more years of experience. It is also important to highlight the potential impact of the economic downturn from 2008 to 2009. Overall, a smaller proportion of teachers moved to another school or district or exited the workforce during this time. While this year-by-year statewide statistic is instructive and comparable over time, it is not accurate to sum these yearly rates in an effort to calculate long-term retention and mobility rates.

Retention and Mobility Patterns Among NBCTs and Comparable Non-NBCT Teachers

Next we examined the retention and mobility patterns of NBCTs to a similar group of teachers who have not obtained NB certification. Because teacher retention and mobility is highly correlated with certain student, school and regional characteristics, a comparison group of non-NBCTs was created by selecting teachers from within the same schools that NBCTs were located in a given year. Teachers with five or more years of experience who worked in schools where at least one NBCT was located were included in the sample. However, since proportionately fewer NBCTs have 25 or more years of experience compared to other teachers, and because experience is highly correlated with age and exiting the workforce (often due to retirement), we randomly removed a portion of the non-NBCT teachers from the sample until the proportion with 25 or more years of experience was comparable to the NBCTs in that year. The goal was to create a group of teachers who work in the same schools and who share similar characteristics, but who do not hold NB certification.

The retention and mobility patterns for NBCTs and comparison teachers reveal similar patterns, but also some differences. In both cases, the majority of teachers remain

in the same school as a teacher from one year to the next. From the earlier discussion, we also see that retention rates are gradually increasing over this three-year time period for all teachers. However, NBCTs have a slightly higher rate of mobility from one school to another, either within their district or to another district, and a slightly lower rate of exiting the workforce (see Table 3). The number of NBCTs who move to another school or district in any given year ranges from ranges from 143 to 209 individuals.

Table 3: Overall Retention and Mobility of NBCTs and Comparison Non-NBCT Teachers

	NBCTs		Comparison Non-NBCTs	
Statewide	Number	Percent	Number	Percent
Retention and Mobility 2006/07 to 2007/08				
Stayers	893	82.2%	12,098	84.9%
Movers (in or out of district)	143	13.2%	1,209	8.5%
Exiters from WA system	50	4.6%	938	6.6%
Retention and Mobility 2007/08 to 2008/09				
Stayers	1248	84.6%	14861	86.5%
Movers (in or out of district)	162	11.0%	1318	7.7%
Exiters from WA system	65	4.4%	1005	5.8%
Retention and Mobility 2008/09 to 2009/10				
Stayers	1981	88.0%	18369	89.0%
Movers (in or out of district)	209	9.3%	1375	6.7%
Exiters from WA system	62	2.8%	891	4.3%

For both NBCTs and comparison non-NBCTs, the percent of teachers who stay in the same school from one year to the next declines with increasing proportions of students of color. However, overall retention rates among these two groups of teachers are close to state averages for all teachers (see Appendix D-9). We also examined the retention rates of NBCTs and comparison teachers (non-NBCTs) by types of endorsements held. Only minor differences are seen across endorsement areas. It is noteworthy that retention rates do not vary substantially for teachers holding endorsements in mathematics and science. However, slightly lower retention rates were noted for NBCTs holding ESL/ELL and special education endorsements across these years. For more information see Appendix D-10.

Finally, we examined whether any differences existed between NBCTs and comparison teachers by regional location and school level (elementary, middle and high school). In this analysis, we find slightly lower rates of retention of NBCTs, most likely driven by higher rates of mobility in and out of district (see Appendix D-11).

Key Findings at a Glance

The number of "challenging schools" increased across the state during this time period, due in part to a change in the criteria that occurred in the second year of the incentive program which lowered the cut-off for secondary schools. Increases occurred in both the proportion of middle and high schools and those with an enrollment of 800 or more students. Challenging schools represent most of the state's lowest performing schools and serve larger proportions of students of color.

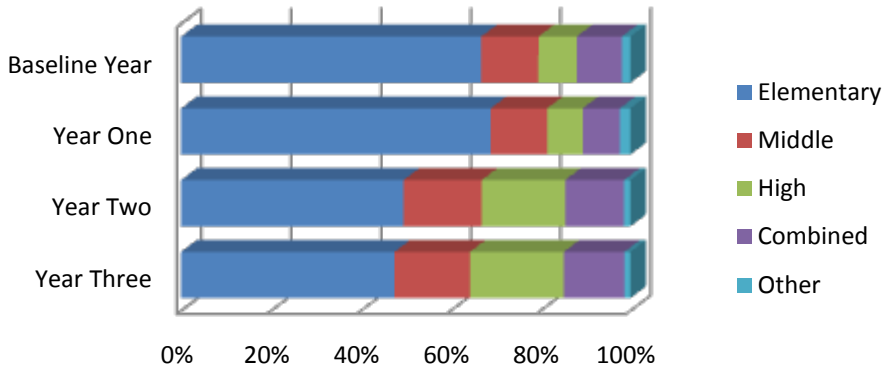
By Year Three of the incentive program, the percent of challenging schools with at least one NBCT increased from 21 to 58 percent. Most of the increase in the number of NBCTs came from teachers earning NB certification who were already located within a challenging school. A small proportion of NBCTs moved from a non-challenging to a challenging school. Challenging schools without NBCTs are more likely to be located in rural, remote areas and in Western Washington outside of ESD 121. Challenging schools with a student enrollment under 200 are much less likely to have an NBCT working in them.

Retention rates of NBCTs working in challenging schools are the same or higher than NBCTs statewide and higher than the other teachers in challenging schools. After the change in criteria, more districts have challenging schools and the number of those districts with NBCTs has increased. However, there are still not enough NBCTs to go around. By Year Three, 40 percent of districts with challenging schools did not have any NBCTs working in the district.

Beginning in the 2007-08 school year, NBCTs were eligible to receive a bonus as a teacher or other certificated instructional staff in schools identified as "challenging" by the state. Initially, the criteria included all schools with 70 percent or more students enrolled in the Free or Reduced Lunch program. As previously described, the criteria was amended in Year Two (2008-09) to include more secondary schools by lowering the FRPL rate to at least 50 percent for high schools and 60 percent for middle schools. The 70 percent poverty rate for elementary schools remained unchanged. By examining the list of schools that would have qualified in the Baseline Year (2006-07), we determined some preliminary characteristics of the challenging schools and the NBCTs who worked in them. In the Baseline Year, 259 schools were identified as challenging and seven percent of all Washington's NBCTs (79 individuals) worked in these schools. Of the challenging schools, two-thirds (n=173) were elementary schools, 13 percent were middle schools and 8 percent were high schools. The characteristics of the schools in Year One of implementation closely resemble the Baseline Year.

With the revision of the challenging schools criteria in Year Two, the number and characteristics of eligible schools changed in specific ways. First, the total number of eligible schools increased by 43 percent (from 254 in Year One to 446 by Year Three). During this same time period, the number of middle schools more than doubled (from 32 to 75) and the number of eligible high schools increased nearly five-fold from 20 to 93. The proportion of elementary schools declined from 69 to 48 percent, though the actual number of elementary schools identified as challenging increased. Figure 6 shows how the change in the criteria for challenging schools impacted the proportion of secondary schools included. Given the increase in the number of eligible secondary schools, it is not surprising that a greater proportion of challenging schools enroll more than 800 students (an increase from 6 in Year One to 35 by Year Three). The Table in Appendix D-12 provides a more detailed description of how the challenging schools changed over this period.

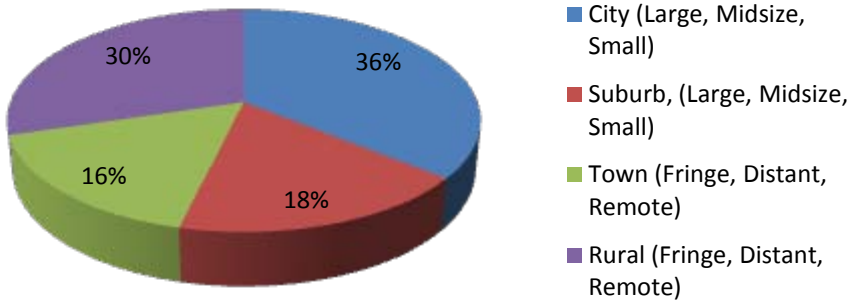
Figure 6: Challenging Schools by School Level before and after Criteria Change



During the period under study, the number of challenging schools increased in all regions of the state. In Year One, more than half of the state's schools were located in Eastern Washington, and by Year Three, that percentage dropped to 49 percent. However, only 29 percent of all schools in the state are located in Eastern Washington. This indicates that a disproportionate share of high-poverty schools are located in the Eastern portion of the state.[11]

The distribution of challenging schools by the type of communities in which they were located (city, suburb town, and rural) remained essentially the same over this time period (see Figure 7). Appendix D-13 contains a table with more information on the characteristics of challenging schools).[12]

Figure 7: Challenging Schools by Type of School Location in Year Three (2009-10)



Changing the school criteria also increased the potential number of NBCTs eligible to receive a bonus, either by NBCTs staying a school now designated as challenging or by increasing the potential options to move to a challenging school.

Challenging Schools are Among the State's Lowest Performing

The current challenging schools criteria, which is based on student poverty, captures most of the state's lowest performing schools and reflects a segment of the student population that is struggling academically. Among the schools on the state's school improvement lists (persistently lowest achieving schools identified as Tier I or II), all 26 Tier I schools and 19 of the 21 Tier II schools were also identified as challenging schools. The remaining two Tier II schools that did not meet the poverty criteria cut off included a middle school and a junior high. In our an analysis of the challenging schools, very few of the schools who scored at or above the state mean on 4th, 7th or 10 grade reading or mathematics assessments in any given year. Overall, student performance in

[11] It should be noted that schools in Eastern Washington are more likely to be small (in terms of enrollment size) compared to other regions in the state, particularly when compared to the Puget Sound region.
[12] For comparison purposes, Appendix D-14 provides detail on the characteristics of schools statewide.

the challenging schools across all three years is very low. [13] Among challenging elementary schools, less than 13 percent served students who scored at or above the state mean on state reading and math assessments. Student performance on state assessments in challenging middle and high schools is also very low. Less than 10 percent of these secondary schools met or exceeded standard in math and reading.[14]

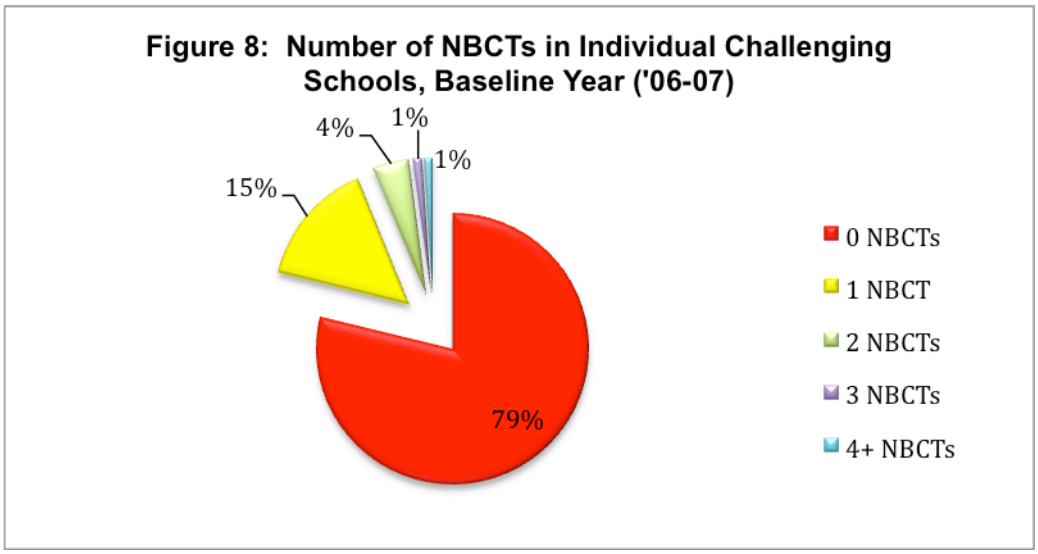
Overall, challenging schools serve larger proportions of students of color compared to other schools statewide. More than half of the challenging schools consist of schools with a student population that is more than two-thirds students of color. In Year Two, the change in school criteria increased the number of schools and the range of students by race/ethnicity. See Table in Appendix D-15 for more information on student race/ethnicity and student performance in challenging schools.

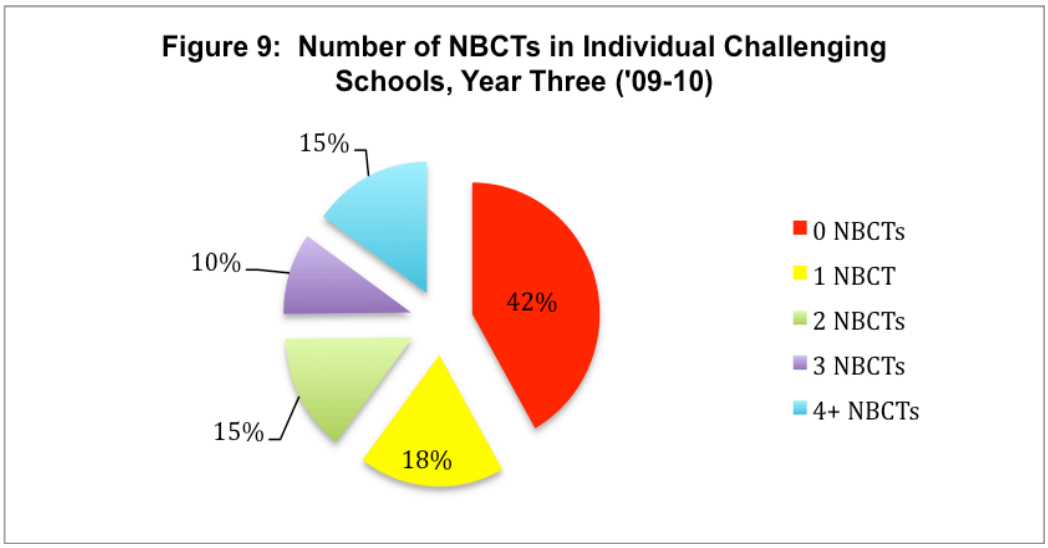
Characteristics of the Teacher Workforce in Challenging Schools

An examination of the characteristics of the teacher workforce in challenging schools indicates that several changes in both the number and distribution of NBCTs have occurred since the state's incentive to work in challenging schools was adopted. The total number of NBCTs working as classroom teachers in challenging schools increased from 79 in the baseline year (2006-07) to 746 in Year Three of the incentive program (2009-10). Additionally, the number of other NBCTs working in challenging schools increased from 6 to 69. It is important to note that this increase in the number of NBCTs in challenging schools was accompanied by a substantial increase in the total number of challenging schools when the criteria for eligibility changed in Year Two.

In the Baseline Year, the vast majority (79 percent) of schools that would have been designated as challenging had no NBCTs working in them. By Year Three, this percentage was nearly halved, with 42 percent of challenging schools having no NBCTs in them. Additionally, by Year Three, the percentage of schools with more than ten percent of its teacher workforce as NBCTs increased five-fold from the Baseline Year (3 to 21 percent). The number of challenging schools with four or more NBCTs working as classroom teachers increased from two in the Baseline Year to 68 in Year Three, comprising 15 percent of all challenging schools. Figures 8 and 9 provide data about the number of NBCTs in individual buildings in the Baseline Year and in Year Three. More information regarding the characteristics of the teacher workforce in challenging schools is located in Appendix D-16.

[13] Student performance data is not yet available for Year Three (2009-10).
[14] Only one exception was found in the case of 13 high schools in Year Two.





While there have been clear increases in both the number of challenging schools and the number of NBCTs working in them from the Baseline Year to Year Three, it is important to note that some differences exist in the pattern and distribution of challenging schools over this time period. As described previously, 42 percent of challenging schools (n = 185) had no NBCTs in them in Year Three. In Year Three, challenging schools without NBCTs in them were more likely to be located in rural areas (especially rural, remote areas) and in Western Washington outside ESD 121 (see Figure 10). Small challenging schools (enrollment under 200 students) were much less likely to have an NBCT working in them than all other enrollment categories. However, a similar share of challenging schools (39 percent) serving very large proportions of students of color (75 percent or more students of color) have NBCTs working in them as compared to schools that do not have any NBCTs. Table 4 provides details regarding comparisons between challenging schools with and without NBCTs.

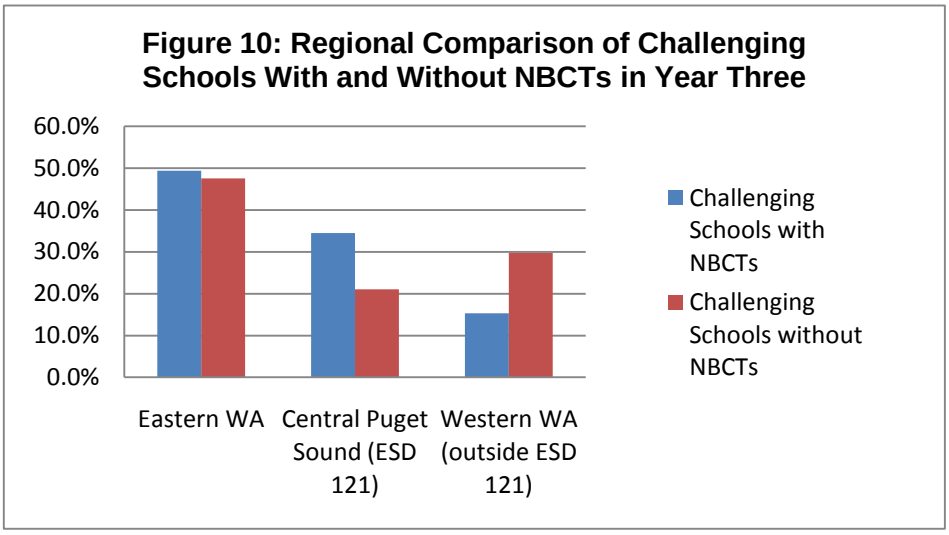


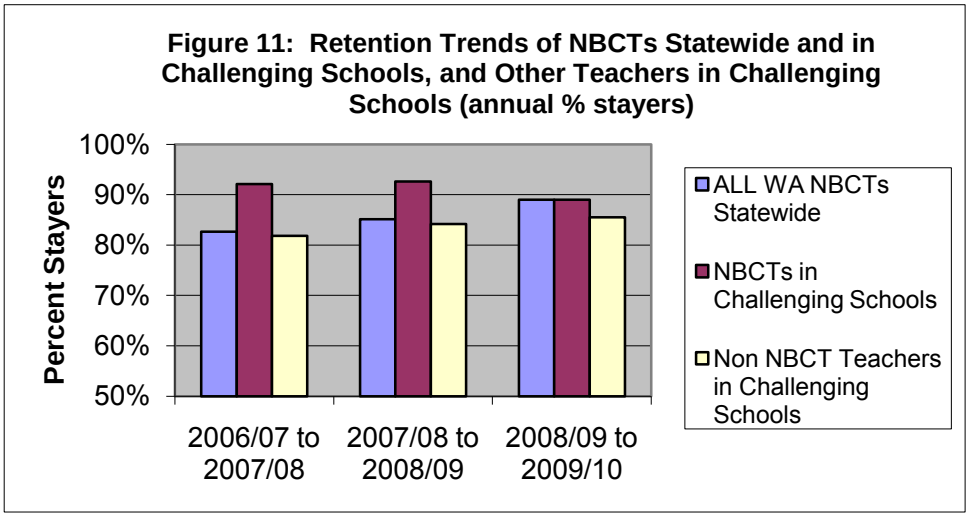
Figure 10: Regional Comparison of Challenging Schools With and Without NBCTs in Year Three
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
Eastern WA
Central Puget Sound (ESD 121)
Western WA (outside ESD 121)
Challenging Schools with NBCTs
Challenging Schools without NBCTs

Table 4: Comparison of Challenging Schools with NBCTs and those Without NBCTs in Year Three (2009-10)			
Characteristics	Chall Schools with NBCTs (N=261)	Chall Schools without NBCTs (N=185)	Percentage Difference
Types of Schools			
Elementary	49%	45%	5%
Middle	22%	9%	13%
High	18%	25%	-7%
Combined	9%	19%	-10%
Other	1%	2%	0%
Schools by Region			
Eastern WA	49%	48%	2%
Central Puget Sound (ESD 121)	34%	21%	13%
Western WA (outside ESD 121)	15%	30%	-14%
OSPI managed sites	1%	2%	-1%
Schools by Location			
City (Large, Midsize, Small)	43%	26%	17%
Suburb, (Large, Midsize, Small)	22%	12%	9%
Town (Fringe, Distant, Remote)	17%	17%	0%
Rural (Fringe, Distant, Remote)	19%	45%	-26%
Schools by Size			
Less than 200 students	8%	46%	-38%
200-399 students	28%	25%	3%
400-599 students	37%	19%	18%
600-799 students	14%	8%	6%
More than 800 students	13%	1%	12%
Schools by Minority Students			
<45%	24%	36%	-12%
45 to 74%	37%	25%	12%
75 to 90%	24%	17%	7%
>90%	15%	22%	-7%
Not available or not reported	0%	1%	0%

Teacher Retention and Mobility in Challenging Schools

When comparing NBCTs in challenging schools to all NBCTs statewide, those in challenging schools stayed in the same school at higher rates from one year to the next, both in the Baseline Year and in Year One (92 and 93 percent compared with 83 and 85 percent for all NBCTs). NBCTs statewide and in challenging schools had equivalent rates of retention and mobility (89 percent) from Year Two to Year Three. We also compared the retention and mobility patterns of other teachers (non-NBCTs) working in challenging schools with NBCTs working in challenging schools. Over the three year period, NBCTs in challenging schools remained in the same school from one year to the next at higher rates than other teachers (see Figure 11). A similar proportion of NBCTs

moved to other schools or districts compared to other classroom teachers in these challenging schools, though a slightly higher proportion of non-NBCTs exited the workforce. For more information on the retention and mobility of NBCTs and other teachers (non-NBCTs) in challenging schools, see Appendix D-17.



The finding that NBCTs in challenging schools have stayed in their school from one year to the next at rates greater than other teachers in challenging schools, and greater than or equal to NBCTs statewide, may be partially explained with survey findings. The challenging schools bonus appears to be a significant factor in retaining NBCTs in challenging schools. Of the October NBCT survey respondents who certified in 2008, nearly all (91 percent) indicated that they remained in the same schools where they receive the challenging schools bonus. When asked about factors that contributed to staying at their school, more than three quarters (79 percent) indicated that the challenging schools bonus significantly or moderately contributed to their decision to stay.

More Teachers in Challenging School Earn NB Certification

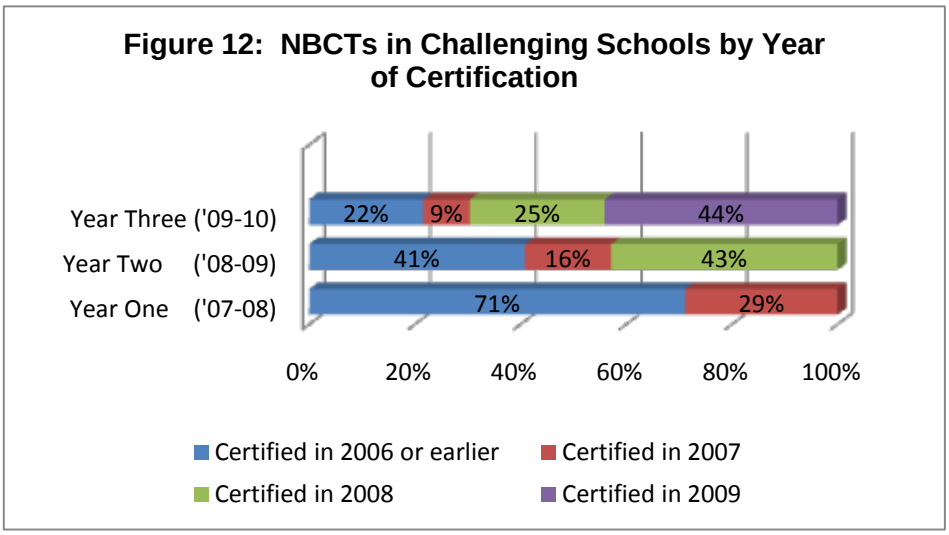
Most of the increase in the number of NBCTs in challenging schools over the three-year time period came from teachers earning NB certification who were already located within a challenging school. We examined the movement of individuals from one year to the next, starting with the Baseline Year. By looking closely at the 118 individuals located in challenging schools in 2007, we determined whether they: (1) were located in the same challenging school in the prior year and stayed, (2) moved from a non-challenging school to a challenging school, or (3) moved from one challenging school to another. In Year One, we see that 89 percent of the NBCTs in this year were already located in a challenging school, while 10 percent moved from a non-challenging school to a challenging school. In Years Two and Three, an even larger proportion of NBCTs in challenging schools stayed in the same challenging school from one year to the next (92 and 94 percent, respectively). While these proportions changed, it is important

to keep in mind that the total number of NBCTs in challenging schools increased from 118 in Year One, to 746 in Year Three. Table 5 provides additional detail regarding the movement of NBCTs in challenging schools.

Table 5: NBCTs in Challenging Schools: Movement in Challenging Schools

	Year One		Year Two		Year Three	
	Number	Percent	Number	Percent	Number	Percent
Of NBCTs located in a Challenging School in given year…	118		387		746	
Retention and Mobility						
Stayed in same school from prior year	105	89.0%	354	91.5%	699	93.7%
Moved from non-challenging to challenging school	12	10.2%	28	7.2%	31	4.2%
Moved from one challenging school to another challenging school	1	0.8%	5	1.3%	16	2.1%

In order determine the extent to which NBCTs in challenging schools gained NB certification while working in a challenging school, we examined the data by the year in which individuals were awarded NB certification. In the Year One year, 71 percent of the NBCTs in the challenging schools were certified prior to the policy change and received the stipend by simply staying in their school. In each successive year, the proportion of newly certified NBCTs in challenging schools reflects a sizable portion of all NBCTs in challenging schools. Figure12 shows how each group of newly certified NBCTs proportionately changed the NBCT workforce in challenging schools.

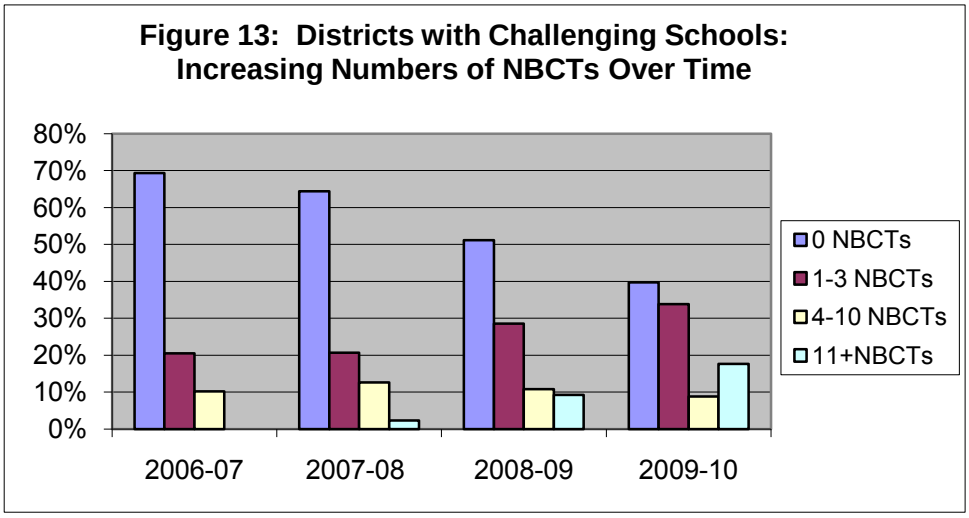


During the first three years of implementation, between 94 and 97 percent of the newly certified NBCTs were notified that they earned certification while working in a challenging school. Indeed, because of the timing of when candidates are notified that they have achieved certification, it is unlikely the newly certified individuals would have moved in the first year as a result of the policy change.

Potential Impact on Districts

The state's financial incentives to locate NBCTs in challenging schools have the potential to enhance the workforce of individual districts. In Year One, only 87 of the state's 295 districts (30 percent) had at least one challenging school. By Year Three, 136 districts (46 percent) had at least one challenging school. Both the number and proportion of districts with four to nine challenging schools increased (from 12 to 18 percent). It is important to remember that the number of challenging schools per district is related to school and district size.

Under the new criteria, more districts have schools that qualify, but there are still not enough NBCTs in districts with challenging schools to go around. In Year Three, 54 districts (40 percent) with challenging schools had no NBCTs working in the district. Additionally, the proportion of all districts with challenging schools that had between one and three NBCTs increased from one-fifth to one-third. Finally, the number of districts with more than ten NBCTs jumped from two to 24 (see Figure 13). More information is available in Appendix D-18.

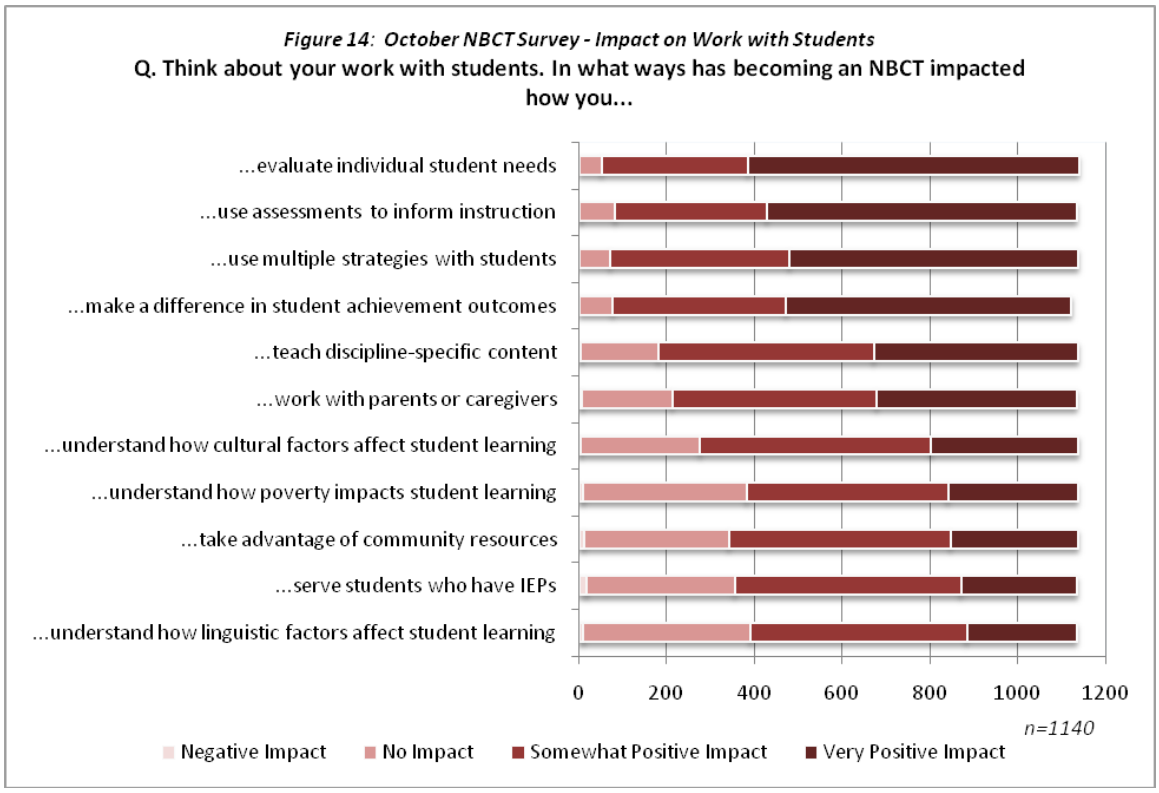


Key Findings at a Glance

NBCTs report that earning NB certification positively impacted their ability to evaluate individual student needs, use assessments to inform instruction, use multiple instructional strategies and make a difference in student achievement outcomes. Principals confirm that NBCTs had a positive impact on the teachers' ability to work with students and their contribution to the professional community. Most NBCTs are interested in assuming various leadership roles, and identified mentoring beginning teachers as the area of strongest interest. NBCT survey respondents in challenging schools agreed that becoming an NBCT impacted their ability to understand how cultural and linguistic factors, as well as poverty affect student learning.

The majority of NBCTs who certified in 2008 and 2009 indicated that the incentives were a strong factor in their decision to pursue NB certification. Other factors contributing to their decision included the desire for professional development to strengthen their teaching and help students meet standards.

Based on survey findings, NBCTs report that NB certification had a positive impact on their ability to evaluate individual student needs, use assessments to inform instruction, use multiple instructional strategies and make a difference in student achievement outcomes. Nearly two-thirds of respondents (66 percent) pointed to a very positive impact in their ability to evaluate individual student needs and use assessment to information instruction (62 percent), and over half reported a very positive impact on their use multiple instructional strategies with students (58 percent). The majority of NBCTs saw a very positive impact in their ability to make a difference in student learning outcomes. Nearly the same number of NBCTs saw the NB process as having a very positive (39 percent) or somewhat positive (41 percent) impact on their ability to work with parents or caregivers. In all other categories, the majority of NBCTs reported that the process had a somewhat positive impact. There were no categories in which the majority of NBCTs indicated that the NB process had no impact or negative impact (See Figure 14).



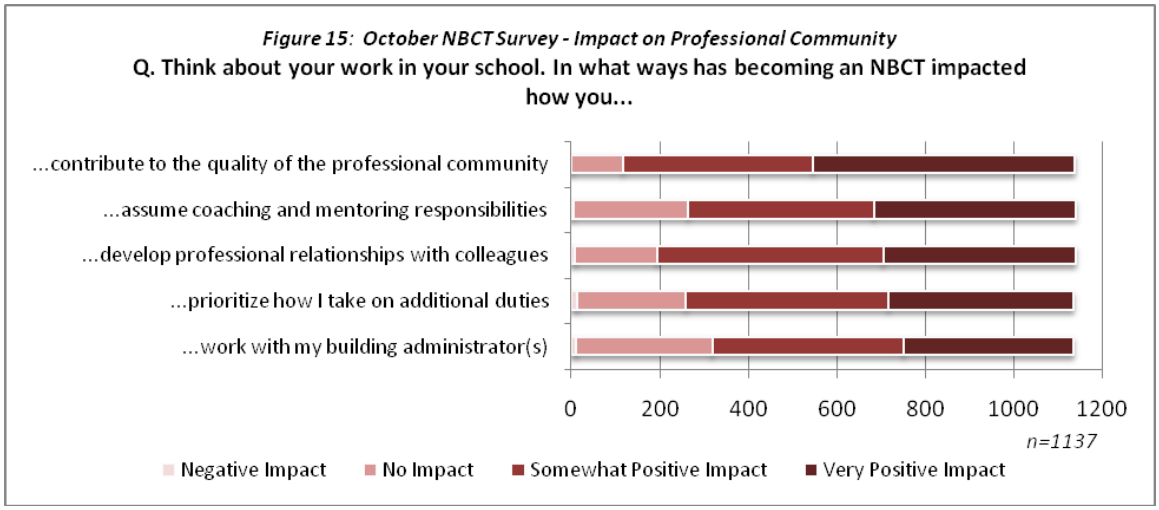
NBCTs in challenging school reported greater impact on their practice in several areas than NBCTs in non-challenging schools. As Table 6 shows, NBCTs in challenging schools reported that becoming an NBCT impacted their ability to understand how culture and linguistic factors, as well as poverty, affect student learning. Since the National Board process requires that teachers show how they impact the learning of their students, it makes sense that NBCTs who teach students from diverse cultural and linguistic backgrounds, as well as students impacted by poverty, would report greater impact in those areas.

Table 6: Impact on Students *Q: Think about your work with students. In what ways has becoming an NBCTs impacted how you…* Responses: Somewhat or Very Positive Impact				
	October '09 NBCT Survey		March '10 NBCT Survey (2009 Cert NBCTs)	
	Not in Challenging Schools n=875	In Challenging Schools n=271	Not in Challenging Schools n=263	In Challenging Schools n=146
… understand how cultural factors affect student learning	76%	**80%**	71%	**81%**
…understand how linguistic factors affect student learning	63%	**73%**	63.0%	**77%**
…understand how poverty impacts student learning	66%	**75%**	59%	**80%**

The principals in schools with NBCTs on staff were asked to rate the impact of NB certification on teachers' ability to work with students. As Table 7 shows, NBCTs and principals indicated a very positive or somewhat positive impact in every category. However, a larger percentage of principals than NBCTs indicated a very or somewhat positive impact. This may be due to the broader perspective that principals gain by seeing the range of teaching practices across a building.

Table 7: Impact on Students: NBCT and Principal Perspectives		
	October '09 NBCT Respondents (n=1140)	Principals with NBCTs on Staff (n=68)
	Somewhat or Very Positive Impact	Somewhat or Very Positive Impact
…evaluate individual student needs	96%	**100%**
…teach discipline-specific content	84%	**97%**
…use multiple strategies with students	94%	**100%**
…use assessments to inform instruction	93%	**98%**
…make a difference in student learning outcomes	93%	**100%**

NBCTs and their principals were also asked to rate how becoming an NBCT impacted the teacher's ability to work within the school. Again, NBCTs indicated very positive or somewhat positive impact in all categories, and they pointed to their ability to contribute to the quality of the professional community as an area of marked impact (see Figure 15).



As with the impact on students, principals with NBCTs on staff indicated a substantially stronger impact of NBCTs' abilities to work in the school than the NBCTs themselves identified (see Table 8).

Table 8: Impact on School: NBCT and Principal Perspectives

	October '09 NBCT Respondents (n=1137) *Q: Think about your work in your school. In what ways has becoming an NBCT impacted how you…*			**Principals with NBCTs on Staff** (n=70) *Q: Think about the impact of NBCTs as they work in the school. What impact do you see in their ability to…*		
	No/Negative Impact	Somewhat Positive Impact	Very Positive Impact	No/Negative Impact	Somewhat Positive Impact	Very Positive Impact
…develop professional relationships with colleagues	17%	**45%**	38%	7%	24%	**70%**
…assume coaching and mentoring responsibilities	23%	37%	**40%**	4%	21%	**74%**
…contribute to the quality of the professional community	10%	38%	**52%**	4%	17%	**78%**
…work with building administrator(s)	28%	**38%**	34%	9%	24%	**69%**
…prioritize how to take on additional duties	23%	**40%**	37%	7%	29%	**63%**

The number of NBCTs in a building may make a difference in their individual impact. For example, Table 9 shows that in schools where there are very few NBCTs, their impact is often described as very positive. This may suggest that they are called on more often to assume leadership roles. As the number of NBCTs within a building grows, there may be fewer formal leadership roles, such as coaching and mentoring to assume.

However, there are caveats that are important to state when attempting to understand any findings about the number of NBCTs in a single building. First, only a handful of schools or districts have invested heavily enough in NB certification to gain high concentrations of NBCTs. Seventy percent of NBCT survey respondents reported they work in a school where NBCTs represent less than ten percent of the teaching staff, while only seven percent of the respondents reported that more than a quarter of the teachers in their school were NBCTs. Second, the number of principals responding to the survey items is small (n=70). It may be useful in the future to specifically study the culture of schools with large concentrations of NBCTs as compared to schools with few NBCTs and similar schools with none.

Table 9: Principals' Perspectives on NBCT Impact: Sorted by Number of NBCTs in Building

	1 - 3 NBCTs (n=43)			**4 - 20 NBCTs** (n=30)		
	No/Negative Impact	Somewhat Positive Impact	Very Positive Impact	No/Negative Impact	Somewhat Positive Impact	Very Positive Impact
In the school						
…develop professional relationships with colleagues	5%	30%	**68%**	11%	18%	**71%**
…assume coaching and mentoring responsibilities	3%	15%	**83%**	7%	32%	**61%**
…contribute to the quality of the professional community	3%	15%	**82%**	7%	21%	**71%**
…work with building administrator(s)	8%	18%	**76%**	11%	36%	**54%**
…prioritize how to take on additional duties	3%	26%	**72%**	15%	37%	**48%**
Outside the school						
…assist in the development of tools and resources for other teachers	5%	26%	**69%**	7%	43%	**50%**
…advocate for the needs of students and teachers	0%	26%	**74%**	7%	43%	**50%**
…make a greater contribution to reform efforts beyond the district	3%	33%	**64%**	19%	**52%**	30%
…serve on an advisory or policy making board	8%	39%	**54%**	22%	**52%**	26%

Principals also were asked the open-ended question, "In what specific ways do NBCTs at your school impact student achievement?" Principals answered this citing a broad range of impacts. Themes that emerged and sample comments are provided below:

Theme: Teaching skills that impact student achievement (27 comments)

<u>*Instruction*</u>

- *Improved instruction leads to improved student achievement.*
- *They are intentional and deliberate about always learning more about how to be a better instructor and this is the best way to impact student's learning.*
- *Higher standards and better teaching strategies.*
- *Use of best practice to impact student achievement. Intentional and strategic with regard to lesson planning, assessments, instruction and communication.*

Meeting the needs of students

- *Accept assignments in working with students demonstrating the greatest need.*
- *The three teachers are in the same department and they are diligent about placement of students and if the placement is incorrect they are quick to change the placement based on data.*
- *I have found that these four teachers creatively re-design curriculum to meet the diverse needs of our students. They are very professional, well-read and exemplify the qualities would be expected in a "master teacher." They KNOW their curriculum and skillfully use their knowledge and ability to make positive things happen in the classroom.*
- *Outstanding ability to work with a variety of students from struggling readers to honors students. Very encouraging, excellent rapport with students, and accommodates students' learning needs.*

Theme: Leadership that impacts student achievement (27 comments)

- *High tide raises all ships--Master teachers raise the bar for all staff.*
- *Currently they are lead teachers for our school we are focusing on instructional strategies, student engagement and learning targets.*

With colleagues

- *Their work with professional collaborative learning communities. Their expertise in research based curriculums and use of technology in the classroom. Their expertise in research based strategies that enhance student achievement and extend to fellow staff.*
- *They provide teacher in-service for other staff, help struggling students through differentiated instruction, help define student engagement and effective teaching strategies.*
- *By modeling best practices and making the classroom an open studio for teacher observations.*

Professionalism

- *I have noticed they are much more open to professional feedback, utilize the common district-wide assessment information much more often, understand the use of informal/formal data and are much deeper in their professional conversations with others. The majority of the time, these are the staff members that want to engage in deeper thinking about their students.*
- *Greater professionalism and commitment to growth.*
- *A more professional attitude and more leadership responsibilities sought by the NBCTs.*

Other (4 comments):

- *In only one instance have I noticed any difference in the way the teacher addressed diverse student needs. This particular teacher prior to NBCT worked diligently at reviewing research in his field, working with his department to intentionally incorporate needs of WASL, SAT, and college*

placement exams into the regular instructional materials. He continues to take the same pro-active approach to his instruction and department leadership since earning his NBC. I have not noticed any change in instruction or instructional philosophies in the other teacher's pre to post certification.

- *Not enough teachers to make a judgment.*

There is also evidence from the survey to indicate that NBCTs will continue to positively impact their schools, districts, and the larger educational context into the future. When asked about their interest in future leadership roles, the majority of NBCTs indicated they were somewhat or very interested in assuming nine of the ten roles provided as options. The majority of non-NBCTs indicated interest in three of the ten categories, with both groups indicating the strongest interest in mentoring beginning teachers (see Table 10).

Table 10: Interest in Leadership Roles
Q: What is your level of interest in the following leadership roles?

	October '09 NBCT Respondents (n=1105)		**October '09 Non-NBCT Respondents** (n=643)	
	Somewhat or Very Interested	Not Interested	Somewhat or Very Interested	Not Interested
Mentoring beginning teachers	**92%**	8%	**85%**	15%
Mentoring experienced teachers in content area	**83%**	17%	**63%**	37%
Advocating for effective policies	**67%**	33%	**61%**	39%
Serving on statewide committees	**65%**	35%	39%	**61%**
Statewide conference presenter-content area	**62%**	38%	40%	**60%**
Speaking about accomplished teaching	**59%**	41%	44%	**56%**
Serving on a policy team with educators and legislators	**59%**	41%	41%	**59%**
Serving as a policy fellow with other educators	**56%**	44%	38%	**61%**
Writing about accomplished teaching	**52%**	48%	37%	**63%**
Statewide conference presenter-leadership	45%	**55%**	30%	**70%**

Bonus a Factor in Teachers' Decisions to Pursue Certification

NBCT survey respondents indicate that there are many reasons they pursued NB certification, stemming from both intrinsic and extrinsic motivations. The extrinsic incentives have changed many times over the years. Table 11 groups responses according to the relationship between the certification year and the placement of the current monetary incentives into statute. Respondents who certified in 2008 and 2009 made the decision to pursue certification knowing that the $5000 bonus was in statute and the additional $5000 challenging schools bonus was in place. Prior to 2008, the $3500 bonus

for NBCTs was a line item subject to approval in each biennial budget, and there was no challenging schools bonus.

As Table 11 shows, the majority of NBCTs who certified in 2008 and 2009 indicate that the monetary incentives were a strong factor in their decision to pursue certification. There is a dramatic increase after 2007 in the percentage of respondents in high needs schools that indicate increased compensation as a strong factor. Other strong factors include using the certification process as professional development to strengthen teaching and as a personal challenge.

NBCTs who certified in 2009 and work in challenging schools reported that intrinsic factors were also strong influences on their decision-making; nearly three-fourths 70 percent indicated that they decided to pursue NB certification as a professional development opportunity to strengthen their teaching, and more than half (57 percent) said that the process was a chance to strengthen capacity to help students meet standards. As the table below shows, these percentages are significantly higher than NBCTs who do not teach in challenging schools.

Table 11: Decision to Pursue NB Certification
Q: Please rate how these factors influenced your decision to pursue NB certification.
Response: A strong reason

	NBCTs Certified in 2007 or earlier *(bonus not in statute, no challenging schools bonus)*		**NBCTs Certified in 2008** *(bonus in statute, challenging schools bonus funded)*		**NBCTs Certified in 2009** *(bonus in statute, challenging schools bonus funded)*	
	In challenging schools *n=158*	Not in challenging schools *n=590*	In challenging schools *n=113*	Not in challenging schools *n=285*	In challenging schools *n=146*	Not in challenging schools *n=263*
Potential for increased compensation	**33%**	**52%**	**73%**	**69%**	**73%**	**71%**
Professional development to strengthen my teaching	66%	66%	64%	60%	**70%**	55%
Personal challenge	74%	66%	55%	53%	59%	59%
Chance to strengthen my capacity to help students meet K-12 academic content standards	47%	38%	44%	36%	**57%**	37%
Enabled me to earn professional certification in Washington	20%	21%	25%	33%	19%	34%
Possibility of recognition of my teaching	24%	26%	24%	23%	19%	22%
A building or district administrator encouraged me to pursue	11%	6%	3%	5%	2%	4%

The non-NBCT survey provides insight into the importance of incentives to those who have been identified by their colleagues or principal as excellent potential candidates. When responses from the non-NBCTs teaching in challenging schools were examined separately, it is clear that the challenging schools stipend does make a difference in their decision-making: 64 percent reported that it has a high impact and an

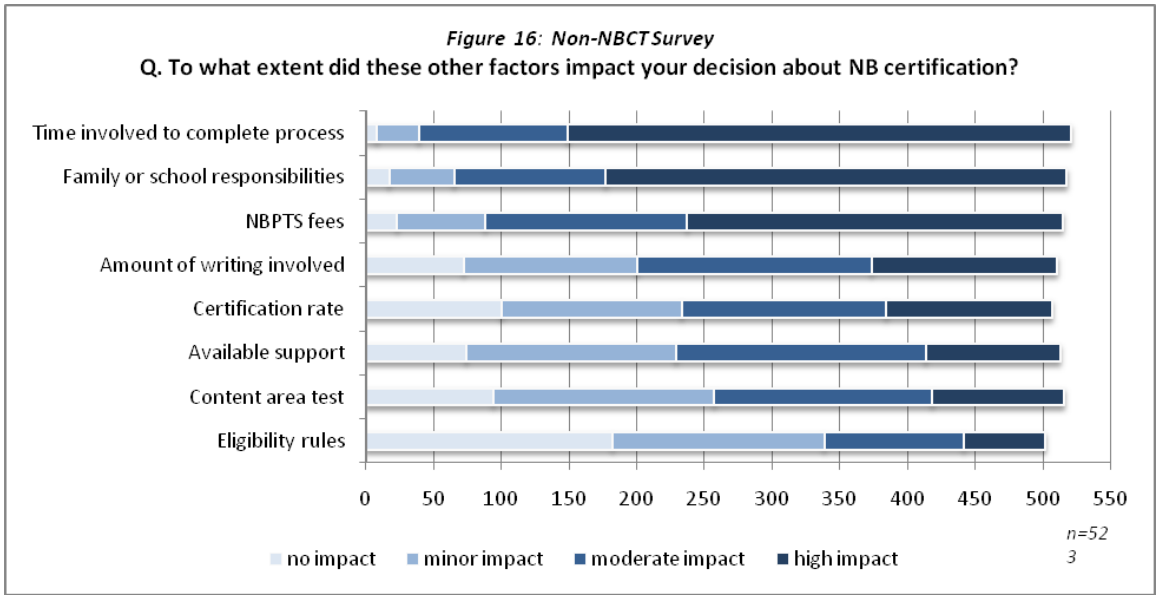
additional 23 percent say it has a moderate impact (see Table 12). Teachers in challenging schools also indicated that the conditional loan to pay NBTS fees as well as the possibility to add a subject-matter endorsement were important, while teachers in other schools did not feel as strongly about these incentives.

Table 12: Impact of Incentives on Decision-making:
Non-NBCT Responses Sorted by Challenging Schools Designation

	Non-NBCT Respondents ***Not in challenging schools*** (n=367)				Non-NBCT Respondents ***In Challenging Schools*** (n=189)			
	No Impact	Minor Impact	Moderate Impact	High Impact	No Impact	Minor Impact	Moderate Impact	High Impact
$5000 stipend for NBCTs	2%	8%	25%	**65%**	4%	10%	23%	**63%**
Additional $5000 for NBCTs in challenging schools	**45%**	21%	15%	19%	4%	9%	23%	**64%**
Conditional loan from state to pay NBPTS fees	23%	21%	24%	**31%**	14%	17%	28%	**42%**

Responses from principals in challenging schools support these findings. Principals indicated the challenging schools stipend has an impact on encouraging staff to pursue NB certification; 85 percent report a high impact and 15 percent note a moderate impact. More than any other support incentive offered, principals agree that the high needs stipend is an important factor in the decision-making of teachers in their school.

When non-NBCTs were asked to indicate the impact of other factors on their decision-making, they report that the time to complete the process and their family or school responsibilities had a high impact. Figure16 displays responses for teachers who have considered completing the NBPTS process but have not yet taken it on.



In response to this question, teachers used the comment section to add detail to their choices, for example, citing specific family and school-related responsibilities as barriers to starting the process. Several new themes emerged from the comments. Some respondents indicated that they are close to retiring and therefore would not complete the process. A second theme centered on uncertainty that the incentives will continue as the state budget tightens.

Informing Current and Emerging Policy Concerns

The current incentive program for NBCTs in Washington state has served as an important policy lever in several ways. First, it has acknowledged and rewarded teachers who earned NB certification while working in a variety of school and district contexts across the state. Furthermore, the current policy also encourages NBCTs to work in challenging schools, thereby promoting and supporting NBCTs in the schools where they may be needed the most. The incentive program has also supported a means for promoting high-quality professional development through the certification process itself, which may positively impact teachers' professional practices regardless of whether or not they earn the credential. However, as is common for policy initiatives in the initial years of implementation, there may be unanticipated consequences and potential areas for improvement. In this section we discuss the outcomes of the current policy, areas for improvement, as well as future policy options for consideration.

Outcomes of the Current Policy

Our analysis of the incentive program to date indicates a number of positive outcomes since its initial implementation. We highlight some of these outcomes below:

- **There are increasing numbers of NBCTs statewide and in challenging schools.** During the first three years of implementation of the incentive program, both the number of NBCTs statewide, as well as those working in challenging schools has increased.

- **The increase in the number of NBCTs is accompanied by a more equitable distribution of NBCTs across schools and districts.** A larger proportion of NBCTs are now working in higher poverty and lower performing schools, and in schools serving greater proportions of students of color.

- **The current criteria for identifying challenging schools captures most of the state's lowest performing schools.** Among the schools on the state's school improvement lists (i.e., persistently lowest achieving schools identified as Tier I or II), all 26 Tier I schools and 19 of the 21 Tier II schools also are identified as challenging schools. Very few of the challenging schools served students who scored at or above the state mean on 4th, 7th or 10th grade reading or mathematics

assessments in any given year. Overall, challenging schools also serve larger proportions of students of color than schools statewide.

- **The incentive provides for two valid approaches for increasing the number of NBCTs in challenging schools**. While the policy has encouraged more teachers in challenging schools to pursue NB certification than resulted from moves by NBCTs into challenging schools, it can be argued that both strategies are valid. Some would suggest that "growing your own" staff capacity within a challenging school is an effective strategy for school improvement. Encouraging teachers already located in challenging schools to pursue NB certification may serve to improve overall teaching practices in these schools. Additionally, rewarding accomplished teachers for re-locating to challenging schools may serve to increase the rate at which students in challenging schools have access to quality instruction. Alternatively, simply moving a good teacher from one school to another is no guarantee that the individual will be a good match in a different and presumably more challenging school context.

- **NBCTs located in challenging schools tend to have high rates of retention.** NBCTs have retention rates greater than or equal to other teachers in challenging schools and NBCTs statewide. Survey findings suggest that for teachers certified after 2007, the potential for increased compensation was a strong reason to pursue certification and to stay in a challenging school.

- **NBCTs represent a group of accomplished teachers potentially willing to move.** NBCTs tend to move at slightly higher rates within their schools and districts than other teachers, suggesting that they might be willing to relocate to a challenging school.

Implications of Current Policy and Areas for Improvement

While a number of positive outcomes have occurred over a short period of time, there remain areas for improvement so that a greater impact can result across a broader range of school and district contexts.

- **The policy is not yet reaching all schools**. While there has been an improvement in the equity of the distribution of NBCTs across schools and districts during this time period, areas of concern remain. There are proportionately fewer NBCTs in challenging schools that are small and in rural or remote areas of the state, particularly in Western Washington outside the Central Puget Sound region.

- **Additional attention is needed to further diversify both the overall teacher workforce and those who become NBCTs**. While the proportion of NBCTs who are teachers of color has increased over this time period, it is still lower than the statewide average. The striking mismatch between the proportion of students of

color and teachers of color continues to be a challenge, both for all teachers statewide and for NBCTs.

- **Some academically struggling schools do not meet the current criteria for a "challenging school."** There remain a few schools on the state's list of persistently lowest achieving schools that are not identified as challenging (e.g., do not meet the poverty threshold).

- **The implementation of the incentive program is largely driven by individual teacher choice.** The challenging schools bonus is dependent on individual teachers locating and pursuing potential openings in identified schools, and also dependent on the frequency and availability of potential openings. These openings are influenced by regional labor market conditions and varying teacher retention rates. For some, the uncertainty of future legislative funding and the timing in late spring of the notification for eligible schools also may present unintended obstacles for those who might consider NB certification.

- **There is no explicit link to other state or local improvement efforts.** The incentive to support NBCTs could be linked to the state's school improvement plans or other initiatives to support student learning. The current incentive does not contain any mechanism to systematically match teachers to schools where their skills may be most useful. Many NBCTs have interests and abilities in areas of leadership, mentoring and coaching that could be better tapped.

- **The current policy does not offer differential approaches to address local needs**. Giving districts greater discretion or capacity in identifying from among their own schools those they deem "most challenging" might help them tailor the placement of NBCTs in the most strategic way. This would allow districts to make adjustments to their individual contexts and conditions. The state policy does not address differential district ability to support candidates through the NB process. It is important to recognize that individual district capacity to support teachers through the NB certification process varies greatly, and indeed less than half of the districts with challenging schools (58 of 136) currently offer any kind of local support for their candidates (e.g., release time or help with videotaping).

Potential Policy Options

Given the outcomes to date and the areas for potential improvement of the state's incentive program, there are a number of options for potential consideration by policymakers. Provided below are several suggestions that are intended as prompts for further policy conversations:

- **Continue with the incentives in place as they are currently constructed.** The incentives both reward accomplished teaching more broadly while strategically targeting the state's highest-need schools. If this option is selected, it would be

important to further monitor whether the positive outcomes continue in subsequent years.

- **Make a minor adjustment to ensure that all schools identified as persistently low-achieving are included in the list of challenging schools.** The criteria for identifying challenging schools could be amended to consider both poverty and student performance by including any of the remaining Tier I or Tier II schools on the state's school improvement list that are not also identified as challenging (e.g., do not meet the poverty threshold). In any given year, this would likely be a small number of schools.

- **Consider strategies that may further support increases in the number of NBCTs in challenging schools, particularly those currently untouched by the policy.** As previously described, proportionately larger numbers of challenging schools in rural and remote areas of the state, have no NBCTs. One strategy to consider is to improve the access to information about NB certification to teachers in these areas. This could be accomplished by utilizing NBCTs to deliver informational sessions and have conversations with colleagues. Districts without access to NBCTs could be provided with supports and incentives for teachers who decide to pursue certification. Another approach would be to consider expanding the support for Take One, a professional development opportunity that allows teachers to complete one National Board entry. This strategy provides an introduction to the certification process. School teams could also be encouraged to participate in Take One together. Another strategy would be to develop specific incentives that would encourage groups of NBCTs to move together to challenging schools. This approach has been utilized in other states.

- **Focus on developing an information network that would assist in linking the specific staffing needs of challenging schools with teachers' skills and experiences.** One option would be to **c**reate an information system using online resources that encourages leaders to customize their communication with NBCTs who might be interested in relocating to a challenging school. This system could include information about a school's specific improvement plans and specify the types of teacher knowledge, skills, and abilities that are most needed in that context.

- **Give high-need districts greater discretion to decide which schools are "challenging."** Another option would be for the state to consider giving high-need districts greater discretion or capacity in identifying from among their own schools those they deem "most challenging." This increased flexibility might help districts tailor the placement of NBCTs in the most strategic way, given the individual contexts and conditions present within the district. There are considerable challenges implied in trying to design and implement a more flexible approach, and these factors would need to weighed against potential benefits.

Future Lines of Inquiry

This study provides a baseline for understanding the initial impact of state policy on NBCTs and the teacher workforce statewide and in challenging schools. It is unclear if the current trends regarding an overall increase in NBCTs and their distribution in challenging schools will continue. Given tight budgets due to the economic downturn, it is not possible to predict the trends in hiring, staffing, and retirement rates that may impact the number and types of available openings for NBCTs to consider. Therefore, it will be important to continue to monitor the changing labor market conditions and its relation to the impact of the incentive program.

As the incentive program matures, it will be important to inquire about the impact of NBCTs on student learning. Given that the state is making progress in developing the capacity to link individual students and teachers, this type of inquiry will be possible in the future. In designing an inquiry of this type, it will be necessary to have a carefully constructed comparison group of teachers. Additionally, it is important to recognize that NBCTs are part of a larger solution for improving the quality of instruction in schools. Addressing achievement gaps and improving student learning is complex work in challenging schools. Thus, assessing the impact of NBCTs on student learning involves understanding the variance in the demographic conditions, access to resources and supports, school culture and community, and leadership dynamics within the schools and districts in which teachers work.

In sum, our analyses of the initial implementation of the state's incentive program for NBCTs indicates that there is evidence of improvement in addressing the dual goals of increasing the overall numbers of NBCTs and providing increased access to NBCTs in challenging schools. It will be important to watch whether these trends continue in subsequent years.

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Appendix A

Brief Review of Literature

Across the nation, considerable resources have been invested in supporting teachers through the National Board for Professional Teaching Standards (NBPTS) certification process and beyond as a means of improving the quality of the teacher workforce. Teachers who earn certification through the NBPTS often receive pay bonuses and subsides, in some cases over the 10-year life of the credential. Increasing pressure to address teacher effectiveness and equitable placement of well-qualified teachers raises questions about the distribution of National Board Certified Teachers (NBCTs) as a teaching resource and how to structure incentives such that their expertise could be more effectively utilized. Prior studies provide evidence that the National Board certification process can identify accomplished teachers, but not all studies find a consistent link between NBCT status and greater gains in student learning. Furthermore, the inequitable distribution of NBCTs across schools and the tendency to assign higher performing students to more effective teachers raises equity questions regarding incentives that increase the supply of NBCTs irrespective of how they are located across and within districts and schools. In Appendix A, we provide a discussion of the current literature with regard to National Board certification, teaching effectiveness and distribution, and the impact of subsidies, compensation and policy mechanisms to provide incentives for teachers.

National Board Certification, Teaching Effectiveness and Distribution

A growing body of research on National Board candidates, Board-certified teachers, and their professional practice provides a strong basis for understanding the nature and context of the professional certification process and potential impacts on teachers and students. Studies of the effects of NB certification on teacher knowledge and practice explore how aspects of the assessment process lead to learning gains, identifying changes in science (Lustick & Sykes, 2006) and literacy instruction (Coskie & Place, 2008; Place & Coskie, 2006), and student assessment (Lustick & Sykes; Sato, Wei, & Darling-Hammond, 2008). Researchers have also investigated how National Board standards have been used as tools in teachers' work as leaders, particularly in discussions of curricular improvement and teaching practices among colleagues (Koppich, Humphrey & Hough, 2006; Sato, Hyler & Monte-Sano, 2002).

Several studies have investigated both the validity of the National Board assessments and related student outcomes using value-added models and differences between successful and unsuccessful candidates (Bond, Smith, Baker, & Hattie, 2000; Goldhaber & Anthony, 2004; Vandervoort, Amrein-Beardsley & Berliner, 2004; Cavalluzzo, 2004). Results from these types of studies are mixed. Cantrell and his colleagues (2008) suggest that NBCTs are more effective than those who did not achieve certification, but not compared to non-applicants. Other research indicates that the impact of NB certification may vary by subject matter and the type of assessment used (Harris & Sass, 2007). Yet other studies in the past found no significant relationship between

NBCTs and student achievement (Sanders, Ashton & Wright, 2005). In its synthesis of student achievement studies, the National Research Council concluded that NBCTs make contributions to student learning above and beyond those without certification (Hakel, Koenig, & Elliot, 2008).

Earlier research on the initial supply and distribution of NBCTs suggested that applicants were more likely to be from schools with high-achieving, more affluent students (Goldhaber, Perry & Anthony, 2004). Others have identified a similar pattern of a disproportionate distribution of NBCTs in higher performing schools (Koppich, Humphrey & Hough, 2007; Goldhaber, Choi & Cramer, 2005). These findings are not inconsistent with the overall evidence that well-qualified teachers are inequitably distributed across school and district contexts (Lankford, Loeb & Wyckoff, 2002; Clotfelter et al., 2007). The considerable state and local investment in NBPTS prompts question of outcomes and impact on student learning. Some policy makers have recommended that NBCTs be recruited to work in high-needs schools where finding well-qualified teachers to serve in disadvantaged schools continues to be a concern.

Use of Incentives to Influence Teacher Distribution

Incentives to encourage National Board certification have been gaining prominence nationwide as states and districts have supported teachers to pursue certification and awarded annual bonuses to those who earn the credential. The emphasis on teacher effectiveness and equitable placement of teachers in high-need schools have resulted in an increasing number of states offering targeted incentives for NBCTs to work in challenging school contexts. The Teacher Incentive Fund, created in 2006 by the U.S. Department of Education, provides an example of the nationwide interest in expanding alternatives to compensation systems with the purpose of improving performance and attracting and retaining teachers in subject areas and schools in which they are most needed.

A number of studies have examined the impact of various incentives to improve teacher recruitment and retention in targeted schools. For example, Clotfelter and colleagues (2008) examined the impact of a program in North Carolina designed to provide additional compensation for teachers in the shortage areas of mathematics and science to work in high-poverty or low-performing schools. They found that a bonus of $1,800 reduced the average turnover rates in the targeted schools by 17 percent. Some researchers have distinguished between pay differentials that are given as a one-time bonus compared to incentives that are permanent salary increases, finding that one-time bonuses do not encourage teachers to stay in targeted schools after receiving the bonus (Fowler, 2003).

Other researchers have argued that the traditional teacher salary schedule (based on years of experience and level of education) does not reward teachers for their instructional expertise (Odden & Kelly, 2002). Compensation policies that use measures of teachers' instructional expertise (known as knowledge and skills-based pay) are being implemented in a number of districts throughout the country. Incentives provided for

attainment of the National Board certification is an example of a method for rewarding teachers for their instructional knowledge and ability (Milanowski, 2003; Heneman & Milanowski, 2004). These incentives can take the form of subsidizing the cost of certification or yearly salary stipends. Both of these types of financial incentives are in place in Washington state, in addition to incentives for the NBCTs who work in high poverty schools.

Appendix B

Definition of Terms

For the purposes of this study, teacher mobility includes both the extent to which teachers move to other schools and other districts, as well as leave the state education system. Using the Washington state personnel database (S-275), classroom teachers and NBCTs in each school under investigation are located during the initial school year, and also in subsequent years to determine their status and teaching assignment. Some NBCTs and teachers change teaching assignment or duty, the school and district in which they work, and some exit the Washington education system. We describe the criteria for the teachers and schools included in these analyses as follows:

- *Teachers* were defined as those public school teachers whose assignment is the instruction of pupils in a classroom situation and who have a designation as an elementary teacher, secondary teacher, or other classroom teacher.[15] Other teachers serving in specialist roles (e.g., reading resource specialist, library media specialist) were not included in the statewide analyses.

- *National Board Certified Teachers* include any individuals in the Washington education system holding a valid NB certificate from the National Board for Professional Teaching Standards (NBPTS) and who are registered with the state's National Board office.

- *Schools* are categorized according to grade level served. *Elementary schools* include schools with any of the grades K-6 and none of grades 7-12. Middle schools include schools serving primarily any of grades 6-9. *High schools* included any of grades 9-12 and none of grades K-8. *Combined schools* include those schools with one or more of the grades K-6 and one or more of grades 9-12.

- *Challenging schools* for the 2009-10 school year are currently defined by the State of Washington using free and reduced price lunch (FRPL) percentages, reported through Core Student Records Systems (CSRS): elementary schools with at least 70 percent FRPL, middle schools with at least 60 percent FRPL and high schools with at least 50 percent FRPL. Earlier lists of challenging schools varied slightly from this definition. This study uses the OSPI-generated lists of challenging schools for each of the two prior years.

In order to examine retention patterns, teachers are placed in one of four retention categories:

[15] As reported in the Office of the Superintendent of Public Instruction's personnel database (S-275), they are certificated instructional staff with a duty root designation of 31 or 32 or 33. Teachers whose full-time equivalent (FTE) designation was zero for the initial year were excluded from the analysis.

- "Stayers" – teachers assigned to the same school(s) in the initial school year and also in the subsequent year

- "Movers in" – teachers who moved to other schools in the same district, or changed assignment (other than a classroom teacher) within the same district

- "Movers out" – teachers who moved to other districts, either as a classroom teacher or in some other role

- "Exiters" – teachers who exited the Washington education system, either temporarily or permanently[16]

These analyses provide a basis for understanding the initial impact of state policy on the teacher workforce in challenging schools, the proportion of NBCTs who have taken advantage of the incentive, and how the impact of the bonus on challenging schools should be evaluated in subsequent years.

[16] Leavers may have retired, re-entered the system in subsequent years, left Washington to teach in another state or completely left the profession. It is not possible to distinguish voluntary and involuntary departures. It is not possible to determine whether teachers who left the state continued to be employed as teachers elsewhere.

Appendix C

Survey Response Data

October NBCT survey (sent to NBCTs certified in 2008 or earlier)

- Sent in October 2009 to 2717 NBCTs
- Non-deliverables: 97
- Total delivered: 2620
- Total completed: 1178
- 45% response rate
- Percentage completed by NBCTs in challenging schools: 22%

2009 NBCT survey (sent to NBCTs who certified in November, 2009)

- Sent in March 2010 to 1224 new NBCTs
- Non-deliverables: 16
- Total delivered: 1208
- Total completed: 409
- 34% response rate
- Percentage completed by NBCTs in challenging schools: 36%

Principal Survey

- Forwarded by NBCTs
- Total completed: 75
- Total completed by principals in challenging schools: 21 (28%)

Non-NBCT Survey

- Forwarded by NBCTs
- AWSP sent link to principals, with request to forward to teachers who would be strong candidates
- Total completed: 779
- Completed by principals or administrators: 63
- Total completed by teachers: 716
- Total completed by teachers in challenging schools: 189 (26%)

Appendix D
Additional Tables

D-1: Washington NBCTs in the Public K-12 Workforce

D-2: NBCTs Moving to Other Assignments: Changes in Primary Assignment Across Three Time Periods

D-3: Characteristics of Washington NBCTs in Teaching Assignments, Other NBCTs and Other Washington Teachers in 2009-10

D-4: Characteristics of WA NBCTs in 2009-10, by Certification Year

D-5: NBCTs in Teaching Assignments and Other Teachers by School Characteristics in 2009-10

D-6: Endorsements by Area Held by NBCTs and Other Teachers in 2009-10

D-7: NBCTs in Teaching Assignments and Other Teachers by Student Characteristics in 2008-09

D-8: Retention and Mobility of NBCTs who are Classroom Teachers and Other WA Teachers

D-9: Percent of Stayers by Student Race/Ethnicity: NBCTs and Comparison Teachers Over Three Year Time Period

D-10: Percent of Stayers by Endorsement Area for NBCTs and Comparison Teachers

D-11: Percent Stayers for NBCTs and Comparison Teachers Over Three Year Time Period

D-12: Characteristics of Challenging Schools Over Four Year Period

D-13: Regional Characteristics of Challenging Schools Over Four Year Period

D-14: Characteristics of Washington Schools: Trend Data

D-15: Characteristics of Students in Challenging Schools Over Three Year Period

D-16: Characteristics of NBCT Workforce in Challenging Schools and Teaching Force Over Four Year Period

D-17: Retention and Mobility of Washington NBCTs and Non-NBCT Teachers in Challenging Schools

D-18: WA Districts with Challenging Schools and NBCTs in Classroom Teaching Assignments

Appendix D-1: Washington NBCTs in the Public K-12 Workforce					
School Year	Total Certified in WA	Total Working in WA	Total Classoom Teaching* NBCTs	Proportion of Total Teacher Workforce	Total Other NBCTs
2006 - 07	1,344	1,211	1,086	1.9%	125
2007 - 08	1,833	1,666	1,475	2.6%	191
2008 - 09	2,755	2,514	2,250	3.9%	262
2009 - 10	4,006	3,686	3,352	6.0%	334

**Classroom teaching assignment with FTE designation greater than 0 in given year.*

Appendix D-2: NBCTs Moving to Other Assignments: Changes in Primary Assignment* Across Three Time Periods						
	2006-07 to 2007-08		2007-08 to 2008-09		2008-09 to 2009-10	
	Number	Percent	Number	Percent	Number	Percent
Total NBCT Classroom Teachers	1086		1,475		2,252	
NBCT classroom teachers changing assignment	48	4%	37	3%	55	2%
Moving to assignment as…						
District Administration	1	2%	0	0	0	0
School Administration	2	4%	10	27%	14	25%
School specialist	3	6%	8	22%	7	13%
Other support staff	42	88%	19	51%	34	62%
Total Other NBCTs	125		191		262	
Other NBCTs changing assignment	19	15%	36	19%	34	13%
Moving to assignment as…						
Classroom teaching	11	58%	23	64%	22	65%
District Administration	2	11%	2	6%	2	6%
School Administration	3	16%	7	19%	7	21%
School specialist	2	11%	2	6%	2	6%
Other support staff	1	5%	2	6%	1	3%

**Assignment based on OSPI's duty root categories.*

Appendix D-3: Characteristics of Washington NBCTs in Teaching Assignments, Other NBCTs and Other Washington Teachers in 2009-10				
Characteristics	NBCTs N= 3,352	Non-NBCTs N= 52,700	Percentage Difference	Other NBCTs N= 334
Gender				
Female	79.0%	71.2%	7.8%	86.0%
Male	21.0%	28.8%	-7.8%	14.0%
Age (in 2008)				
21-30	8.1%	13.0%	-4.9%	2.1%
31-40	38.0%	24.6%	13.4%	35.9%
41-50	30.0%	24.8%	5.2%	27.8%
51-60	22.0%	29.2%	-7.2%	32.3%
61+	3.0%	8.0%	-5.0%	1.8%
Race/Ethnicity				
Asian/Pacific Islander	2.6%	2.6%	0	2.1%
African American	0.5%	1.5%	-0.9%	1.2%
Hispanic	1.7%	2.7%	-1.0%	1.8%
Native American	0.5%	0.8%	-0.3%	0.9%
White	94.9%	92.0%	2.9%	94.0%
Level of education				
Bachelors or equivalent	15.5%	36.0%	-20.5%	9.0%
Masters or higher	84.5%	64.0%	20.5%	91.0%
Experience				
0-4 years	3.0%	19.0%	-16.0%	0.3%
5-14 years	58.8%	39.0%	19.8%	48.0%
15-24 years	28.7%	25.0%	3.7%	35.0%
25 yrs or more	9.5%	17.0%	-7.5%	14.7%
Missing	0	0	0	2.0%

Appendix D-4: Characteristics of WA NBCTs in 2009-10, by Certification Year				
	NBCTs Certified in 2008 or earlier		NBCTS Certified in 2009	
Characteristics	Number	Percent	Number	Percent
Individuals				
Number (headcount)	2469	100%	1,217	100%
Gender				
Female	1,977	80.1%	960	78.9%
Male	492	19.9%	257	21.1%
Age (in 2009-10)				
21-30	119	4.8%	142	11.7%
31-40	920	37.3%	470	38.6%
41-50	727	29.4%	368	30.2%
51-60	624	25.3%	221	18.2%
61+	79	3.2%	16	1.3%
Race/Ethnicity				
Asian/Pacific Islander	61	2.5%	38	3.1%
African American	12	0.5%	10	0.8%
Hispanic	41	1.7%	35	2.9%
Native American	13	0.5%	6	0.5%
White	2,342	94.9%	1128	92.7%
Level of education				
Bachelors or equivalent	348	14.1%	193	15.9%
Masters or higher	2116	85.7%	1024	84.1%
Missing	5	0.2%	0	0.0%
ESD				
ESD 101: Spokane	217	8.8%	123	10.1%
ESD 105: Yakima	86	3.5%	75	6.2%
ESD 112: Vancouver	170	6.9%	71	5.8%
ESD 113: Olympia	137	5.5%	75	6.2%
Olympic ESD 114: Bremerton	113	4.6%	46	3.8%
Puget Sound ESD 121: Renton	1105	44.8%	492	40.4%
ESD 123: Pasco	174	7.0%	93	7.6%
North Central ESD 171	113	4.6%	71	5.8%
Northwest ESD 189: Anacortes	354	14.3%	171	14.1%
Experience				
0 to 2.9 years	3	0.1%	4	0.3%
3.0 to 5.9 years	131	5.3%	253	20.8%
6.0 to 9.9 years	644	26.1%	332	27.3%
10 to 14.9 years	669	27.1%	261	21.4%
15 to 24.9 years	758	30.7%	289	23.7%
25 or more	257	10.4%	78	6.4%
Missing/NA**	7	0.3%	0	0.0%

**Duty root 31, 32 or 33 with FTE designation greater than 0 in given year.*
***Experience data is not available for NBCTs working in classified duty roots (not required to be reported for classified staff).*

Appendix D-5: NBCTs in Teaching Assignments and Other Teachers by School Characteristics in 2009-10		
	NBCTs N=3,352	Non-NBCTs N=52,700
Teachers at Schools located in...		
Western Washington (not 121)	31%	37%
Central Puget Sound (ESD 121)	43%	37%
Eastern Washington	26%	26%
Teachers by Locale Code		
City, Large, Midsize or small	31%	28%
Suburb, Large, Midsize or small	43%	43%
Town, Fringe, distant or remote	12%	12%
Rural, Fringe, distant or remote	15%	17%
Teachers at Schools by School Level		
Elementary school	41%	47%
Middle school	21%	19%
High school	29%	26%
Combined	5%	6%
Not applicable/not available	3%	3%

**Duty root 31, 32 or 33 with FTE designation greater than 0 in given year.*
** Region as represented by Educational Service District.*

Appendix D-6: Endorsements by Area Held by NBCTs and Other Teachers in 2009-10			
	NBCTs N=3,352	Non-NBCTs N=52,700	Percent Change
Endorsements (by area)			
Other Elementary	51.4%	49.8%	1.5%
Other Secondary	26.4%	22.7%	3.6%
English/Language Arts	21.8%	13.9%	7.9%
Special Ed (any level)	14.1%	17.0%	-2.8%
Science (any level)	13.7%	7.9%	5.8%
Mathematics (any level)	12.1%	8.0%	4.1%
Reading/Literacy	11.6%	8.8%	2.8%
Early Childhood	8.8%	8.7%	0.0%
Music/Art/Drama	8.7%	8.6%	0.1%
Vocational	8.6%	9.3%	-0.7%
Foreign Language	7.2%	5.0%	2.2%
ESL/ELL	6.2%	4.2%	2.0%
PhysEd/Health/Coaching	5.8%	8.9%	-3.2%
Administrative	3.3%	3.5%	-0.2%
Other	2.7%	3.0%	-0.3%
Unknown (individuals)	1.0%	3.8%	-2.8%
ESA	0.8%	0.9%	-0.1%

When examining the data in this table, it is important to note that teachers often hold endorsements in more than one area. Therefore, the percentages displayed do not total to 100 percent. These endorsement categories represent aggregated data by subject area. Over 450 separate endorsement codes are listed for educators in the state's certification records.

Appendix D-7: NBCTs in Teaching Assignments and Other Teachers by Student Characteristics in 2008-09			
Characteristics	NBCTs N=2,252	Non-NBCTs N=54,931	Percent Difference
Teachers at Schools with…			
FRPL students <20%	21.4%	16.5%	4.9%
FRPL students 20 to 29.9%	18.6%	16.3%	2.2%
FRPL students 30 to 44.9%	21.4%	24.0%	-2.6%
FRPL students 45 to 60%	15.1%	17.4%	-2.4%
FRPL students >60%	19.6%	21.8%	-2.2%
Not available or not reported	3.9%	3.8%	0.1%
Teachers at Schools with Racial/ethnic minority students…			
<20%	25.2%	27.0%	-1.8%
20-29%	21.1%	21.2%	-0.2%
30-45%	22.6%	21.7%	0.9%
>45%	26.7%	26.2%	0.6%
Not available or not reported	4.4%	3.9%	0.5%
Teachers in schools where students scored at or above grade level on state assessments*			
Reading	62.7%	53.9%	8.8%
Math	56.7%	50.1%	6.6%

**Based on number of teachers in schools where WASL scores were reported.*
NBCTs = 2,091 and non-NBCTs = 50,989

Appendix D-8: Retention and Mobility of NBCTs who are Classroom Teachers and Other WA Teachers				
	NBCTs		Non-NBCTs	
Statewide	FTE	Percent	FTE	Percent
Retention and Mobility 2006/07 to 2007/08				
Stayers	870	82.7%	43,919	83.3%
Movers in District	97	9.2%	3,536	6.7%
Movers out District	40	3.8%	1,421	2.7%
Exiters from WA system	46	4.4%	3,876	7.3%
Retention and Mobility 2007/08 to 2008/09				
Stayers	1206	85.1%	44547	84.7%
Movers in District	113	7.9%	3274	6.2%
Movers out District	40	2.8%	1167	2.2%
Exiters from WA system	59	4.1%	3597	6.8%
Retention and Mobility 2008/09 to 2009/10				
Stayers	1922	88.7%	45287	86.7%
Movers in District	173	8.0%	3513	6.7%
Movers out District	18	0.8%	471	0.9%
Exiters from WA system	54	2.5%	2937	5.6%

Appendix D-9: Percent of Stayers by Student Race/Ethnicity: NBCTs and Comparison Teachers Over Three Year Time Period						
Teachers at Schools* with Racial/ethnic minority students…	2006/07 to 2007/08		2007/08 to 2008/09		2008/09 to 2009/10	
	NBCTs	Comparison Non-NBCTs	NBCTs	Comparison Non-NBCTs	NBCTs	Comparison Non-NBCTs
Less than 15%	85%	87%	87%	89%	91%	91%
≥15% and <33.3	86%	85%	85%	88%	90%	91%
≥33.3 and ≤66.7%	77%	84%	84%	87%	88%	90%
>66.7%	82%	84%	84%	84%	85%	85%

**Schools in which race/ethnicity is reported.*

Appendix D-10: Percent of Stayers by Endorsement Area for NBCTs and Comparison Teachers						
	2006/07 to 2007/08		2007/08 to 2008/09		2008/09 to 2009/10	
	NBCTs	Comparison Non-NBCTs	NBCTs	Comparison Non-NBCTs	NBCTs	Comparison Non-NBCTs
Retention by Endorsement Area						
Mathematics (any level)	80%	85%	86%	88%	93%	90%
Science (any level)	82%	84%	87%	89%	93%	90%
Other Secondary	83%	85%	86%	87%	89%	90%
English/LangArts	83%	84%	82%	86%	89%	89%
Other Elementary	82%	85%	83%	86%	87%	89%
Reading/Literacy	86%	88%	88%	87%	86%	89%
SpED (any level)	82%	83%	85%	85%	86%	88%
ESL/ELL	76%	83%	81%	85%	83%	88%
Administrative	76%	68%	85%	75%	83%	83%

Appendix D-11: Percent Stayers for NBCTs and Comparison Teachers Over Three Year Time Period						
	2006/07 to 2007/08		2007/08 to 2008/09		2007/08 to 2008/09	
	NBCTs	Comparison NBCTs	NBCTs	Comparison NBCTs	NBCTs	Comparison NBCTs
Teachers Retained at Schools located in…*						
Western Washington (not 121)	83%	84%	86%	87%	88%	89%
Central Puget Sound (ESD 121)	79%	84%	83%	85%	87%	88%
Eastern Washington	88%	88%	86%	89%	90%	90%
Teachers Retained at Schools by School Level						
Elementary school	81%	85%	85%	87%	85%	89%
Middle school	83%	84%	82%	86%	89%	89%
High school	84%	86%	87%	89%	94%	91%
Combined or Other	82%	88%	77%	87%	89%	89%

Duty root 31, 32 or 33 with FTE designation greater than 0 in given year.
** Region as represented by Educational Service District.*

Appendix D-12: Characteristics of Challenging Schools Over Four Year Period								
	Baseline Year 2006-07		Year One 2007-08		Year Two 2008-09		Year Three 2009-10	
Characteristics	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Schools								
Number of Schools	259		254		420*		446	
Schools by Size								
Less than 200 students	58	22.4%	54	21.3%	93	22.1%	107	24%
200-399 students	75	29.0%	73	28.7%	113	26.9%	120	27%
400-599 students	82	31.7%	80	31.5%	123	29.3%	133	30%
600-799 students	30	11.6%	32	12.6%	48	11.4%	50	11%
More than 800 students	5	1.9%	6	2.4%	32	7.6%	35	8%
Missing/NA	9	3.5%	9	3.5%	11	2.6%	1	0%
Types of Schools								
Elementary	173	67%	175	69%	208	50%	212	48%
Middle	33	13%	32	13%	73	17%	75	17%
High	22	8%	20	8%	78	19%	93	21%
Combined	26	10%	21	8%	55	13%	60	14%
Other	5	2%	6	2%	6	1%	6	1%

**The definition of a "challenging school" changed in 2008-09 increasing the number of eligble schools by 166 under the new criteria. Challenging schools in this analysis included those buildings with certificated instructional staff in the given year.*

Appendix D-13: Regional Characteristics of Challenging Schools Over Four Year Period								
	Baseline Year 2006-07		Year One 2007-08		Year Two 2008-09		Year Three 2009-10	
Characteristics	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Schools								
Number of Schools	259		254		420*		446	
Schools by Region								
Eastern WA	149	58%	147	58%	212	50%	217	49%
Central Puget Sound (ESD 121)	64	25%	62	24%	121	29%	129	29%
Western WA (outside ESD 121)	42	16%	41	16%	82	20%	95	21%
OSPI managed sites	4	2%	4	2%	5	1%	5	1%
Schools by Locale Code								
City (Large, Midsize, Small)	98	38%	96	38%	156	38%	159	36%
Suburb, (Large, Midsize, Small)	37	14%	37	15%	62	15%	80	18%
Town (Fringe, Distant, Remote)	48	19%	47	19%	66	16%	74	17%
Rural (Fringe, Distant, Remote)	76	29%	74	29%	123	30%	132	30%

**The definition of a "challenging school" changed in 2008-09 increasing the number of eligble schools by 166 under the new criteria. Challenging schools in this analysis included those buildings with certificated instructional staff in the given year.*

Appendix D-14: Characteristics of Washington Schools:* Trend Data						
	2006-07		2007-08		2008-09	
	All WA Schools		All WA Schools		All WA Schools	
Characteristics	Number	Percent	Number	Percent	Number	Percent
Schools						
Total Number of Schools	2,058		2,055		2,084	
Types of Schools						
Elementary	1,066	51.8%	1057	51.4%	1064	51.1%
Middle	328	15.9%	327	15.9%	331	15.9%
High	328	15.9%	339	16.5%	350	16.8%
Combined	240	11.7%	248	12.1%	259	12.4%
Missing/NA	96	4.7%	84	4.1%	80	3.8%
Schools by Size						
Less than 200 students	297	14.4%	310	15.1%	314	15.1%
200-399 students	488	23.7%	487	23.7%	481	23.1%
400-599 students	643	31.2%	657	32.0%	708	34.0%
600-799 students	259	12.6%	251	12.2%	235	11.3%
More than 800 students	246	12.0%	244	11.9%	244	11.7%
Missing/NA	125	6.1%	106	5.2%	102	4.9%
Schools by Region						
Eastern WA	597	29.0%	597	29.1%	606	29.1%
Central Puget Sound (ESD 121)	701	34.1%	691	33.6%	698	33.5%
Western WA (outside ESD 121)	760	36.9%	767	37.3%	780	37.4%
Schools by Size						
Less than 200 students	297	14.4%	310	15.1%	314	15.1%
200-399 students	488	23.7%	487	23.7%	481	23.1%
400-599 students	643	31.2%	657	32.0%	708	34.0%
600-799 students	259	12.6%	251	12.2%	235	11.3%
More than 800 students	246	12.0%	244	11.9%	244	11.7%
Missing/NA	125	6.1%	106	5.2%	102	4.9%
Schools by Racial/ethnic minority						
<20%	687	33.4%	663	32.3%	624	29.9%
≥20 and <40%	669	32.5%	682	33.2%	710	34.1%
≥40 and <60%	308	15.0%	314	15.3%	334	16.0%
≥60 and <70%	70	3.4%	82	4.0%	87	4.2%
≥70 and <80%	67	3.3%	73	3.6%	83	4.0%
≥80%	126	6.1%	135	6.6%	144	6.9%
Not available or not reported	131	6.4%	106	5.2%	102	4.9%
Schools by Student Poverty						
FRPL students <20%	410	19.9%	423	20.6%	350	16.8%
FRPL students 20 to 29%	313	15.2%	300	14.6%	282	13.5%
FRPL students 30 to 39%	313	15.2%	316	15.4%	326	15.6%
FRPL students 40 to 49%	277	13.5%	283	13.8%	302	14.5%
FRPL students 50 to 59%	224	10.9%	220	10.7%	244	11.7%
FRPL students 60 to 69%	175	8.5%	177	8.6%	186	8.9%
FRPL students 70 to 79%	107	5.2%	119	5.8%	163	7.8%
FRPL students 80 to 100%	122	5.9%	136	6.6%	154	7.4%
Not available or not reported	117	5.7%	81	3.9%	77	3.7%

**Based on buildings (other than district office) that have teachers (duty roots 31, 32 or 33) assigned to them in given year.*

***Schools with 10 or fewer students in a WASL grade will not have WASL data reported*

Appendix D-15: Characteristics of Students in Challenging Schools Over Three Year Period						
	Baseline Year 2006-07		Year One 2007-08		Year Two 2008-09	
Characteristics	Number	Percent	Number	Percent	Number	Percent
Schools						
Number of Schools*	259		254		420*	
Schools by Racial/ethnic minority students						
<45%	63	24.3%	60	23.6%	122	29.0%
45 to 74.9%	66	25.5%	65	25.6%	130	31.0%
75 to 90%	66	25.5%	62	24.4%	86	20.5%
>90%	52	20.1%	58	22.8%	71	16.9%
Not available or not reported	12	4.6%	9	3.5%	11	2.6%
Schools by Student Performance (at or above mean)**						
4th grade Math WASL	15 of 167	9.0%	12 of 164	7.3%	20 of 210	9.5%
4th grade Reading WASL	21 of 167	12.6%	14 of 164	8.5%	23 of 210	11.0%
7th grade Math WASL	1 of 42	2.4%	0	0	2 of 83	2.4%
7th grade Reading WASL	3 of 42	7.1%	0	0	7 of 83	8.4%
10th grade Math WASL	1 of 15	6.7%	1 of 15	6.7%	3 of 71	4.2%
10th grade Reading WASL	1 of 14	7.1%	1 of 14	7.1%	13 of 71	18.3%

**The definition of a "challenging school" changed in 2008-09 increasing the number of eligible schools by 166 under the new criteria. We included challenging schools that had certificated instructional staff in a given*
***Schools reporting WASL data. Schools with 10 or fewer students in a WASL grade will not have WASL data reported*

Appendix D-16: Characteristics of NBCT Workforce in Challenging Schools and Teaching Force Over Four Year Period								
	Baseline Year 2006-07		Year One 2007-08		Year Two* 2008-09		Year Three 2009-10	
Characteristics	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Teachers								
Non-NBCT Teachers	5,751	99%	5,815	98%	10,489	96%	10,663	93%
Teaching NBCTs	79	1%	118	2%	387	4%	746	7%
Proportion of NBCTs in the school workforce								
0 percent	205	79%	179	70%	233	55%	185	42%
1 to 3 percent	21	8%	28	11%	53	13%	47	10%
4 to 10 percent	24	9%	36	14%	107	26%	121	27%
More than 10 percent	9	3%	11	4%	27	6%	93	21%
# NBCTs in a Single Building								
0 NBCTs	205	79%	179	70%	233	55%	185	42%
1 NBCT	38	15%	48	19%	94	22%	83	19%
2 NBCTs	11	4%	19	7%	49	12%	65	15%
3 NBCTs	3	1%	3	1%	19	5%	45	10%
4+ NBCTs	2	1%	5	2%	25	6%	68	15%

**The definition of a "challenging school" changed in 2008-09 increasing the number of eligble schools by 166 under the new criteria. We included challenging schools that had certificated instructional staff in a given year.*

Appendix D-17: Retention and Mobility of Washington NBCTs and Non-NBCT Teachers in Challenging Schools				
	NBCTs Classroom Teachers		Non-NBCT Teachers	
Challenging Schools	FTE	Percent	FTE	Percent
Retention and Mobility 2006/07 to 2007/08				
Stayers	70	92%	4536	82%
Movers in District	6	8%	410	7%
Movers out District	0	0%	198	4%
Exiters from WA system	0	0%	397	7%
Retention and Mobility 2007/08 to 2008/09				
Stayers	106	93%	4672	84%
Movers in District	7	6%	358	6%
Movers out District	1	1%	159	3%
Exiters from WA system	1	1%	363	7%
Retention and Mobility 2008/09 to 2009/10				
Stayers	330	89%	8575	85%
Movers in District	31	8%	766	8%
Movers out District	3	1%	113	1%
Exiters from WA system	9	2%	576	6%

Appendix D-18: WA Districts with Challenging Schools and NBCTs in Classroom Teaching Assignments								
	Baseline Year 2006-07		Year One 2007-08		Year Two 2008-09		Year Three 2009-10	
Districts by # Challenging Schools	Districts (N=86)		Districts (N=87)		Districts (N=129)		Districts (N=136)	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1 School	39	45%	37	43%	60	46%	66	49%
2 Schools	19	22%	22	25%	23	18%	22	16%
3 Schools	13	15%	12	14%	17	13%	16	12%
4 to 9 Schools	9	10%	10	12%	21	16%	24	18%
10+ Schools	6	7%	6	7%	8	6%	8	6%
#NBCTs in Districts with Challenging Schools								
0 NBCTs in District	61	69%	56	64%	66	51%	54	40%
1-3 NBCTs in District	18	20%	18	21%	37	29%	46	34%
4-10 NBCTs in District	9	10%	11	13%	14	11%	12	9%
11+NBCTs in District	0	0%	2	2%	12	9%	24	18%