The Perceived Impact of the National Board Certification Process on Arkansas Teachers

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The Perceived Impact of the National Board Certification Process on Arkansas Teachers
The Perceived Impact of the National Board Certification Process on Arkansas Teachers

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Education in Human Resources and Workforce Development Education

by

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Abstract

This study assessed the perceived impact of the National Board Certification program on Arkansas teachers, relative to their professional practice, leadership practice, and students’ achievement. An electronic survey was sent out to 2144 Arkansas National Board Certified Teacher (AR NBCTs) and received a 53% response rate. The survey asked AR NBCTs demographic information and questions to determine the factors that influenced them to pursue NB certification. They responded to Likert scale questions about their professional practice, leadership practice, and student achievement, ranking how they perceived each was affected by their participation in National Board Certification. The study found that AR NBCTs are highly influenced by the financial bonus they receive for their certification. They are active teacher leaders who share their content and pedagogical knowledge with other teachers in a variety of ways. Most (94%) remain teaching in the district in which they certified and take on leadership roles. AR NBCTs feel self-reflection was the teaching practice most affected by their participation in the National Board Certification process. They perceived that the National Board Certification process has “highly affected” their professional practice (M = 4.1), and has “moderately affected” their students’ achievement (M = 3.99) and professional leadership (M = 3.7).
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Dedications

First, I would like to dedicate this research to all teachers who endeavor to become better at their teaching practice for the sole purpose of affecting their students’ learning and achievement.

I dedicate this work to my husband, Greg, and my children, who have supported and believed in me each step of this process. My husband is a master principal, whose understanding of the importance of developing teachers into quality teachers is what started this process for me. For three years he brought home the National Board application with the Five Core Propositions and would say to me, “Why don’t you do this? You do everything on this list. You do not have anything to lose by trying.” With that in mind, I applied and started the yearlong process. Greg supported and nurtured the changes that took place in my teaching practice and encouraged me to share my knowledge and experiences with other teachers along the way. His belief in me and in my work has been foundational to my growth as an educator and researcher.

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Chapter One

Educational Reform

The United States educational system has been under scrutiny since the 1983 release of *A Nation at Risk: The Imperative for Educational Reform* by the National Commission on Excellence in Education. The report found that “the educational foundations of our society are presently being eroded by the rising tide of mediocrity” (p. 1). The Commission called for educational reform in school curriculum and practices, stressing an increase of content knowledge, technology, and efficient use of educational time. The report outlined a need for higher standards and expectations for schools and teachers, emphasizing teacher quality, educational leadership, and a greater expectation for student learning (National Commission on Excellence in Education, 1983).

In 1986, the Carnegie Forum on Education and Economy Task Force on Teaching as a Profession released its final report, *A Nation Prepared: Teachers for the 21st Century*, which recommended the appointment of a board to advance the quality of teaching and learning. The board’s task would be to define professional standards for “what an accomplished teacher should know and be able to do” and to develop rigorous and valid assessments that would determine if teachers met those standards (National Board for Professional Teaching Standards, 1989, p. 1). This recommendation led to the formation of the National Board for Professional Teaching Standards (NBPTS) in 1987, funded privately by the Carnegie Corporation of New York National Board for Professional Teaching Standards, History, 2012).

Twenty-five years after *Nation at Risk*, the National Commission on Excellence in Education revisited the report to assess the progress made by our nation in educational reform and reported their findings in, *A Nation Accountable: Twenty Five Years after a Nation at Risk* (U. S. Department of Education, 2008). The Commission noted that legislators, school
administrators, teachers, and students had made a strong effort toward raising academic standards and accountability. The nation was more informed and more accountable about education reform, but the Commission questioned if the changes were enough for students of future generations to reach their “academic potential” (p. 3). It was noted that some gains were made in addressing school accountability and teacher quality, but the results were not effective in resolving the problem of low performing schools and students. The Commission concluded there was more work to be done and “if we were ‘at risk’ in 1983 then we are at greater risk now” (p. 1).

Today many parents, policy makers, business leaders, and educators concede that our education system still does not meet the high academic expectations needed to produce technologically innovative and globally competitive students for the workforce (HR Policy Education, 2010; Partnership for 21st Century Skills, 2008; Project Tomorrow, 2007). Since 2003, Project Tomorrow has administered the Speak Up survey each year to students, parents, teachers and school administrators in 50 states to determine their perceptions of student preparation for the 21st century workforce. In 2007, the Speak Up survey found a “digital disconnect” existed between students and their teachers between the role of technology and its use in education (p. 7). The digital disconnect existed because students felt teachers were not technologically prepared, and thus technology was not used strategically in the classroom. They were also dissatisfied with the lack of technology available to them in the classroom and school rules that restricted the use of their own devices, such as Smart phones and iPads. Over 40% of the students surveyed in the 2007 Speak Up survey cited the teacher as the biggest obstacle in their use of technology for learning. When asked to grade their schools’ preparation of students
for the future workforce, 66% of administrators, 47% of teachers, 43% of parents and 23% of students gave their school a passing grade.

In 2010, the Chief Human Resource Officers (CHRO) of more than 300 large United States’ businesses were surveyed. The HR Policy Association released the findings of the survey in *Educating the 21st Century Workforce*. The CHRO voiced a collective concern that “the academic institutions are being outpaced by the rate of change in the world economy” (HR Policy Association, 2010, p. ii). HR Policy Association members listed ten challenges of the 21st century that would have to be addressed in order to produce a competitive American workforce for the future. Two of the challenges are associated with the educational system. The first challenge is that teachers face many classroom obstacles that impede the learning process, such as increased numbers of students from low socioeconomic backgrounds, increased numbers of students with emotional, behavioral and learning needs, increased numbers of students from single-parent homes and increased numbers of students who lack English proficiency. These challenges result in K-12 students who are ill prepared in basic competencies of reading, writing, math, and communication. The second challenge is the education system’s difficulty in producing skilled graduates that enter the workforce with a specific skill set. The United States lacks organization systems and collaborative partnerships with businesses, unlike other countries that track their students through to technical schools or universities aligned to particular businesses, where they are immediately employed (HR Policy Association, 2010). However, as lacking as the education system appears to be in preparing students for the 21st century, educational stakeholders agree that an effective teacher makes a difference to student learning and achievement (Goldhaber, 2002; Rivers & Sanders, 2002). Stakeholders’ desire to identify the indicators of a quality teacher in order to hire teachers who can increase student learning, has
led researchers to focus their research on what characterizes a quality teacher and how teacher quality can be quantified (Hanushek & Rivkin, 2006; Hanushek & Rivkin, 2010).

_**Teacher Quality and Accountability.**_

In 2001, President George Bush called for greater accountability from states and schools, challenging school districts to provide every child an opportunity to quality education. Through a bipartisan effort, Congress enacted the No Child Left Behind Act (NCLB) with the reauthorization of the Elementary and Secondary Education Act (ESEA). Congress designed a provision in the NCLB Act to improve teacher quality. The Highly Qualified Teacher (HQT) provision requires all school districts that receive federal funding to provide evidence that their teachers are “highly qualified” (U. S. Department of Education, NCLB, 2001, Sec. 1119, a(2)A). NCLB defined a HQT as a person who holds a bachelor’s degree and has teaching credentials, such as a state teaching license and certification specific to the content and grade level for which they are teaching (sec. 1119a). In the past, a teacher needed only to have a teaching degree to teach, which meant an elementary teacher who did not have content course work specific to math could be required to teach eighth grade algebra if the school needed that position filled.

Teachers who did not meet the HQT criteria were given until 2006 to fulfill coursework or testing required for the content and grade level they were teaching. During the interim, states were given autonomy in defining highly qualified within the requirements of NCLB, through a process called High Objective Uniform State Standard of Evaluation (HOUSSE). The HOUSSE provision allowed teachers to “build a HOUSSE” using criteria set by their state. Recognizing the ambiguity in the provision, state leaders developed HOUSSE criteria that would yield the greatest number of highly qualified teachers for their systems. This was done in an effort to keep veteran teachers in the ranks and to avoid negative press from employing teachers who did not
meet the NCLB HQT requirements (Porter-Magee, 2004; Tracy & Walsh, 2004). Many states provided teachers a list of alternative options to build their HOUSSE, such as years of experience, attending conferences, attending professional development opportunities, taking college courses in the content area, acting as department head, sponsoring clubs, mentoring interns/teachers and earning awards (Tracy & Walsh, 2004). The vagueness of the HQT definition in the NCLB Act did not ensure teacher quality, as intended, but rather identified teachers who met the minimum qualifications to teach (Porter-Magee, 2004; Tracy & Walsh, 2004).

The era of standards and accountability brought with it a greater awareness for the need for effective teachers in the classroom. School administrators were quick to acknowledge that teacher quality was more than meeting the state required credentialing of NCLB and recognized that a highly qualified teacher did not always equate to a quality teacher. Other indicators of teacher quality needed to be considered, such as a teacher’s effectiveness in practice, their willingness to learn, their ability to lead, and most important, their impact on student learning and achievement (Darling-Hammond & Youngs, 2002).

**Defining Teacher Quality.**

“Quality teacher” is a ubiquitous term, used to describe a variety of teacher characteristics, such as credentials, practices, personal attributes, experiences, and dispositions a teacher may have or display (Kennedy, 2008). Kennedy (2008) describes teacher quality as having “numerous dimensions…which may be important to different people for different reasons” (p. 60). Historically, teacher quality has been linked to student achievement; however, the characteristic or measure continues to be argued, as exemplified in the research debate between Linda Darling-Hammond and Kate Walsh. Stakeholders and researchers have not
reached an agreement on what specific characteristic, credential or skill a teacher must possess to be considered a quality teacher, but they do recognize that teacher effectiveness is directly associated to students’ learning (Darling-Hammond, 1999). Hanushek (2002) puts it this way: “Good teachers are ones who get large gains in student achievement for their classes; bad teachers are just the opposite” (p. 3).

A growing body of research emerged during the 1990s and early 2000s that quantitatively and qualitatively assessed teacher quality and its effect on student achievement (Darling-Hammond & Youngs, 2002; Gallagher, 2004; Kemp & Hall, 1992; Milanowski, 2004; Sanders & Rivers, 1996). Studies looked at individual teachers whom researchers characterized as quality teachers. Teacher quality characteristics common to the studies include teacher preparation and qualification, subject knowledge, teacher evaluation scores, verbal ability, degree level, and experience. Researchers found that teachers who had many of the characteristics listed above made a significant impact on student achievement (Borgman & Kimball, 2005; Darling-Hammond, 2000; Darling-Hammond & Youngs, 2002; Hanushek, 2011; Rivkin, Hanushek & Kain, 2005; River & Sanders, 2002; Wayne & Youngs, 2003). Izumi & Evers (2002) in Teacher Quality state, “…the quality of classroom teachers has the greatest impact on the performance levels of students. High-quality teachers who use proven teaching methodologies, produce high-achieving students” (p. xiii).

The increase of school accountability and the scrutiny of student data (outcomes) have increased attention on the demand for teachers who can positively impact student outcomes. The expectation for public education is to produce high achieving, college prepared, and career ready students who can compete globally. Subsequently, the greatest challenge of every school district in the nation is identifying, recruiting, and retaining quality teachers in their classrooms
The difficulty lies in finding a reliable indicator to identify teachers who possess the characteristics of a quality teacher and have demonstrated their ability to impact student learning. Goldhaber’s (2004) study of North Carolina NBCTs and Cavalluzzo’s (2004) study of NBCTs in a large urban school district in Florida found strong evidence that National Board Certification was an effective indicator of teacher quality. Research studies such as this have led many administrators who are seeking highly qualified teachers to perceive National Board Certification as a credential that indicates teacher quality.

**Theoretical Framework for the Development of National Board.**

The National Board of Professional Teaching Standards was formed in 1987 in response to the Carnegie Forum on Education and the Economy Task Force on Teaching as a Profession report, *A Nation Prepared: Teachers for the 21st Century*. The Carnegie Forum suggested that to increase the quality of the nation’s teacher workforce, there should be an increase in teacher professionalism. The Forum suggested that high standards and assessments for teachers be established, so that teachers who meet the standards could be certified (Carnegie Forum on Education and the Economy, 1986).

The National Board for Professional Teaching Standards (NBPTS) was formed to determine what an “accomplished teacher should know and be able to do” (National Board for Professional Teaching Standards, 1989, p. 1; National Board for Professional Teaching Standards, Publications, 2012). North Carolina Governor James B. Hunt, Jr., chaired the initial Board of Directors, which was composed of education professionals at all levels of education (National Board of Professional Standards, History, 2012). The 63-member board formed smaller groups to create defined tasks for the development of the NB program. The NBPTS vision for what an accomplished teacher should know and be able to do has its foundation in the
Five Core Propositions. The development of the Five Core Propositions by the board was heavily influenced by the research of Lee Shulman and his colleagues at the Institute for Research on Teaching (IRT) at Michigan State University and his later research at Stanford University as the Director of the Teacher Assessment Development Project (National Research Council, 2008). Shulman’s (1987) study of knowledge growth in teaching led him to theorize aspects of a teacher’s effectiveness into the concept of “pedagogical content knowledge” (p. 8). Shulman drew upon the work of John Dewey’s theory of experience, Piaget’s theory of cognitive development, and others such as Scheffler, Green, Fenstermacher, Smith, and Schwab (Shulman, 1987). Two of Shulman’s research students for TAP, Suzanne Wilson and Gary Sykes, worked on the TAP team developing prototypes for assessing teachers. Both acted as consultants to the NBPTS Board as they developed standards and assessments (National Research Council, 2008).

The NBPTS Board worked seven years developing rigorous standards and performance-based assessments of what an “accomplished teachers should know and be able to do” (National Board of Professional Teaching Standards, 1989, p. 1; National Board for Professional Teaching Standards, History, 2012). As a result of their work, the NBPTS (1989) identified five core propositions that define qualified teachers. The propositions are

1) Teachers are committed to students and their learning.

2) Teachers know the subjects they teach and how to teach these subjects to students.

3) Teachers are responsible for managing and monitoring student learning.

4) Teachers think systematically about their practice and learn from experience.

5) Teachers are members of learning communities. (pp. 3-4).
The five core propositions form the foundation for the content standards developed by NBPTS for twenty-five certificate areas (National Board for Professional Teaching Standards, Publications, Become a Candidate, 2012).

National Board Certification is a voluntary assessment of teachers’ practice; their knowledge, skills, dispositions, and beliefs are examined through the lens of NBPTS. To attempt certification, teachers must have three years of teaching service, hold a valid teaching license, and currently be working in a school district. The process requires the teacher candidate to demonstrate both the art and science of teaching through portfolios of instructional practice and content knowledge assessments (National Board Professional Teaching Standards, FAQ, 2012). Portfolios contain both video and written evidence of practice. Each entry requires teachers to describe, analyze, and reflect on their practice in respect to their students’ needs and learning. Research by NBPTS has found teachers dedicate 200 - 400 hours during the yearlong process to prepare their portfolios (National Board of Professional Standards, FAQ, 2012).

In 1994, the first year that National Board Certification became available, 177 teachers became National Board certified. As of 2013, over 106,365 teachers nationwide have successfully achieved National Board Certification (National Board for Professional Teaching Standards, Who We Are, Resources, 2013). Through NBPTS, teachers from the specific content area they are certifying in will assess teacher portfolio entries and assessments. They are assessed based on their content knowledge, pedagogical practices, understanding and application of child development, professional growth, professional leadership, professional contribution, as well as their collaboration with parents, community, and peers. NB candidates submit four written portfolio entries, two videos, and six content-based assessments (National Board for Professional Teaching Standards, Publication, Becoming a Candidate, 2012).
Each entry requires description, analysis, and reflection of the teacher’s practice in relationship to student learning. Entry 1 requires teachers to demonstrate their ability to teach a major idea over time. The entry requires samples of student work as evidence of student growth in learning. Entries 2 and 3 require videotape analysis and reflection of their teaching practice with small and large groups of students, respectively. Entry 4 requires teachers to demonstrate how their professional growth has affected student learning. Teachers can use up to eight documented accomplishments to demonstrate their professional growth as a learner, leader, and collaborator with families, community, and colleagues. Each accomplishment must be accompanied by verification or evidence. Portfolio entries are submitted to NBPTS, which disseminates them across the nation for assessment by trained teacher assessors (National Board for Professional Teaching Standards, Assessment, 2012).

The second part of the National Board Certification process is six computer-based, timed assessments, administered by Pearson VUE (National Board for Professional Teaching Standards, Assessment, 2012). The open response assessments are content and grade level specific. Teachers who achieve National Board Certification are teachers who are considered highly qualified in their area of certification (National Board for Professional Teaching Standards, Assessment, 2012). State departments of education recognize the rigor of the National Board Certification process and encourage teachers to participate in its professional development. Most states recognize National Board Certification as a credential to be considered a Highly Qualified Teacher (National Board for Professional Teaching Standards, Become a Candidate, 2012).

The certification process is a yearlong process, but candidates can take up to three years to achieve certification. If a candidate does not achieve certification at the end of the first year,
then they can bank any portfolio entry or assessment score that is 275 or above on a scale that
goes to 400. The next year, they will only need to submit the portfolio or assessment on which
they scored below 275; however, they must pay for each entry or assessment they retake, at a
cost of $350 each. This process is repeated at the end of the second year. If at the end of three
years the candidate does not achieve certification, then they must restart the process and pay the
full application fee (National Board for Professional Teaching Standards, Become a Candidate,
2012). Teachers who achieve certification receive a certificate for 10 years, after which time
they must recertify through another yearlong process.

Cost of Pursuing National Board Certification.

The cost to participate in the National Board Certification process is $2,500. Currently,
24 states provide financial incentives to recruit teachers into participating in the National Board
Certification program by providing either full or partial funding of the application fee (National
Center for Education Statistics, 2012). Partial funding of $1,250 is available through the NBPTS
Candidate Subsidy Funding, a federal grant dispersed to states. In 2012, the U.S. Department of
Education announced that the Candidate Subsidy Funding would no longer be provided to states
in the coming year. The effects of this funding cut on the number of teachers pursuing National
Board Certification in the coming years is yet to be determined. Several private organizations
and foundations provide scholarships to teachers seeking National Board Certification, including
Amgen, Coca-Cola Foundation, State Farm Companies Foundation, Boeing, Northrop Gruman,
Georgia Pacific, Liberty Mutual Insurance, and Chase and Weyerhaeuser Company Foundation
(National Board of Professional Teaching Standards, Become a Candidate, 2012.)
Outcomes of National Board Certification.

Several studies have compared National Board Certified Teachers (NBCT) with non-National Board certified teachers to determine the impact of certification on student learning. These studies found that NBCTs were more effective than non-certified teachers or teachers who had not participated in the National Board Certification program (Cantrell, Fullerton, Kane, Staiger, 2008; Harris & Sass, 2007; Smith, Gordon, Colby, & Wang, 2005; Goldhaber & Anthony, 2004; Cavalluzzo, 2004, Vandervoort, Amrein-Beardsley, & Berliner, 2004; Bond, Smith, Baker, & Hattie, 2000). Conversely, several studies dispute the effectiveness of NBCTs compared to non-NBTCs. These studies found no significant difference (Stone, 2002; Sanders, Ashton, & Wright, 2005; McColskey & Stronge, 2005; Harris & Sass, 2007).

The National Board Certification is designed to be rigorous in order to compel teachers to grow professionally. Understanding the changes that take place in a teacher’s practice because of their participation in the National Board Certification process will provide insight into what constitutes and fosters a quality teacher. Several states have initiated studies of their National Board programs to examine the effect that the National Board Certification process had on their teachers. National Board programs evaluated include Indiana, Mississippi, North Carolina, Ohio, Oklahoma, South Carolina, Washington, Wisconsin, and Wyoming (Rinne, 2002; Berry, Rasberry & Williams, 2007; Rasberry & Berry, 2008; Hudson, 2010; Simpkins, 2011; Oklahoma Technical Assistance Center, 2011; Oklahoma Technical Assistance Center, 2002). From those studies, several common themes emerged regarding the effects of the National Board Certification process on teachers. NBCTs perceived a positive impact on their teaching practice, leadership, efficacy, and student achievement.
Statement of Problem

Arkansas state legislators and school districts have committed a considerable amount of funding toward recruiting teachers into the National Board Certification program, supporting their professional growth, and retaining them in the classroom. From 2002 to 2012, the state of Arkansas has provided $44,167,553 toward NB application fees, teacher stipends, and candidate support to promote National Board Certification (Arkansas Department of Education, 2012) (See Appendix A). Arkansas stakeholders continue to provide monetary incentives to recruit teachers into participating in the program and provide a yearly stipend of $5,000 to teachers who achieve certification for the duration of their certificate. This is evidence that ADE believes the funding appropriated for the National Board Certification process has been an effective strategy to recruit and retain quality teachers into Arkansas public school classrooms. However, there have not been any studies conducted on the AR NB program to determine the program’s effectiveness to recruit and retain NBCTs in the classroom. Nor has there been a study or evidence collected that supports the belief that teachers who participate in the AR NB certification program become effective teachers.

Significance of Study

Why is it important to assess the effect of National Board Certification on Arkansas teachers and, specifically, to analyze a teacher’s change in response to the experience? It is important because understanding how teachers change and transform their practice to be more effective is valuable information to educational reform. The professional development of the National Board Certification process provides a means for teachers to grow professionally and as teachers grow professionally, their perceived self-efficacy in their practice and instructional efficacy to their students’ learning increases (Ross & Bruce, 2007). Albert Bandura (1997)
defines perceived self-efficacy as the “beliefs in one’s capacities to organize and execute the courses of action required to produce given attainments” (p. 3). Teachers who are growing professionally in their practice are teachers who are able to take newly learned information including pedagogical strategies, technology applications, community resources, and research back to their classroom, and strategically integrate their new learning into their teaching. They assess their students’ learning, reflect on their practice, and are committed to finding and providing alternative instruction to reach all learners (Danielson, 2007).

In *Teacher Leadership That Strengthens Professional Practice*, Danielson (2006) lays out a framework for teacher leadership. She describes three areas of a school’s culture in which teachers demonstrate their leadership skills: “school-wide policies and programs, teaching and learning, and communications and community relations” (p. 25). Teachers who share new information, strategies, technological applications and resources with others teachers demonstrate professional leadership. They take leading roles in their buildings, districts, communities, and states to build learning communities. Teacher leaders serve as coaches, mentors, and advocates to and for their peers. They take active roles in the development of policies that will affect the quality of their students’ educational experience and opportunity. Steele and Craig (2006) discuss the importance of administrators fostering teacher leadership. Empowering teachers to take leadership roles in developing curriculum, mentoring others, and pursuing relevant professional development compels the “structural and operational changes” needed to reform our educational system (p. 680).

Teachers who consistently demonstrate their ability to reach students at every level are teachers who are endeavoring to impact their students’ achievement. They are teachers who continually assess and reflect on their teaching practice and its effectiveness in reaching all
learners. They make data-driven decisions to determine teaching methods, strategies, tools, and resources needed to meet the individual learning needs of their students (Marzano, Pickering & Pollock, 2001).

This study will assess the AR NB certified teachers’ perceptions on the program’s effectiveness at fostering quality teachers for Arkansas classrooms. The data collected from this study will provide stakeholders evidence of how NB teachers perceive the NB certification process impacts them. In turn, allowing stakeholders to determine if the funding being provided by the state to promote the NB certification program, has had a perceived positive impact on increasing teacher quality. This study is relevant because it will provide a summative overview of how the National Board certification program is perceived by NB teachers as having impacted Arkansas NB teachers and their students.

**Overview of Arkansas National Board Certification Program**

Arkansas’s National Board program, established in 1997, has not been assessed for its effectiveness in recruiting teachers to participate in the process and retaining those teachers who achieve National Board Certification in the classroom. Arkansas had a 15.52% increase in teachers achieving National Board Certification in 2012 compared to the United States increase of 5.12% (National Board for Professional Teaching Standards, State Profiles, 2012). The effect the National Board Certification process has on the practice of Arkansas teachers has not been investigated. This study will evaluate the effectiveness of the state funded NB program for recruiting and retaining NBCTs. The study will also investigate how Arkansas NBCTs perceive the effects of the National Board Certification on their professional practice, leadership practice, and their students’ achievement.
In 1997, Arkansas legislators implemented Act 1225, AR Code 6-17-412 and 413, which established a financial incentive policy to recruit the participation of teachers in the National Board Certification process and established support systems to promote candidates’ successful completion of National Board Certification. The Act provided Arkansas Department of Education (ADE) the funding to cover “one-half of the NBPTS participation fee and provide, if determined to be necessary by State Department of Education, substitute pay for a maximum of three (3) days of approved paid leave,” so teachers could attend three professional development workshops. Teachers, whether they certified or not, were required to teach two continuous years in an AR public school or pay back the participation fee awarded (Arkansas State Legislature, 2012, Section 2(a)).

In 1999, legislators amended AR Code 6-17-413, requiring the State Board of Education to establish rules and regulation for selecting NB candidates and support programs for teacher candidates to attend. Act 58 amended the amount of funding provided for the participation fee from one-half to the full participation fee. A $2,000 starting incentive bonus for achieving National Board Certification was initiated, as well as a yearly stipend of $2,000 for the life of the certification (Arkansas State Legislature, 2012).

In 2001, Arkansas policy makers amended AR Code 6-17-413 with Act 1060 that increased the starting incentive bonus by $3,000 and the yearly incentive by $1,000, with the intent to promote the retention of NBCTs in the classroom. In 2003, Act 1803 again modified the bonus amounts by combining the starting and yearly incentive bonuses and establishing a yearly increase of the incentive amount. Teachers would receive $3,000 in 2003, $4,000 in 2004, and $5,000 in 2005 and thereafter (Arkansas State Legislature, 2012).
The Arkansas Department of Education (ADE) has structured a competitive application process for teachers who want to pursue National Board Certification. To receive full funding for the registration fee, teachers must attend an ADE-hosted NB orientation before they can submit an application for funding. State funding is competitive and covers the full NBPTS application fee of $2,500. There are 200 awards distributed each year. Teachers who do not receive full funding may apply for federal funding through the NBPTS Candidacy Subsidy Funding (CSF), which provides half the NBPTS registration fee. Teachers can receive CSF funding one time. CSF is federal funding made available through a U.S. Department of Education grant (Arkansas Department of Education, National Board for Professional Teaching Standards, 2012).

AR teacher candidates who do not achieve certification the first year and have not previously received federal funding can apply for CSF funding to cover the cost of two additional attempts. Teachers who do not achieve National Board Certification at the end of three years are required to repay the state scholarship or have their license suspended. Teachers who achieve National Board Certification are awarded a financial bonus of $5,000 each year for the duration of their ten-year certificate, contingent on their serving as a classroom teacher, principal, assistant principal or instructional facilitator in an Arkansas public school. If a teacher leaves employment of an Arkansas public school before the completion of the three years, they must repay the scholarship fee ($2,500) and the bonus stipend for every year they received it, according to the 2001 Act 1060 (Arkansas State Legislature, 2012; Arkansas Department of Education, National Board for Professional Teaching Standards, 2012). Potentially, a teacher leaving the classroom at the end of two years would owe $12,500 to the state or lose their teaching licenses.
In the effort to recruit and retain NBCTs, many Arkansas school districts offer incentives to NBCTs above the $5,000 state stipend. Currently, of the 258 school districts in Arkansas, 127 districts offer financial incentives, ranging from $500 to $4,000. Of the 127 districts, 113 offer annual stipends for the life of the NBCT’s certificate, the average stipend for these 113 districts is $1,923. Thirteen districts offer a one-time stipend upon completion of National Board Certification, two districts offer a $1,000 stipend for five years; one offers a $750 stipend for five years; one offers a $500 stipend for four years; and one district offers a laptop computer (Arkansas Department of Education, National Board for Professional Teaching Standards, 2013) (see Appendix B). Many school districts provide NBCTs opportunities to take on leadership roles where their expertise can be utilized in peer coaching, mentoring, curriculum development and school policy. Some of those leadership roles, such as lead teacher, instructional facilitator, or coach, are financially compensated roles (Fort Smith School District, Pay Schedule, 2012).

In Arkansas, approximately 2,571 teachers, or 6.5% of the state’s teachers, have received National Board Certification (Arkansas State Department of Education, 2013). In 2013, Arkansas ranked 14th in the nation for the number of NBCTs. Arkansas ranks seventh in the nation for total number of newly certified NBCTs (National Board for Professional Teaching Standards, State Rankings, 2013). There are NBCTs teaching in all but one county in the state, Calhoun County, a small county located in the southeast region of the state (National Board of Professional Teaching Standards, State Profiles, 2012).

Legislators in 2009 with Act 1449 included NBCTs who are “employed as a teacher in an accredited teacher preparation program at a state-supported institution of higher education” (Arkansas State Legislature, 2012, Section 2(B)(ii)). The act stipulates that the university faculty member must have taught in an Arkansas Public School for three years prior to moving to an
accredited teacher preparation program. This prevents many faculty members from receiving the yearly stipend, because either they received their certification in another state or they did not teach at the public school level for three years after becoming certified.

**Purpose of the Study**

The purpose of this study is to assess the perceived impact of the National Board Certification program on Arkansas teachers, relative to their professional practice, leadership practice, and their students’ achievement.

In addition, this study will examine the factors that influenced teachers to pursue, complete, and maintain National Board Certification. These factors include monetary incentives, professional opportunities, and school support, in relation to NB recruitment and retention of NBCTs in the classroom.

**Research Design**

A non-experimental quantitative study was developed to identify the perceptions of Arkansas NBCTs regarding the impact of the Arkansas National Board certification program on their practice. An electronic survey was developed and sent to all Arkansas NBCTs; the following research questions guided the study.

1. What factors influence Arkansas teachers to pursue National Board Certification?
2. Have the financial incentives provided by Arkansas legislative policies provided an effective model for recruiting teachers into the National Board Certification process?
3. Have the financial incentives provided by Arkansas legislative policies provided an effective model for retaining NBCTs in the classroom?
4. How do Arkansas NBCTs perceive their professional practice has been affected by their participation and achievement of National Board Certification?
5. How do Arkansas NBCTs perceive their leadership practice has been affected by their participation and achievement of National Board Certification?

6. How do Arkansas NBCTs perceive their students’ achievement has been affected by their participation and achievement of National Board Certification?

7. What are the impacts of the National Board Certification process on Arkansas teachers?

The total population of Arkansas National Board Certified Teachers (AR NBCTs) was electronically surveyed to determine the factors that contributed to their pursuing National Board Certification and remaining in the classroom. The survey was sent to 2,144 AR NBCTs, using software. The survey responses were collected by the Qualtrics program and analyzed. Using the Survey System calculator from the Creative Research Systems website, a minimum sample size of 326 responses was needed at 95% confidence level and a confidence interval of five (Creative Research Systems, 2012). Using the Salant and Dillman’s (1994) survey method, six contacts were made with NBCTs in a four-week period. The survey was used to gather demographic information from participating NBCTs, such as years experience, year certified, geographic locations of NBCTs in the state, the size and characteristics of the schools in which they teach, and their job movement to determine state trends. NBCTs were asked questions to determine their perception of the National Board Certification process and how their achievement of National Board Certification has affected their professional practice, leadership practice, and student achievement.

**Instrumentation**

The survey used in this study was developed from a survey developed and used by the Oklahoma Technical Commission to evaluate Education Leadership Oklahoma (ELO), a
program used to recruit and support teachers who are pursuing National Board Certification. Several questions were added or modified to adapt to the Arkansas National Board program.

State data were collected and used with the demographic data from survey distribution to determine statewide trends for NBCTs. NBCTs were asked to rate the effect of the National Board Certification program on their professional growth, professional practice, leadership practice, and student achievement using a Likert-type scale. The Likert-type scale was set on a 1 to 5 range, where 1 was not affected, 2 was slightly affected, 3 was moderately affected, 4 was highly affected, and 5 was extremely affected.

Data Analysis

Descriptive statistics were used to determine frequency of the demographic information collected. The demographic data were also used to determine trends among the sample NBCTs. The NBCTs’ responses to statements about their professional practice, leadership practice and student achievement were analyzed using t-tests and a paired t-test was utilized to compare the components to each other.

Definition of Terms

The following terms are defined for the purpose of this study.

1. National Board of Professional Teaching Standards (NBPTS) is an independent, not-for-profit organization that has established standards that measure teacher effectiveness.
2. National Board Certified Teacher (NBCT) is a teacher who has demonstrated their knowledge and skill as an accomplished teacher through high standards-based practices and assessments.
3. Non-National Board certified teacher is a teacher who has attempted the National Board Certification but did not achieve National Board Certification.
4. Teacher quality is the ability of a teacher to increase their students’ achievement (Eide, Goldhaber & Brewer, 2004).

5. Professional practice is a comprehensive framework for teaching. It is based on researched practices that promote student learning. It identifies teacher responsibilities in planning and preparation, classroom environment, instruction and professional responsibilities (Danielson 1996; Danielson, 2007).

6. Leadership practice is the role a teacher plays to improve student achievement, extend their personal learning, collaborate for school improvement, and support shared vision and values in a school (Danielson, 2006).

7. Student achievement is the learning gains of students as determined by standardized, state-mandated achievement tests or pre-and post-testing.

**Assumptions**

- An assumption of this study was that the sampling of Arkansas National Board Certified Teachers adequately represents all NBCTs in the state of Arkansas.

- Arkansas NBCTs responded to the survey honestly.

**Delimitations**

- A delimitation of this study was that the population being studied is confined only to Arkansas teachers who have received National Board Certification.

- The study does not address teachers who pursued National Board Certification but did not achieve certification (non-National Board Certified Teachers) or the teachers who have not attempted the certification process.

**Limitations**

- The number of NBCTs who responded to the survey.
• The NBCTs who responded to the survey are self-selected.

Chapter Summary

Chapter one is an historical overview of the educational reform that was initiated with the release of *A Nation at Risk* in 1983 to present. Recognizing the political and educational climate as our educational system began its transformation is important because it sets the foundation for understanding the motivation for establishing the National Board for Professional Teaching Standards (NBPTS). Understanding the purpose and function of NBPTS allows for the analysis of the National Board Certification program and its effects on teachers’ professional practice, leadership practice, and teaching effectiveness. Lastly, recognizing how the National Board Certification process can be used to identify quality teachers in order to recruit and retain them in the classroom teaching is key to educational reform. The history of NBPTS transitions from National Board at the national level to the state level, focusing specifically on the Arkansas National Board program. The research design and methodology are described. The purpose and significance of the study is discussed and its importance to all stakeholders involved in reforming education.

Chapter two reviews literature and studies that are relevant to the purpose of this study. The theoretical framework describing the foundational development of the National Board standards and Five Core Propositions is examined. The status of NBPTS at the national level and state level are reviewed. State studies similar to this study of Arkansas NBCTs are reviewed and analyzed to determine common trends and findings among the studies. Teacher quality is examined through the lens of NBPTS, focusing on teacher characteristics of professional practice, professional leadership, and effectiveness. Research determining the value of a quality
teacher in correlation to student achievement is reviewed. Last, the role of National Board Certification as an indicator of teacher quality is analyzed.

Chapter three describes the design and methodology for the study. A survey was electronically sent out to all Arkansas National Board Classroom Teachers to gather demographic data and to determine how they perceive the National Board Certification process has impacted their practice, leadership and student achievement. Qualtrics software was used to send the survey and SPSS was used to analyze the data obtained from the survey.

Chapter four discusses the data collected and its analysis. Simple descriptive statistics were conducted from the demographic data collected from the survey and from the Arkansas Department of Education to determine trends occurring across the state among NBCTs. NBCTs were asked to rank statements in three categories: professional practice, professional leadership, and their students’ achievement. NBCTs ranked each statement according to how they perceived each of these areas had been affected by their participation in the Arkansas National Board Certification program.

Chapter five summarizes the findings of the study. The demographic data and the trends that emerge from the data were analyzed and compared to other studies. A conclusion of how Arkansas NBCTs perceive the affects of the National Board Certification program on their professional practice, leadership, and their students’ achievement are discussed. Implications of the study are addressed and suggestions for further research are recommended.
Chapter Two

Review of the Literature

The Call for Teacher Quality

The release of *A Nation at Risk* in 1983 suggested that the quality of teachers was substantially lacking and the first step to educational reform should begin with increasing teacher quality. This led to a body of literature and research examining the characteristics of quality teaching and learning, begging the question, “How can we identify a quality teacher”? Defining quality teaching depends upon the characteristics of the teacher and their ability to guide and impact student learning. Thus, defining “quality teacher” has become a strongly debated area of research.

Three years later, the Carnegie Task Force proposed in *A Nation Prepared: Teachers for the 21st Century* the creation of the National Board for Professional Teaching Standards (NBPTS), whose charge was to establish high professional teaching standards and certification for teachers who meet the standards (Carnegie Forum on Education and the Economy, 1986, p. 66). The NBPTS planning committee made the decision to have teachers serve at every level of decision making for the development of National Board Certification. Teachers served on the NBPTS Board and on committees to develop teaching standards, develop assessments, and design evaluation systems (National Board for Professional Teaching Standards, About Us, 2012). Keeping with the founder’s philosophy to have the program “profession-driven,” the NB portfolios and assessments that are submitted by teachers are reviewed and scored by teachers (National Board for Professional Teaching Standards, Who We Are, Built from Teacher Expertise, 2013, para. 2). Since its inception, NBPTS has played a significant role in education reform by promoting teacher quality and professionalism. NBPTS “reaches beyond the
classroom and values teachers as leaders, as individuals who develop policy, set goals, implement change, take risks, lead by example and work effectively with others to accomplish common objectives” (National Board for Professional Teaching Standards, Policy for Affiliated Networks, revised 2009, p. 1).

**Theoretical Framework for National Board Five Core Propositions and Standards**

When the NBPTS Board of Directors began the arduous process of developing the policy to articulate the NB vision of an accomplished teacher, it started by reviewing literature and current research and called upon educational experts. The Board was influenced by the work of Lee Shulman and his colleagues at the Institute for Research on Teaching (IRT) who were developing teacher assessments on knowledge and teaching. Shulman evaluated the way teachers were being assessed for competency and found that the instrument most used, the National Teachers Examination (NTE), was limited in its assessment of teacher knowledge and skills. First, the test was designed to assess novice teachers not experienced teachers, and second, the assessment did not consider teacher performance. Shulman proposed a portfolio component to assess teachers; similar to the way other professions assessed their students. The performance-based portfolio would be specific to each teacher’s content area and grade level but would be assessed using standards. Drawing upon Donald Schön’s studies on professional reflection in action (Schön, 1983, 1988), a component on reflection was integrated into the teacher assessment design (The National Research Council, 2008; Shulman & Sykes, 1986; Sykes & Wilson, 1988). The Teacher Assessment Development Project (TAP) was formed to pursue the research plan laid out by Shulman. Gary Sykes and Suzanne Wilson had worked on Shulman’s team at TAP and were later asked to be consultants to the NBPTS Board of Directors as they developed the cornerstones for teacher standards (National Research Council, 2008).
Shulman (1986) discusses the evolutionary path education has taken regarding the perspective of what constitutes adequate teacher knowledge. Shulman found the defining characteristic of teacher knowledge in the late 19th century to be content knowledge. Teachers were expected to be content experts, a font of knowledge to pour out upon students. During this period, teacher assessments focused on teacher content knowledge and little on teachers’ pedagogical knowledge and skills. Later in the 20th century, the polar opposite occurred; a teacher’s pedagogical knowledge became the basis for teacher knowledge and their content knowledge was ignored. Shulman describes this phenomenon as the “missing paradigm” (p. 6). Shulman proposed that a shift was taking place in research and educational policy, back to the perspective of Aristotle, who believed that teacher knowledge was more than content knowledge and pedagogy, but instead the “art” of teaching (p. 7). Shulman interprets Aristotle’s “art” of teaching as the “ability to transform one’s knowledge into teaching” (p. 14).

Shulman (1987) credits Piaget’s research on knowledge growth and others such as Dewey, Scheffler, Green, Fenstermacher, Smith, and Schwab as influences for his studies of knowledge growth and teaching (p. 4). He argues in his article Knowledge and Teaching: Foundations of the New Reform, that the “knowledge base of teaching” is a far more complex concept than empirical research has shown (p. 4). Researchers seek general characteristics of teaching behavior that align to increased student achievement on a standardized test, disregarding other germane aspects of the teaching context. He contends that there are many categories of the knowledge base that makes up a teacher’s understanding, such as content knowledge, pedagogical knowledge, curriculum knowledge, pedagogical content knowledge, knowledge of learners, knowledge of educational context and knowledge of ends, purposes, and
values. He considers all categories of the knowledge base and their relationship to one another throughout his studies, but concentrates much of his focus on pedagogical content knowledge.

Shulman (1987) asserts that pedagogical content knowledge (PCK) exemplifies all knowledge base categories. He describes PCK as the “special amalgam of content and pedagogy that is uniquely the province of the teacher, their own special form of professional understanding” (p. 8). Shulman posits that teachers must demonstrate more than a knowledge base of understanding; they must be able to reason and put into action their knowledge. Shulman’s Model of Pedagogical Reasoning and Action outlines a cyclic process that teachers undergo when teaching. Though the model starts and ends with comprehension or understanding for the teacher, Shulman makes it clear that the process is dynamic.

The model of processes begins with teacher “comprehension” of the content, understanding why it is being taught, knowing how the content relates to other content areas and lastly, knowing how to teach the content in the most “pedagogically powerful” way for maximum student understanding (p. 15). “Transformation” is the process in which teachers analyze each facet of the lesson to be taught in preparation of teaching. Teachers prepare by critically analyzing the content to determine the goal of the lesson then methodically organize and structure it for teaching. They determine representations of the concepts being taught that will increase student understanding. Teachers make instructional selections for transferring the content using a variety of strategies. They consider the individual needs of their students and make adaptations to the lesson that will provide students with alternative paths of learning (pp. 16-17). “Instruction” is the process in which the teacher puts their planning into action, presenting the lesson, managing the classroom, facilitating discussion and monitoring student understanding (p. 17). The “evaluation” process requires the teacher to assess informally and
formally the learning of students before, during, and after the lesson, providing constructive 
feedback to their students at each phase (p. 18). Evaluation can also be directed toward the 
teacher, leading to the next process of “reflection” (p. 19). Reflection requires teachers to look 
back at the lesson and analyze their planning and teaching in respect to their students’ learning. 
Through reflection, teachers are able to form “new comprehensions” or understanding from their 
experience and use that understanding to change practices that were unsuccessful in their 
teaching or expand on practices that were successful (p. 19).

Each component of Shulman’s Model of Pedagogical Reasoning and Action is 
represented in the NBPTS vision of an accomplished teacher. NBPTS released its vision of 
accomplished practice of teachers in a policy statement called What Teachers Should Know and 
Be Able to Do. Within the policy, NB describes the fundamental requirements of what an 
accomplished teacher should know and be able to do and calls the requirements the Five Core 
Propositions. The Five Core Propositions form the framework for the teaching practice of an 
accomplished teacher (National Board for Professional Teaching Standards, What Teachers 
Should Know and Be Able To Do, 1987). Each core proposition is relevant to the teaching 
practice of a teacher, no matter the content, goals, and pedagogy of instruction or the level of 
student academics being taught. NBPTS describes the relationship between the core 
propositions as overlapping and intertwined like a “helix” forming what NB terms, the 
“architecture of accomplished teaching” (National Board for Professional Teaching Standards, 
Candidate Support Provider Training Manual, 2008, p. 2.9). The Five Core Propositions are 
incorporated into all NBPTS content standards, creating high and rigorous expectation of what 
an accomplished teacher should know and be able to do (National Board for Professional 
Teaching Standards, What Teachers Should Know and Be Able To Do, 1987). Shulman’s
proposed assessment of teacher knowledge, learning, and performance, developed through his research at TAP, helped frame the National Board assessment of an accomplished teacher.

**National Board for Professional Teaching Standards at the National Level**

National Board Certification piloted its first cohort in 1994, when 177 teachers certified from 28 states. In 2013, 4,115 teachers became NB certified, increasing the number of National Board Certified Teachers in the nation to 106,268 (National Board for Professional Teaching Standards, Who We Are, 2013). National Board has advanced President Obama’s national push to recruit and retain teachers in STEM-related areas, as evidenced by the 2% increase of newly certified teachers in STEM-related areas (National Board for Professional Teaching Standards, About Us, 2012). More than 50% of all NBCTs teach in Title I high need schools (National Center for Education Statistics, 2012). A substantial number of NBCTs are recognized nationally through achievements such as National Teachers of the Year, Presidential Awards for Excellence in Mathematics and Science Teaching and National Teachers Hall of Fame (National Board for Professional Teaching Standards, About Us, 2012). National Board Certification has played a pivotal role in education reform by promoting teacher quality and professionalism. The rapid growth of the National Board Certification program at the state level and the 60% increase nationally since 2007 of teachers becoming National Board certified demonstrates the importance stakeholders have placed on the process. Alaska, Arkansas, Colorado, District of Columbia, Hawaii, Illinois, Maryland, New Mexico, Pennsylvania, Washington, and Wyoming have more than doubled their number of NBCTs in the last five years (National Board for Professional Teaching Standards, About Us, 2013).

NBPTS Policy for Affiliated Networks (2009) seeks to build collaborative networks with diverse stakeholders such as business leaders, union leaders, school staff and administrators,
university staff and faculty, teacher leaders, and parents, with the purpose of advocating accomplished teaching and educational reform. NBPTS actively supports PreK-12 education policies that promote teacher quality, retention, recruitment and equitable distribution of quality teachers in high needs schools (National Board for Professional Teaching Standards, Policy Center, Pay for Performance, 2013).

NBPTS seeks collaboration with higher education institutions and other educational providers to build teaching programs that promote quality teaching. National Board Resource Centers (NBRC) are located on campuses such as Illinois State University, Florida A&M and Stanford University. Each privately funded NBRC provides candidate support, coursework, mentoring, and professional development for teachers (National Board for Professional Teaching Standards, Policy Center, 2012). Other universities across the nation serve as host sites for National Board Candidate Support Centers. University researchers have conducted many of the studies on the NBPTS program and NBCTs found in the literature that is reported on the National Board Policy Center (2012).

Currently NBPTS is collaborating with Stanford University, American Association of Colleges for Teacher Education (AACTE), and Teacher Performance Assessment Consortium (TPAC) to develop an assessment process for student teachers to determine what “new teachers should know and be able to do.” The three million dollar federal grant piloted in three states will target beginning teachers in math and science (National Board for Professional Teaching Standards, News, 2012).

**National Board for Professional Teaching Standards at the State Level**

According to the National Center for Education Statistics (2012), all fifty states and the District of Columbia recognize National Board Certification and 24 states provide incentives to
NB certified teachers. Incentives for achieving NB certification range from $1,000 to $10,000 per year, or a percent increase of salary, such as South Carolina (12%) and Nevada (5%) (National Board for Professional Teaching Standards, State Profiles, 2011) (see Appendix C). Many states have criteria set for receiving the bonus such as requiring the NBCT to teach in a low performing school district or to mentor new teachers. North Carolina, Florida, and South Carolina lead the nation in the number of NBCTs, with 20,122, 13,670, 8,663, respectively (National Board for Professional Teaching Standards, Who We Are Certification Day, 2013).

The design of each state’s NB program is unique in accordance to how its legislation proposed and funded the program. However, all NB state programs pursue the same goal of recruiting and retaining quality teachers in their classrooms in order to increase student achievement. In 2006, the National Education Association sponsored a series of state summits with NBCTs, to discuss ways to increase the recruitment and retention of quality teachers in the high-needs urban and rural schools. North Carolina, South Carolina, Ohio, Oklahoma, Washington, Mississippi, and Wisconsin all hosted state summits for their NBCTs. The outcomes and recommendations from the state summits were collated and presented in a report by the National Center for Teacher Quality. A comprehensive list, composed of 142 specific policy recommendations, was given in five areas:

1. transform the teaching and learning conditions in high-needs schools;

2. prepare and support teachers for the specific challenges posed by working in high-needs schools;

3. recruit and develop administrators who can draw on the expertise of specifically prepared teacher leaders;

4. create a menu of recruitment, but focus on growing teaching expertise within high-
5. build awareness among policy makers, practitioners, and the public about the importance of National Board Certification for high-needs schools (Berry, Rasberry, & Williams, 2007, pp. 6-14).

Colorado, Florida, Maryland, New York, and Washington, are endeavoring to put into practice many of these recommendations by linking their NB incentives to teaching in high-needs schools, with the hope of recruiting and retaining NBCTs to those classrooms (Simpkins, 2011; Plecki, Elfers, St. John & Finster, 2010) (see Appendix B).

**National Board Program State Studies**

Many states that fund National Board Certification Programs have conducted studies of their programs to determine the effects of the program on their teachers and students. Areas of focus are varied among studies; some studies are multifaceted in their foci. Some of the foci are listed below:

- Characteristics of a NBCTs (Oklahoma Technical Assistance Center, 2011; Plecki, Elfers, St. John & Finster, 2010; Hudson, 2010; Sykes, Anagnostopoulos, Cannata, Chard, Frank, McCrory & Wolfe, 2006; Park, Oliver, Johnson, Graham & Oppong, 2007; Rhinne, 2002);

- Distribution, mobility and teaching assignments of NBCTs (Oklahoma Technical Assistance Center, 2011; Plecki, Elfers, St. John & Finster, 2010);

- Teacher motivation for seeking National Board Certification (McKenzie & Harris, 2008; Park, Oliver, Johnson, Graham & Oppong (2007);

- Barriers to applying for National Board Certification (McKenzie & Harris, 2008);
• The effectiveness of financial incentives for recruitment and retention of NBCTs (Sykes, Anagnostopoulos, Cannata, Chard, Frank, McCrory & Wolfe, 2006; Oklahoma Technical Assistance Center, 2011; Plecki, Elfers, St. John & Finster, 2010; Simpkins, 2011);

• The effectiveness of financial incentives for motivating NBCTs to teach in low performing schools with large minority populations of students (Plecki, Elfers, St. John & Finster, 2010; Simpkins, 2011);

• The impact of the National Board Certification on teacher performance (Oklahoma Technical Assistance Center, 2011; Plecki, Elfers, St. John & Finster, 2010; Hudson, 2010);

• The impact the National Board Certification on student achievement (Oklahoma Technical Assistance Center, 2011; Plecki, Elfers, St. John & Finster, 2010; Goldhaber & Anthony, 2007; Park, Oliver, Johnson, Graham & Oppong 2007; Rinne, 2002);

• The impact of National Board Certification on teacher leadership (Oklahoma Technical Assistance Center, 2011; Sykes, Anagnostopoulos, Cannata, Chard, Frank, McCrory & Wolfe, 2006; Plecki, Elfers, St. John & Finster, 2010; Rinne, 2002; Hudson, 2010; McKenzie & Harris, 2008);

• How National Board Certification directs the professional career path of teachers (Hudson, 2010; Oklahoma Technical Assistance Center, 2011).

• What types of support were beneficial to the National Board candidate and what support was needed while pursuing National Board Certification (Rinne, 2002; Oklahoma Technical Assistance Center, 2011).
In 1997, Oklahoma started its National Board program through a scholarship program called Education Leadership Oklahoma (ELO). In 2002, the state commissioned Oklahoma Technical Assistance Center (OTAC), a program assessment service, to conduct an evaluation study of the ELO program to determine the effects of the National Board Certification program on teaching and learning. Originally, OTAC proposed a correlation study to determine if National Board Certification was related to students’ improved academic achievement, using 15 school sites during the period of 1999-2001. However, only one-third of the sites’ complete data sets were obtained, making the correlation inconclusive. OTAC continued the study with interviews of teachers at different stages of the National Board Certification process, teachers who had completed the process, teachers who did not complete the process or repeaters, and teachers who had just started the process. Thirty-six teachers were asked six questions relating to the NB process. OTAC concluded that teachers who completed the National Board Certification process were more confident of their teaching skills (Oklahoma Technical Assistance Center, 2002).

In the fall of 2010, OTAC conducted a second study of the ELO scholarship program for National Board Certification. The Oklahoma Commission of Teacher Preparation provided the names and contact information of all 2,644 OK NBCTs; the OTAC sent an online survey to NBCTs to determine the impact of the National Board Certification process on teachers, students, and schools. The response rate of NBCTs to the survey was 41%. The OTAC survey data found there were three prevailing areas that NBCTs perceived affected by their participation in the National Board Certification process: their leadership and professional influence, their
teaching knowledge and skills, and their students’ achievement (Oklahoma Technical Assistance Center (OTAC), 2011).

**Washington.**

In 2010, the Washington State Board of Education asked The Center for the Study of Teaching and Learning at the University of Washington in partnership with The Center for Strengthening the Teaching Profession (CSTP) to conduct an evaluative study of the state’s incentive program for National Board Certification. The State Board of Education wanted to know the impact of the two statewide incentive programs put in place in 2000 and 2009. The first program was a $3,500 salary enhancement, later increased to $5,000, for teachers who achieved National Board Certification. The second program was a $5,000 annual bonus to NBCTs who teach in challenging schools. Surveys were sent to a sample of NBCTs, non-NBCTs, and administrators, to determine their perspectives on the incentive program and its impact on NBCTs. They reported that National Board Certification had a strong impact on their teaching practices, increased teacher leadership and made a difference in their students’ achievement. They also found that NBCTs stayed in challenging schools at higher rates than non-NBCTs. The incentive bonus increased the number of NBCTs teaching in challenging schools from 10% in 2006 to 30% in 2010 (Plecki, Elfers, St. John & Finster, 2010).

Jim Simpkins (2011), consultant for the Center on Reinventing Public Education, conducted a study of the Washington NB program. The purpose of the study was to determine if the NBCT bonus program was succeeding in its foundational purpose to reward strong teachers and encourage them to teach in high-poverty schools. Simpkins used the states’ K-12 personnel database from 2007 to 2011 to evaluate trends in NBCTs. He found that the number of teachers becoming NB certified had tripled since the incentive program was implemented and the cost to
maintain the program had soared to $10 million per year. Only 1% of NBCTs had moved from low-poverty schools to high-poverty schools, despite the additional $5,000 bonus. Simpson’s study also found that NBCT distribution across the state was not equitable; concentrations of NBCTs were found in school districts that used private funding to build support systems for NB teacher candidates.

**Wyoming.**

In 2010, a thematic study of Wyoming teachers was conducted focusing on four correlates of teacher quality: instructional practices, classroom management, teacher efficacy, and leadership. The correlates were used to determine the relationship between NB or non-NB certified teachers and education level. A survey was sent to a randomly stratified population of non-NB teachers and to NBCTs who had certified since 2008. The survey contained 48 scaled items, 12 from each of the four teaching quality correlates. Teachers were asked to rank each scaled item from most important to least important and to rank how often they utilized the correlates, from never to often. The study found that NBCTs engaged in teacher quality indicators more frequently than non-NBCTs. NBCTs ranked efficacy as having greater significance than classroom management, instructional practice, and leadership. However, NBCTs had a greater frequency of classroom management and teacher leadership than non-NBCTs. Wyoming NBCTS perceive teacher leadership as an important teacher quality and they feel their engagement in instructional practice and classroom management are more important than of the other indicators of teacher quality (Hudson, 2010).

**Georgia.**

In 2005, the U. S. Department of Education and the National Science Foundation funded a three-year grant to the University of Georgia to study the candidate perceptions of Board
certification and its impact on their practice. Graham, Oliver, and Oppong (2005) designed a two-part, three-year study of Georgia NBCTs, NB candidates, and prospective NB candidates to look at the motivational factors that influenced teachers to pursue National Board Certification. They first gathered data on the characteristics of the NBCTs that were participating in the study to get a “snapshot” of the teacher’s characteristics in order to better understand their motivations for participating (p. 21). Second, they interviewed teachers in the first and second year of the project to determine influences that motivated participants to pursue National Board Certification. Teachers were also interviewed to determine how the NB process changed their practice and impacted their students’ learning. They found that NBCTs were more likely to be a member of a professional organization, participate in meetings in their content area, and share with colleagues (91%) compared to NB candidates (46%). Participants were asked what impact National Board Certification had or would have on them in eight areas: increased resources, networking, professional development, time away from the classroom, renewed enthusiasm, increased respect, available time, and leadership opportunities. Most of the areas did not show a significant difference in responses, such as the areas of professional development and networking, which was very close among all groups. However, NBCTs reported increased resources, increased respect, and leadership opportunities as having been affects of National Board Certification more than the other two groups. This may be because NBCTs have greater confidence from their achievement of National Board Certification than those who have not achieved.

Maine.

In 2006, the Maine legislature authorized a yearly bonus to $3,000 to National Board certified teachers for the life of their certification. Ninety-four teachers had achieved National
Board Certification in the state at the time. The purpose of the legislation was twofold: legislators wanted to recognize teachers who had endeavored to seek additional preparation in their certification area and to recognize those who had achieved National Board Certification.

In 2007, Mackenzie and Harris from the Maine Education Policy and Research Institute conducted a study at the request of the State Board of Education to analyze how teachers and administrators perceived the impact of National Board Certification. Researchers interviewed 16 NBCTs and sent a survey out to the remaining 74. They interviewed superintendents and principals from school districts that had a large number of NBCTs, as well as superintendents and principals who had no NBCTs in their district. In order to understand the barriers that discourage teachers from pursuing National Board Certification, 394 teachers who qualified to pursue National Board Certification but had not, were surveyed, as well. Researchers found that Maine NBCTs in the study felt the National Board Certification process had strengthened their practice, and increased their “collegial relationships” (p. 100). Approximately half of the NBCTs surveyed said they were asked to share their expertise in matters of curriculum and instruction but were given little opportunity to serve as a teacher leader. Interviews with superintendents and principals supported this teacher view. They indicated they are reluctant to use NBCTs as teacher leaders because of contract issues or praise NBCTs for their accomplishment because other teachers may perceive this as favoritism. Researchers concluded the factors that most motivated NBCTs to pursue National Board Certification were improving teaching (48%) and confirming skills (25%). When non-NBCTs were asked to list the barriers for not pursuing National Board Certification, lack of time due to personal (72.5%) and professional (53.2%) commitments were given as barriers (Mackenzie & Harris, 2008).
**North Carolina.**

Goldhaber and Anthony (2007) conducted a study of North Carolina teachers using 1997 through 1999 teacher-level and student-level data collected from North Carolina Department of Public Instruction (NCDPI). The data provided researchers with teacher demographics such as gender, race, age, license type, license status, years of teaching experience, and measure of teacher proficiency on standardized testing. The data also provided student information such as race, gender, learning disability, free and reduced lunch status, English proficiency, and grade and test results from grades 3–10. Teachers were categorized into the status of their certification for NB as future, current, new, and past. Teachers were then linked to their students’ pre- and post- testing results in math and reading. Results found that students who had NBCTs scored 7 to 15 percent points higher than non-NBCTs, and newly certified teachers produced the highest gains in student test scores (Goldhaber & Anthony 2007).

In 2007, Clotfelder, Ladd, and Vigdor conducted a longitudinal study to determine if teacher characteristics and credentials were associated with student achievement. The study used the North Carolina student and teacher database for a ten-year period of 1995 to 2004. They used third, fourth, and fifth grade students who could be linked to their teacher for math and reading. Tracking non-NBCTs, NB candidates, and NBCTs, the study found that achieving National Board Certification does act as an indicator of effective teaching; however, researchers reported there was not significant correlation to support that the NB “certification process makes teachers more effective than they otherwise would be” (p. 34).

**Ohio and South Carolina.**

The United States Department of Education (US DOE) and National Science Foundation (NSF) funded a study of Ohio and South Carolina NBCTs to determine the value of NBCTs as
organizational resources. The primary purpose of the study was to determine how NBCTs perceived their leadership and professionalism in schools. NBCTs who received financial incentives and NBCTs who did not receive financial incentives were compared during their certifying year. The investigation used three data collecting tools: a mail-based survey, a web and email-based survey and fieldwork. The first mail/Internet survey was sent to a stratified sample of NBCTs in Ohio and South Carolina, and a response rate of 77% was attained. A second survey was administered to the full faculty in 47 schools from both Ohio and South Carolina. School data were collected and categorized according to density of NBCTs teaching in that school (Sykes, Anagnostopoulos, Cannata, Frank, McCrory & Wolfe, 2006).

Last, investigators selected two schools from Ohio and two from South Carolina. The urban schools had a high number of NBCTs. The research team sent two members to visit each school to observe and interview principals, assistant principals, and classroom teachers. The NBCT survey found that NBCTs perceived they have greater influence than non-certified teachers did on school, district, and state policy. The areas of greatest influence were curriculum development and teacher evaluation. NBCTs were less likely to leave teaching and more likely to have advanced degrees. Two reasons given for pursuing National Board Certification were financial compensation and professional development. However, when comparing the data of one state to the other, it was found that 96.6% of South Carolina NBCTs compared to 64.2% of Ohio NBCTs said that the salary increase was an important factor in their decision to pursue National Board Certification. The study found that NBCTs’ participation in leadership activities increased with the number of years they were NB certified. The study of the four selected schools found that the level of visible NBCT leadership varied. One district had high visibility, with NBCTs holding leadership roles such as team leader, assessment coordinator, and
Academic Planning Team (APT) member. Being a member of the APT was influential because the members met with the principal to determine curricular and instructional improvements. The second district had medium visibility of NBCT leadership including the mentoring of NB candidates, new teachers, and low-performing teachers, but NBCTs held few formal positions where they contributed to policy decision-making. The third and fourth school districts exhibited low visibility of NBCT leadership, where NBCT leadership was individualized and required little collaboration with peers. The last district had no formal leadership roles for NBCTs. All NBCTs were required to provide a workshop or participate in curriculum development before they could receive their yearly stipend (Sykes, et al., 2006).

**Indiana.**

In 2002, the Indiana Professional Standards Board voiced concern over the low number of teachers participating in the state National Board Certification program. The board conducted a study of the program to determine the characteristics of NBCTs and the factors that influenced their participation in the certification program. A survey, containing six demographic questions and 14 open-ended questions, was sent to Indiana NBCTs (66 of 71). The survey response rate was 48%. Later, a focus group was conducted at the first statewide NBCT meeting. Twenty-three NBCTs participated in the focus group discussion and gave more in-depth answers to the questions about their individual experiences and the National Board Certification process. Several key characteristics of the NBCTs and the impact of the National Board Certification on teachers were found. Those interviewed reported they enjoyed challenges and felt they were lifelong learners. They believed they are more effective as teachers from their National Board Certification experience, and their certification gave them professional recognition and leadership opportunities (Rinne, 2002).
Arkansas National Board Legislation

In 1997, the Arkansas State Legislature passed Act 1225, entitled “An Act to Provide Financial Incentives for National Board Certification of Teachers; and for Other Purposes,” Arkansas Code 6-17-412 and 413. The Act provided one-half of the NBPTS registration fee and three days of paid leave with substitution pay provided to the district. It set criteria for receiving the funding and for repayment to the state if the teacher did not achieve certification or if teachers certified but did not teach in the Arkansas public school system for two years. In 1998, two Arkansas teachers became the first to achieve NB certification in the state. To encourage teachers to participate and complete the National Board Certification process, Arkansas legislators, in 1999, increased the incentive by amending AR Code 6-17-413 to pay the full NB registration fee, a one-time bonus, and a yearly stipend. The amendment called for the State Board of Education to put in place rules and regulations for the selection of teacher participants. Teachers who certified were given $2,000 incentive bonus and a $2,000 yearly stipend for the duration of the certificate.

The numbers of teachers achieving National Board Certification steadily increased over the next two years from 13 in 1999 to 16 in 2000. In 2001, the Arkansas legislation amended AR Code 6-17-412 and 413 with Act 1060. The amendment provided three days of paid leave for the teacher to participate in National Board program activities, a $2,000 starting incentive bonus for achieving NB and $2,000 yearly incentive bonus for the duration of the certificate. In 2003, Act 1803 amended the incentive bonus adding $1,000 each year until 2005, making the final incentive bonus $5,000 (Arkansas State Legislation, 2012). State funding is competitive, providing 200 teachers the registration fee.
From 2001 to 2012, 298 candidates have not achieved certification within the three-year window; six of the 298 have not repaid their registration fee and have had their licenses suspended. Six received a State Board of Education waiver for some catastrophic life event, and three filed for bankruptcy. This represents 9% attrition for the number of candidates who did not achieve certification, but were awarded the registration fee (Arkansas Department of Education, 2012).

Harding University, a private Arkansas institution, offers a National Board Candidate Support center for teachers who are considering National Board Certification or are working toward their National Board Certification. Dr. Clara Carroll, Assistant Dean of Graduate Programs and a NBCT, teaches both graduate capstone courses that contribute to NB preparation: EDFD 644 Pre-candidacy toward National Board for Professional Teaching Standards and EDFD 646 Candidacy toward National Board for Professional Teaching Standards. The program began in 2002 and has a first-year achievement rate of 55%, surpassing the state’s and nation’s rate of 33% and 40%, respectively. Second-year advanced candidates participating in the Harding University program have an 81% achievement rate (Carroll, 2012). Several studies have been conducted specific to the Harding University National Board Program; however, a study of the state’s overall NB program has not been conducted.

In 2012, three graduate students at Harding University, under the direction of Dr. Clara Carroll, conducted an unpublished study to determine if there was a causal effect between a teacher’s age, level of education, and preparation, and their successful achievement of National Board Certification. Researchers used the university database of students who had participated in NBPTS coursework. They found that there was no significant correlation between candidate age or level of education and successful National Board Certification. However, a significant
association was found for candidates who had taken one class or both NBPTS graduate courses, 81.2%, and 89.3% respectively (Carroll, Thorton, Dobson & Morgan, 2012).

**Current Debates on Quality Teacher**

There is not a defined set of criteria to identify the unique characteristics of a quality teacher. Most researchers agree there are two areas that can be analyzed to characterize teacher quality: teacher preparation and qualifications, and teaching practices (Lewis, Parsad, Carey, Bartfai, Farris & Smerdon, 1999). To analyze those areas, researchers have been able to isolate measures to quantify teacher quality. The National Center for Education Statistics report, *Teacher Quality: A Report in the Preparation and Qualifications of Public School Teachers*, proposed four ways for measuring teacher quality: 1) observe teacher practices in the classroom, 2) give written examinations to teachers to measure their basic literacy, subject matter knowledge, and pedagogical skills, 3) examine their students’ performance and achievement, and 3) conduct large-scale surveys to determine teacher qualifications, attitudes, behaviors and practice (Lewis, et al., 1999). Each measure has been individually studied in a variety of ways by researchers seeking to determine how significant a particular measure is for indicating teacher quality. Despite copious research, the debate continues between educational researchers.

Linda Darling-Hammond (1999) analyzed the research in six areas of teacher quality: teachers’ academic ability and intelligence, subject matter knowledge, teaching and learning knowledge, teaching experience, certification status, and teacher behaviors and practices. Through her research, using Schools and Staffing Surveys (SASS) and the National Assessment of Educational Progress (NAEP) databases, she found that teachers who had teaching certification and a major in their field make a positive and significant difference in their students’ achievement. She concluded that teacher preparation and certification measures are strongly
linked to student achievement; and thus can act as indicators for teacher quality. However, some experts in the education field staunchly disagree with her findings.

In 2001, Kate Walsh, Senior Policy Analyst for Abell Foundation in Baltimore, Maryland, released a report on the deficiencies of teacher preparation and certification. The report disputed the research findings of 50 years that assert teacher preparation is directly related to student achievement (p. iii). Walsh specifically addressed 20 years of research by Linda Darling-Hammond, which found teacher preparation and certification are indicators of quality teachers and directly correlated to student achievement (Walsh, 2001a). Walsh states, “…the backgrounds and attributes characterizing effective teachers are more likely to be found outside the domain of schools of education” (p. v). Walsh further asserts, “Educators, policymakers, the media, and the public mistakenly equate teacher quality with teacher certification” (p. 1). Walsh contends that it is not certification, but teacher verbal ability and intelligence, which “produce greater achievement gains in students,” and thus are better indicators of potential teacher quality (p. 8).

Linda Darling-Hammond (2001) responded to Walsh’s analysis with a rebuttal released by the National Commission on Teaching and America’s Future. Darling-Hammond addressed each of Walsh’s arguments, claimed her own research had been misrepresented, and spoke to Walsh’s claims that she felt were unfounded concerning teacher certification (Darling-Hammond, 2001). With the assistance of Dr. Michael Podgursky, Professor of Economics at the University of Missouri-Columbia, Walsh immediately responded with a rejoinder to Darling-Hammond’s claims (Walsh, 2001b). Through “technical analysis” of each of the studies cited by Darling-Hammond, Walsh held to her original analysis (para. 3). She contended that the nineteen studies cited by Darling-Hammond in her research used “inferior design and
methodologies” and thus could not “provide sufficient evidence to justify the current policy of 50 states that bar teachers from the classroom who are not certified” (Walsh, 2001b, para. 2).

Darling-Hammond (2001) does not refute Walsh’s claim that verbal ability and content knowledge are important indicators of teacher effectiveness, but instead suggests that they are not the only contributor to be considered when determining teacher quality. She proposes that teacher certification systems that assess teachers for basic skills, content knowledge and teaching knowledge paired with field experiences and coursework produce teachers who are best equipped to teach effectively. Darling-Hammond’s belief that content knowledge and verbal ability are important teacher characteristics but are only pieces of the bigger picture of what predicts for a quality teacher is encapsulated as she states,

> It is a mistake to believe that one or two characteristics of teachers can explain their effects on student achievement. The message from the research is that multiple factors are involved and that teachers with a combination of attributes—knowing how to instruct, motivate, manage, and assess diverse students, strong verbal ability, sound subject matter, and knowledge of effective methods for teaching that subject matter—hold the greatest promise for producing student learning (Darling-Hammond & Sykes, 2003, Teacher Certification and Student Learning, para. 6).

NBPTS standards and assessments for NB teacher certification are founded on research and are continually modified to reflect any new research findings on teacher quality. NBPTS has integrated requirements and components into the certification process that reflect current research findings in order to select the most qualified teachers into the program. Application requires a teacher to have a bachelor’s degree from an accredited institution, hold a valid state teaching license, have certification in the content area for which the teacher is applying, and have
three years of teaching experience. Applicants must be currently teaching in a pre K-12 setting and provide a letter of verification of employment. The portfolio component requires teachers to demonstrate their verbal and written ability, content knowledge, teaching skills, and professional accomplishments through written portfolios, classroom videos, and documented evidence. The second component, the computer-based assessment, requires candidates to demonstrate their written ability, evaluative ability, content knowledge, pedagogical knowledge, as well as child development and learning knowledge (National Board for Professional Teaching Standards, FAQ, 2012). Each of these requirements speaks to the research that teacher quality is increased with certification, content area expertise, pedagogical knowledge, experience, and verbal skills. Teachers are also assessed on their professionalism as a learner, leader, and a collaborator with peers, parents, and community because teachers must analyze and reflect on their practice and its impact on student learning.

**Professionalism**

Defining professionalism within the field of teaching has been a challenge for researchers because teaching is often not fully acknowledged by society as a profession. In an interview with David Meeks in 1988, Linda Darling-Hammond describes teaching as a “quasi-profession” because of how it is regulated and perceived by society (p. 13). She compares the educational path an educator takes to gain their knowledge and skills to the educational pathways of other professionals, such as doctors, lawyers, and pharmacists. Professional associations composed of members within the discipline regulate other professions. Students must attend institutions that are accredited; in order to take the bar in law or boards in medicine to practice, whereas, education is regulated by state agencies that control educational coursework and licensing criteria.
Sockett (1993) points out that there is a distinction between professionalism and professionalization. He defines professionalism as “the quality of practice” and professionalization as “the process whereby an occupation (rather than an individual) gains status” (p. 9). Goldstein (2010) deviates from Sockett’s definition of professionalism and professionalization by defining professionalism as the “traits possessed by the individuals of a profession” and professionalization as the “authority granted to the individuals by society” (p. 22). Both definitions consider professionalism as a measure of quality and professionalization as a measure of social credibility.

For example, society in general expects an accountant to be knowledgeable in math, skilled at analyzing data, and meticulous at calculating. Society expects a lawyer to be knowledgeable in the law, skilled in debate, and tenacious in arguments. Doctors should be knowledgeable in the human anatomy and physiology, skilled at triage, and caring towards patients. To others, professionalism is the resulting outcome of actions, such as the success of an individual within their chosen field or an individual’s ability to adhere to the rules, roles, and responsibilities of their profession (Tichenor & Tichenor, 2005). Sockett’s definition may best define professionalism, because he considers the sum of an individual’s traits, their actions and their behaviors within their practice, “judged by the standards specific to the profession,” that produces an outcome of what society perceives as professionalism (Sockett, 1993, p. 9).

Shon (2006) discusses teacher professionalism and the debate over whether it can be considered a “profession in the traditional sense” (p. 2). Pratte and Rury’s (1991) definition of teaching as a “craft profession,” asserts that because teaching is learned through “experimental knowledge” and not “conceptualized knowledge” teachers do not have specialized knowledge unique to their profession and are more likely to have learned informal knowledge on the job.
than in a college course (p. 62). Shon (2006) finds that teachers differ from other professionals “in professional training, induction process into the field, professional autonomy, practitioner-client relationship, and social status” (p. 6). He concludes there are five basic requirements that must be met for teacher professionalism to occur, “(1) creating standards for teachers, (2) professional training of new teachers through an accredited teacher education program and a professional development school, (3) creating advanced positions in teaching careers, (4) increased salary of the teachers, and (5) acknowledging the unique nature of teaching” (p. 11).

NBPTS has helped to change the “quasi-profession” or “craft-profession” perception of teaching by recognizing the knowledge base of teaching as multi-dimensional and continually changing. NBPTS established unifying standards for teaching and developed an assessment process, comparable to boards’ assessments of other professions. The National Board Certification process itself provides quality job-embedded professional development for teachers, and for those who achieve NB, there are expanded opportunities for career advancement and salary increases.

Patricia Phelps (2006) applies Swisher and Page’s (2005) definition for professionalism from *Professions in Physical Therapy* to the practice of teachers. It is “the internalized conceptualization of expected professional obligations, attributes, interactions, attitudes, values, and role behaviors,” (Swisher & Page, p. 2). In her article, *The Three Rs to Professionalism*, Phelps (2006) builds on the Swisher and Page’s definition by isolating three indicators of professionalism in teaching pertinent to teacher professional growth: responsibility, respect, and risk taking. She concludes that teachers who “embrace responsibility, demonstrate respect, and practice risk taking,” are teachers who have internalized professionalism and their practice will reflect it (p. 71).
In 2003, Pamela Kramer discussed the characteristics of teacher professionalism in the *ABC’s of Professionalism*. She categorizes the characteristics into three areas, attitude, behavior, and communication. Many of the identified characteristics are dispositions that teacher candidates are required by the standards of the National Council for Accreditation of Teacher Education (NCATE), to demonstrate (Council of Chief State School Officers, InTASC, 2012). However, the expectation does not stop at graduation from an accredited college of education; there is a greater expectation for these characteristics to be demonstrated by teachers in the field. Professional teachers should demonstrate attitudes that are positive and confident and they should eagerly take the initiative to solve problems and learn. Teachers demonstrate professionalism by behaving as professionals in and out of the workplace. These behaviors are modeled to students by being on time, prepared, knowledgeable, moral, ethical, and appropriately groomed. Professionals communicate effectively, respectfully, and correctly, and they collaborate with their peers and others (pp. 23-24).

Hurst and Reding (2000) elaborate on each of these aspects of professionalism in *Professionalism in Teaching*, adding a fourth and fifth characteristic to the list, professional development, and professional responsibility. Teacher “development” can serve as the “D” and teacher responsibility or “efficacy” can serve as the “E” to Kramer’s *ABC’s of Professionalism*. Professional teachers take opportunities to grow and develop their knowledge and skills through a myriad of activities such as participating in relevant professional development, participating in professional organizations, attending professional conferences, pursuing graduate studies and participating in professional learning communities (Hurst & Reding, 2000). Utilizing teachers as experts by having them share and train their peers increases collaboration, teamwork, and leadership among all teachers within a school (Hickey & Harris, 2005). Professional teachers
demonstrate increased responsibility or efficacy for their student’s learning as supported by Guskey’s (1981) study that found a strong correlation exist between teacher efficacy and their responsibility for their student’s academic achievement.

Hugh Sockett (1993) identifies five major aspects of professionalism for teachers in *The Moral Base for Teacher Professionalism*. He submits that teacher professionalism encompasses the teacher’s character, commitment to change and continuous improvement, depth of subject knowledge and understanding, pedagogical strength, and collaborative relationships beyond the classroom (pp. 7-8). A study conducted by Tichenor and Tichenor (2005), categorized teacher comments from focus group interviews using Sockett’s (1993) five categories of teacher professionalism. Teachers were asked two open-ended questions to determine how practicing teachers perceive teacher professionalism. The study found teachers in the study “have high standards, ideals and expectations for themselves” and the character of a teacher and their communication skills are meaningful aspects of teacher professionalism (p. 94). From this, it can be concluded that teachers understand professionalism as the desire to meet or even exceed society’s expectations for the teaching profession.

*Professional Practice.*

Collectively, there is scholarly consensus that teachers who demonstrate professionalism are teachers who model effective teaching practices. Charlotte Danielson lays a roadmap of the expectation for teacher professional practice in *Enhancing Professional Practice: A Framework for Teaching* (2007). Danielson acknowledged the complexity of teaching and developed a framework to reflect all aspects of teaching, not only the act of instruction in the classroom. She structures the framework around four domains of teaching responsibility: “Domain 1 - Planning and Preparation, Domain 2 - Classroom Environment, Domain 3 - Instruction and Domain 4 -
“Professional Responsibilities” (pp. 3-4). Each domain is composed of subareas, or components. The components are the demonstrated actions of the teacher. Domain 1 and 4 are tasks that take place outside the classroom but have direct impact on Domain 2 and 3, which are performed within the classroom. Elements of the NBPTS Five Core Propositions of Teaching can be found embedded in the Danielson Framework for Teaching. Though Shulman’s Model of Pedagogical Reasoning and Action takes a more process-oriented approach, each step of the model aligns with Danielson’s Framework for Teaching.

Many states have adopted Danielson’s framework or some modification of it since its development in 2006. States use the framework as a standard to assess teacher performance and professional growth. Arkansas is one of the states that has adopted the Danielson teaching framework as a means to assess teacher performance, in a program called Teacher Evaluation Support System (TESS) (Arkansas Department of Education, Teacher Evaluation System, 2013). Starting in the 2013-2014 school year, administrators will use the modified Danielson Teaching Framework as an assessment tool for teacher observations and evaluations. However, like other states they are struggling with how to integrate and weigh student growth into the summative evaluation. Identifying quality teachers exclusively through state teacher evaluation systems continues to be a challenge.

Quality teachers are teachers who epitomize the professional practice of teaching. They are complex composites of knowledge, skills, and dispositions. They understand the standards of practice and can effectively apply them to instruction in order to influence student learning. Danielson (2006) states the importance of standards of practice for teacher professionalism, saying, “Clear standards of practice contribute to the professionalism of teaching by permitting reflection on practice and purposeful dialogue” (p. 99). The National Board for Professional
Teaching Standards meets Danielson’s criteria by providing rigorous standards that are clear and concise for teachers. In accordance, the certification process promotes professional practice through reflection and analysis.

**Leadership Practice.**

Recent research has focused on teacher leadership and the role it has in school reform and student achievement (Katzenmeyer & Moller, 2009; Institute for Educational Leadership, 2008; Elmore, 2004). Katzenmeyer & Moller (2009) define teacher leadership as teacher leaders who “lead within and beyond the classroom; they identify with and contribute to a community of teacher learners and leaders; influence others toward improved educational practices; and accept responsibility for achieving the outcomes of their leadership” (p. 6). In *Awakening the Sleeping Giant* (2009), they discuss the critical role teacher leaders play as change agents for reform in our nation’s schools. Understanding the importance of teacher leadership and the culture that nurtures teacher leaders is pivotal to building effective schools. Three factors must be in place within a school culture to sustain teacher leadership: adult relationships within the school, organizational structure, and the principal’s actions (p. viii). “The rationale for teacher leadership rests on the foundations of building organizational capacity, modeling democratic communities, empowering teachers, and enhancing teacher professionalism” (p. 39). These ideas are supported by the work of Frost and Durrant (2003) who postulate four arguments for the development of teacher leaders in a school.

The first argument for developing teacher leaders is for school effectiveness. Effective schools are schools made up of teachers who collaborate, communicate, and consistently meet high standards of practice in order to reach a common goal. Senge (1990) describes these of learning organizations as … “organizations where people continually expand their capacity to
create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together” (p. 3). Teachers in effective schools “articulate their ideas and perceptions” in order to develop a deeper understanding of their purpose (Frost & Durrant, 2003, p. 175). Silins and Mulford (2004) examined the relationship between teacher leadership and organizational learning and their impact on student engagement. They selected twelve factors that influence teacher leadership, organizational learning, and student engagement to determine relationships. They reported that schools that are effective learning organizations demonstrate all four dimensions of organizational learning (OL). The school culture is open, collaborative, and transparent, the teachers are active participants in the functioning of the school, the school leaders support, value, and reward teacher leaders, and professional growth and development is encouraged and available. They found that “teacher leadership contributes significantly to OL” (p. 460). The study identified two factors that contribute to teacher leadership, the teachers’ satisfaction with their leadership roles and their feeling of being valued. Consequently, to build effective OL, administrators should promote teacher leadership with opportunities aligned to the teachers’ expertise, and then express to the teacher the importance of their work.

School improvement is the second reason Frost and Durrant (2003) cite for fostering teacher leadership. For schools to improve, teaching and learning must improve. Schools are communities of learning, where the input of knowledge and learning is directly proportional to the output of knowledge and learning for the organization. Educational stakeholders must realize that in order to improve a schools’ output (student learning), they must improve its input (teacher learning and teaching). School administrators, parents, and community members must recognize that teaching and learning are dependent upon teachers’ professional growth in their practice.
Promoting school cultures where teachers have the ability to create, gather, and transfer knowledge within the social context of the organization (Frost & Durrant, 2003), integrated with increased self-efficacy, lays a foundational purpose for developing teacher leaders (Danielson, 2006). Promoting teacher leadership results in improved school cultures and increased student achievement (Hickey & Harris, 2005).

Research supports this idea as demonstrated by Hickey and Harris’s (2005) study of 720 students and 62 teachers in a rural southern school. They conducted the study to determine if utilizing the expertise of teachers improved the district. Results suggested that teachers have positive feelings from professional development led by peers and they were motivated to achieve more. Teachers bring diverse talents and skills to the school environment that can be strategically used to promote teacher leadership by school administration. Teacher influence within the school district is increased when teachers are offered leadership opportunities outside their teaching duties. Hickey and Harris (2003) recommend six strategies for growing teacher leaders and their influence in a school district.

(a) Identify teacher strengths, (b) Match teacher strengths to professional development needs; (c) Develop professional development programs with these strengths and needs in mind; (d) Provide teachers with time to prepare for their presentation; (e) Provide opportunities for informal presentations to reduce anxiety and distress of presenting; and (f) Provide time throughout the year to take advantage of collaborative opportunities.

(p. 15).

Concluding that utilizing the “intellectual capital” of individual teachers through collaboration and collegiality improves the personal development and growth of teachers and promotes student achievement (p. 13).
Improving teacher morale and retention is the third argument Frost and Durrant (2003) submit for developing teacher leaders within our schools. They argue that low teacher morale and retention stem from the “de-professionalisation effects” of national reforms (p. 175). Quinn (2003) discusses conditions of the traditional school environment that threaten teacher professionalism. Teachers have limited time available during the teaching day to communicate and collaborate with their peers. They are physically isolated from other teachers and often lack emotional and instructional support. Quinn suggests “redistribution of leadership” as a model for nurturing teacher collaboration and leadership, an approach that focuses “decision-making from me to a more collaborative we” (p. 28). Steel and Craig (2006) suggest seven steps for reframing leadership practices in our educational system. They propose that to change today’s culture of teaching from one of isolation to one of collaboration there must be a change in administrator interaction with teachers. Administrators must show trust in teachers’ professional decisions, make efforts to become better acquainted with teachers, validate their work, communicate positive feedback, support teacher learning, facilitate peer collaboration, and empower teacher leadership outside the classroom, all of which increase teacher morale and retention, fostering teacher professionalism, to build teacher leaders.

Teacher leaders grow in a school culture that values teacher expertise and knowledge, promotes peer collaboration, and encourages “decentralized decision making” (Hickey & Harris, 2005, p. 14). School cultures that develop their “intellectual capital” (teachers) into effective leaders with quality professional development create teachers who feel a shared responsibility for the improvement of their schools (p. 13). The professional development provided through the yearlong process of National Board Certification facilitates the development of teachers into teacher leaders, learners, and collaborators.
Last, Frost and Durrant (2003) argue that schools should operate as learning communities where democratic principles and values are modeled. Equity, autonomy, and respect should be cultivated among school faculties and staff, thereby empowering leadership. The hierarchal education system produces teachers who typically feel they have little influence outside their classroom and limited authority within their classroom. Thus, the paradigm shift, from how teachers traditionally have viewed their role to a new contemporary role of teacher leader is empowering to teachers. Bowman (2004) describes a successful teacher leader as being “adroit at influencing constituencies over which they admittedly have no formal authority” (p. 187).

Danielson’s *Teacher Leadership that Strengthens Professional Practice* (2006) provides a framework for understanding the influence of teacher leadership. She identifies three areas in the school culture for which teachers can take leadership roles, “school wide policies and programs,” “teaching and learning,” and “communications and community relations” (p. 25). National Board encourages teachers to take active leadership roles in their school so they can become change agents in their schools and states for educational reform. As leaders, NBCT’s act as “advocates for policies that advance teaching and learning in their states and districts” (National Board for Professional Teaching Standards, Advancing the Profession, State Policy, 2013, para. 1), allowing NBCTs to play a pivotal role in school improvement by taking on leadership roles that provide opportunity for shared decision-making within the school.

Boyd and Reece (2006) examined the NBPTS and NBCTs’ impact on educational reform. They concluded that school administrators should support NBCTs as teacher leaders in order to promote their influence on schools, teachers, and students. Loeb, Elfers, and Plecki (2010) discuss strategies that school administrators should consider when nurturing NBCTs as teacher leaders. They suggest administrators recognize NBCTs strengths, by encouraging them
to contribute their expertise in curriculum, instruction, and assessment, and asking them to lead professional development and to mentor teachers. Administrators should encourage NBCTs to refer to the NB standards in discussions, and support NBCT leadership efforts with time and resources. “Giving the increasing emphasis being placed on shared or distributed leadership within schools, the potential of sharing the expertise of NBCTs is especially significant and important for efforts to reform education, for the teaching profession, and education leadership” (Loeb, Elfers, & Plecki, 2010, p. 57). Administrators who cultivate the expertise of their teachers with respect, shared responsibility, and encouragement create a school culture in which teachers are empowered to be change agents for school reform.

**Student Achievement.**

Many studies since the release of *A Nation at Risk* have focused on the relationship between teacher effectiveness and student achievement. Examination of the large body of research that has emerged leads to mixed findings on what specific teacher characteristic are the key to increased student achievement. Wayne and Youngs (2003) note in their meta-analysis of 21 studies on teacher characteristics and student achievement that the differences may well lie in the interpretation of the data. Many studies focus on one teacher characteristic such as certification, years of experience, degree earned, courses taken, ACT scores, verbal aptitude, and teacher college ranking, but may ignore what Wayne and Youngs describe as an “omitted teacher quality variable” (p. 93). They contend that the omitted teacher variable or characteristic may have caused the teacher characteristic that was controlled for in the study, speculating there is a possibility that the omitted variable is the true indicator for the teachers’ effectiveness. Collectively, the research for each characteristic provides a clearer understanding of what teacher characteristic directly impacts student learning, but individually they do not reliably isolate a
specific characteristic that can act as an indicator for teacher quality in relationship to student gains.

Taking teacher characteristics out of the research design, and instead focusing on the academic growth of students from year to year, has led to using the production function model. Defined as the “maximum level of outcome possible from alternative combinations of inputs” the production function model has been used in the field of economics to determine the relationship between the value gained and the value received (Monk, 1989, p. 31). Hanushek and Rivkin (2010) describe the application of the model in education as “education production function research” (p. 267). Using the education production function model, researchers can determine an estimate of teacher quality, referred to as the Teacher Value-added Model. The measure of teacher value-added can be calculated using the student characteristic inputs (vectors) such as family, peer, community, teacher and school, as well as the students’ previous learning gains in achievement. The Teacher Value-added Model provides a means to measure the changes a teacher can effect on a students’ learning growth within a year (Hanushek & Rivkin, 2010; Hanushek & Rivkin, 2006; Hanushek & Hoxby, 2005).

Sander, Saxton and Horn (1997) applied the value-added assessment model in a state-wide, longitudinal study, using student information and achievement scores collected from Tennessee Comprehensive Assessment Program from 1991 to 2001. The Tennessee Teacher Value-added Assessment System (TVAAS) used a statistical mixed-model method as a quantitative means for assessing the effectiveness of school systems, schools and teachers, using objective measures. The method allowed students to act as their own control variable, reducing external influences such as poverty and family. Student growth value could be calculated each year and the effectiveness or value-added of the teacher determined (Sanders & Horn, 1998;
Rivers & Sanders, 2002). The TVAAS study found that “the effect of the teacher far overshadows classroom variables, such as previous achievement level of students, class size as it is currently operationalized, heterogeneity of students, and the ethnic and socioeconomic makeup of the classroom” (Rivers and Sanders, 2002, p. 17).

Hanushek and Rivkin (2010) describe the analytic framework for the Teacher Value-added Model but express two concerns about the model. The first concern is the precision of test measurements being used to determine student academic growth. They note that standardized tests used to measure student knowledge are limited in their ability to assess what a student has learned and the methods used to determine test measurement error of standardized tests differ, causing a difference in the estimated variance in teacher quality. The second concern for determining value-added for teachers is the omitted variables that could lead to bias estimates for the teacher effect. Darling-Hammond, Amrein-Beardsley, Haertel, and Rothstein (2012) support Hanushek and Rivkin’s concerns and added two other concerns to the list. The Teacher Value-added Model identifies teacher effects for classes where students are randomly assigned to teachers, when in many schools students are not randomly assigned. Even when randomly assigned, some teachers may have significantly larger numbers of students with challenging circumstances, such as poor attendance and homelessness. Last, the model does not take into consideration the variability of teacher effectiveness. Teachers may perform very effectively at some types of instruction or content but less effective with others (Darling-Hammond, Amrein-Beardsley, Haertel, and Rothstein, 2012). Regardless of the concerns, researchers continue to use the Teacher Value-added Model or some modification of it in their studies (Rivers and Sanders, 1997; Bond, Smith, Baker, and Hattie, 2000; Rivers and Sanders, 2002; Stone, 2002;

Eric Hanushek’s studies on teacher quality have provided empirical data demonstrating that a teacher’s effectiveness, positive or negative, is directly correlated to student achievement (Hanushek, 1992; Hanushek & Rivkin, 2010; Hanushek, 2011). Hanushek’s (1971) early studies focused on determining “educational output” of teachers by analyzing the function of each factor (input) influencing student outcomes (p. 280). He developed the framework for his conceptual model for educational output by utilizing prior research and theories of other researchers but whose foundations can be found in *Equality of Educational Opportunity*, often referred to as the Coleman Report (Hanushek, 1971; Hanushek & Rivkin, 2004; Hanushek & Rivkin, 2006; Coleman, Campbell, Hobson, McPartland, Mood Weinfeld & York, 1966). Hanushek (1992) extended the model to determine the teacher’s effect within this framework, concluding that there are teacher characteristics such as education level and class size, that do not have an apparent effect on student learning. The factor inputs, such as the incoming academic level of students, the students’ natural ability, peer influence, family influence, community influence, school influence and teacher influence are limiting because of their “contemporaneous” nature, thus determining a casual relationship becomes a more difficult task (Hanushek & Rivkin, 2004, p. 12).

Hanushek (2011) found that the value-added by a quality teacher could impact a student’s achievement as high as 1.5 years of gain (p. 467). He expanded the value-added model to calculate the economic value of a quality teacher by calculating teacher effectiveness in terms of standard deviations of student achievement. He determined teacher effectiveness could tremendously impact the future earnings of a student: “Any teacher who is one standard
deviation (84th percentile) above the mean for teacher effectiveness will produce over $400,000 in added earnings for her class of twenty” (p. 473). It is noted that a teacher who is below the mean substantially reduces that economic impact equally. Hanushek’s work has led researchers, policy makers, and school administrators to consider the value quality teachers can have, not only on their students’ learning but also on the financial viability of the school, community, and workforce of our nation.

Educational stakeholders view National Board Certification as a credential that sets high-performing teachers apart from other teachers. For that reason, researchers began comparing the effectiveness of NBCTs to non-NBCTs to determine if National Board Certification could be considered a positive indicator for teacher quality. The research findings have been mixed but weigh heavy on the side of National Board. Many studies have shown positive correlation between NBCTs and increased student achievement (Chingos & Peterson, 2011; Salvador & Baxter, 2010; Cantrell, Fullerton, Kane, & Saiger, 2008; Clotfelter, Ladd, & Vigdor, 2007; Goldhaber & Anthony, 2007; Harris and Sass, 2007; Smith, Gordon, Colby, & Wang. 2005; Cavaluzzo, 2006; Sanders, Ashton & Wright, 2005; Goldhaber & Anthony, 2004; Vandevoort, Amrein-Beardsley, & Berliner, 2004; Bond, Smith, Baker, & Hattie, 2000).

Other research finds that NBCTs are not more effective at increasing student achievement gains than non-NBCTs (Stone, 2002; Sanders, Ashton, & Wright, 2005; McColskey & Stronge, 2005; Harris & Sass, 2007). Stone (2002) conducted a study of 16 of 40 Tennessee NBCTs, focusing on teachers who taught third through eighth grade. Data were obtained from the Tennessee Value Added Assessment System (TVAAS) for the 2000-year. He used the value added mixed method developed by Dr. William Sanders to calculate teacher-effect scores. Chattanooga School District in TN put in place an incentive program to identify and reward
teachers who were determined exemplary teachers with a bonus of $5,000. To qualify as exemplary teachers needed a student average annual gain of 115% in three or more core subjects for three consecutive years. Stone used the same criteria to determine if the 16 NBCTs studied would qualify for the Chattanooga exemplary teacher bonus. The data revealed that none of the 16 NBCTs studied qualified for the $5,000 bonus, and only one NBCT came close by qualifying in two of the subject areas for two consecutive years. He concluded that National Board Certification should not be considered an indicator for teacher quality because the NBCTs in his study were no more effective than non-certified teachers at increasing student achievement. A panel was formed by the education Commission of the States to review Stone’s study. The panel found that the number of teacher participants used in the Stone’s study (16) was too small to produce valid findings.

George Cunningham, a professor at the University of Louisville, and Stone, have been critics of using National Board Certification as an indicator for teacher effectiveness. They conducted an analysis of four value-added studies, comparing NBCT to non-NBCTs, one of which was Stone’s Tennessee study. They ascertained that the effect size of NBCTs is only slightly larger (8% of one deviation) than the effect size of non-NBCTs, concluding that the difference was not significant enough (6-14%) to merit the costs associated with National Board Certification. They posit that using the value-added performance method would identify teachers in the 90th percentile and their effect size would be 128%, concluding that “the top 10 percent of non-certified teachers produce achievement effect sizes 10 to 20 times greater than those produced by the average NBPTs certified teacher” (Cunningham & Stone, 2005, p. 1).

Determining how predictive the National Board Certification assessments are for identifying teachers who effectively impact student learning was the goal of Cantrell, Fullerton,
Kane, and Saiger’s (2008) research. They designed a study to determine if the scaled score received by teachers who participated in the National Board Certification process was correlated to the ability to impact students’ achievement. The researchers randomly selected elementary classrooms in Los Angeles that had NBCTs and non-NBCTs as teachers. They found that students assigned to a high scoring teacher’s (NB certified) class outperformed the students assigned to low scoring teachers (NB non-certified). The relationship between teacher certification status and student achievement was statistically significant in six of the seven measured student outcomes.

Since Stone’s study, research has continued to support the supposition that NBCTs are more effective than non-NBCTs at increasing student learning. As recent as 2012, the Washington State Institute of Public Policy (WSIPP) conducted a meta-analysis of 12 empirical studies that compared the effectiveness of NBCTs to non-NBCTs. The effect size on student test scores for each of the 12 studies were calculated and it was determined that a NBCT could increase student test scores from 0 to .06 standard deviation units per year, with a best estimate of .02 SD (Pennucci, 2012).

Summary

The National Board for Professional Teaching Standards has accomplished the charge given to it to develop high and rigorous teacher standards and assessments of those standards for identifying accomplished teachers. NBPTS has been at the forefront of educational reform, leading the way with higher expectations for teachers in teaching, professionalism, leadership, accountability, and increased student achievement. The voluntary standards-based assessment program is recognized by all fifty states and the District of Columbia as a certification of distinction. The preponderance of research suggests NBCTs are high performing teachers who
can positively affect student learning. However, the debate continues as to whether these teachers were already high performing before they underwent the National Board Certification process or whether the process itself helped to develop them into effective teachers. Studies support the idea that teachers who participate in the National Board Certification process, despite whether they certify, perceive the experience helped them to grow professionally in their practice (Oklahoma Technical Assistance Center, 2001). National Board Certification, like other professional board exams such as the medical boards and the bar exam, cannot guarantee the person who successfully passes the assessment is a “quality” professional. It does act as a rigorous, standards-based measure of knowledge, skills, and aptitude for that particular profession. It signals to society that the person who passes the professional exam has demonstrated the potential to be an effective participant in the profession. There is sufficient evidence in the literature to support the belief that National Board Certification can act as an indicator of teacher quality.
Chapter Three

Research Design and Methodology

This chapter describes the research design and methodology that was used to identify the perceptions of Arkansas National Board Certified Teachers (NBCT) regarding the influence of National Board certification on their professional practice, leadership practice and student achievement. It will also discuss how monetary and professional incentives influence the recruitment of teachers into the NB program and support the retention of Arkansas NBCTs in the classroom.

Research Design

A non-experimental quantitative study was developed to identify the perceptions of Arkansas NBCTs regarding the impact of the Arkansas National Board certification program on their practice. An electronic survey was developed and sent to all Arkansas NBCTs; the following research questions guided the study.

Research Questions

1. What factors influence Arkansas teachers to pursue National Board certification?
2. Have the financial incentives provided by Arkansas legislative policies provided an effective model for recruiting teachers into the National Board certification process?
3. Have the financial incentives provided by Arkansas legislative policies provided an effective model for retaining NBCTs in the classroom?
4. How do Arkansas NBCTs perceive their professional practice has been affected by their participation and achievement of National Board certification?
5. How do Arkansas NBCTs perceive their leadership practice has been affected by their participation and achievement of National Board certification?
6. How do Arkansas NBCTs perceive their students’ achievement has been affected by their participation and achievement of National Board certification?

7. What are the impacts of the National Board certification process on Arkansas teachers?

**Population and Sample**

The total population of NBCTs in the United States is 106,268. Since 1997, 2571 teachers have achieved NB certification in Arkansas (National Board for Professional Teaching Standards, About Us, 2013). The sample for this study includes NBCTs who hold a current Arkansas teaching license, work in an AR public school, and have a minimum of three years teaching experience. AR teachers who have participated in the National Board certification process, but have not achieved certification and AR teachers who have not participated in the NB certification are not included in this study.

**Instrumentation**

The instrument used in this study was adapted from the online survey that Oklahoma Technical Assistance Center administered in 2011 to evaluate the impact of the NB certification process on Oklahoma teachers, their students and their schools (Oklahoma Technical Assistance Center, 2011). The OTAC senior evaluation staff adapted two surveys, the Foxschwartz survey administered to Illinois NBCTs in 2007 and the Sykes survey administered to Ohio and North Carolina teachers in 2004, as a framework for the OTAC Oklahoma NBCT survey (Oklahoma Technical Assistance Center, 2011). The researcher for this study received written permission from OTAC senior evaluator Dr. Kathy McKean to use the survey (see Appendix D). Permission to access AR NBCT data was gained from the Arkansas Department of Education (ADE) via phone and email correspondence (see Appendix E). Demographic information, email
addresses, and certification data for AR NBCTs were obtained from Michael Rowland, NBPTS Program Advisor for ADE.

Application for study approval was submitted to the Institutional Review Board (IRB) at the University of Arkansas, Fayetteville (see Appendix F). The IRB application stated that the survey would be sent out electronically to all AR National Board Certified Teachers along with a cover letter that explained that their compliance in answering the electronic survey would be voluntary. They would not be penalized or lose benefits of any kind for participating. Participants were also told that all personal information (names and email addresses) would be kept confidential and would not be used on any documentation.

The NBCT survey was composed of 20 questions. Questions 1 – 7 of the survey were demographic questions to determine gender, ethnicity, degree level, years of teaching experience, where they were currently employed, and the year they became NB certified. Survey questions 8 – 11 asked NBCTs to provide descriptive information about the school district they certified in; and if they had moved school districts since becoming NB certified, they were asked to describe the characteristics of their current school district. They were also asked to select their current job position. These questions were asked to determine the NBCT classroom retention rate and to track NBCT movement within the state. Survey questions 12 – 16 asked AR NBCTs to select the factors that most influenced them to pursue National Board certification and to select the type of funding and support they had received. This question set was asked to determine the factors that most influenced teachers to pursue NB certification. Survey Questions 17 -19 asked AR NBCTs to select ways in which they had shared their expertise with other teachers, in order to establish the level of professional growth and leadership of AR NBCTs. Question 20 was a Likert scale question with 22 statements relating to professional practice (8),
leadership (6), and student achievement (8). NBCTs ranked each statement according to how they perceived NB certification had impacted them where 1 represented not affected, 2 – slightly affected, 3 – moderately affected, 4 – highly affected, and 5 – extremely affected.

The survey was sent with a statement for consent attached stating that completion and submission of the survey signifies agreement to participate (see Appendix G). Qualtrics software was used to administer the NBCT electronic survey (see Appendix H). The Dillman’s Tailored Design Method (2000) was utilized to increase participant response. Dillman’s method was slightly modified for use with electronic contacts, and the four contacts suggested were extended to six. The survey method employed six contacts with survey recipients over a four-week period. The first contact was an automated e-mail to all AR NBCTs with the consent cover page and the link to the survey, followed one week later with a thank you email to those who participated and a reminder to those who had not. The third contact was an automated resending of the initial e-mail with the survey link to NBCTs who had not responded to the initial e-mail. The fourth contact was a reminder email to remaining NBCTs who had not participated, followed by a reminder email to NBCTs who had open surveys, asking them to complete it by the survey closing date and time. The last contact was a final thank you email sent to all AR NBCTs (Dillman, 2000).

Demographic data were collected from the NBCT survey and used to prepare a descriptive analysis of the sample surveyed. The survey was designed to record all responses from respondents, even if they skipped a question or stopped out from the survey. Thus, the number of responses varied on many questions. The NBCT survey contained short answer items to gather background information, and five-point rating scale items to assess the level of impact
on the NBCTs in three categories, professional practice, professional leadership, and student achievement.

**Data Analysis**

The Qualtrics software program was used to analyze data collected from the survey. Demographic information and short answer items were analyzed and displayed, using frequency distribution tables and bar graphs. The analysis provided a description of the sample population represented in the study. It identified trends for NBCTs such as distribution and geographical movement of NBCTs within the state and what kinds of schools NBCTs were teaching in such as rural, urban, high or low achieving school districts and changes in job positions. SPSS software was used to conduct statistical analysis of the data. Participants who did not respond to all Likert scale questions were removed from the data. The mean and standard deviation for each Likert scale question was calculated. A Cronbach Alpha test was run for reliability followed by a factor analysis using the Principal Component Analysis method. Questions were disaggregated out into three categories, professional practice, professional leadership, and student learning. A paired t-test was conducted to determine if there was a significant correlation between each of the pairs of categories.

**Problem and Purposes Overview**

In 1997, AR legislators responded to NCLB mandates for increased teacher quality in the classroom by implementing legislation to establish and support a state National Board program. The program grew steadily in the early years; the last three years it has grown significantly with the number of teachers achieving NB certification tripling (National Board for Professional Teaching Standards, 2012). The national economic crisis that began in 2008 has contributed to an increased number of teachers competing for state funding and seeking NB certification. The
average AR teacher salary is $47,316, ranking 43\textsuperscript{th} in the nation (Arkansas Department of Education, Fast Facts, 2013; National Education Association, 2013). The number of teachers seeking NB certification has increased as AR teachers seek to increase their salaries and to advance their credentials, making them more competitive for positions in higher paying schools districts. As the program grows, so do the cost to sustain the program, causing stakeholders to question continued sustainability. Stakeholders want to know if their investment in the program has increased teacher quality and if continued investment will pay off in significant increases in student learning. Evaluation of the AR NB Program is needed to determine its success at recruiting teachers into the program and retaining teachers who have achieved certification in the classroom. The study assessed how AR NBCTs perceived their professional growth has been affected by their participation and successful achievement of NB certification. NBCTs ranked their perceived level of professional growth, professional practice, professional leadership, and student achievement on a one to five Likert scale. Understanding the effects of NB certification on teachers’ professional growth and effectiveness provides insight to all stakeholders involved in education reform.

**Summary**

The study assessed the perception of AR NBCTs, to determine the program’s effectiveness for recruiting and retaining teachers. Data collected from the Arkansas Department of Education and the NBCT electronic surveys were utilized to identify demographic trends occurring across the state. The electronic survey administered to AR NBCTs asked the recipients for their perception of their professional growth from their participation in the NB certification process. The NBCTs’ survey data were used to determine the direction and level of
professional growth perceived by NBCTs, focusing on the areas of professional practice, professional leadership, and their students’ learning.

A pivotal piece to implementing educational reform is developing and identifying quality teachers for the classroom (National Commission on Excellence in Education, 1983). The NB certification process provides teachers with rigorous standards and assessments for which to measure their teaching effectiveness. The process asks teachers to reflect on their practice and to analyze the impact of their planning, teaching, and assessment through the lens of their students’ learning. These job-embedded circumstances create professional development that becomes individualized for every teacher. Understanding the impact of the NB certification process on the professional growth of teachers is critical to calculating the worth of the program to stakeholders, who have invested in promoting and sustaining the NB program. Identifying the specific areas of professional growth that occur for teachers who participate in the NB certification process is significant to all stakeholders. Professional growth in specific areas of teacher practice can act as an indicator of what an ineffective teacher needs to become effective. Providing teachers with a professional development opportunity, such as NB certification, can significantly improve their practice and provides stakeholders with greater justification for appropriation of federal, state, and district funding to recruit, support and retain NBCTs in the classroom.
Chapter Four

Data Analysis

The purpose of this study was to determine the effects of the National Board certification process on the practice of Arkansas National Board Certified Teachers (AR NBCT). Specifically, the study focused on the perceptions of AR NBCTs in regard to their professional practice, leadership practice, and student achievement, since becoming National Board certified. The chapter provides analysis of the demographic data and empirical data gained from a survey taken by AR NBCTs. The survey was designed to collect demographic information about AR NBCTs to determine common characteristics among the population and to identify trends taking place within the state among the population. The survey also asked the views of AR NBCTs regarding the National Board certification process and its perceived effect on their teaching practice. The study sample of AR NBCTs is described and analyzed through the lens of the studies’ research questions. Discussions and conclusions arising from the data analysis will be discussed in Chapter 5.

Description of Study Sample

All AR NBCTs for whom the researcher could determine a current email address were used in the study sample. At the start of this study, 2,137 teachers had certified in Arkansas since 1997. The Arkansas Department of Education (ADE) maintains a record of current NBCTs who are teaching in Arkansas school districts in order to pay their yearly stipend. However, ADE removes teachers from the list who are no longer teaching in AR public schools because they have left the state, retired, taken district office positions, had their license revoked, let their certification lapse or have passed away. Michael Rowland, Public School Program
Advisor for the Office of Educator Effectiveness at Arkansas Department of Education provided a current list of AR NBCTs and their email addresses for this research.

The National Board for Professional Teaching Standards directory, located on the front page of NBPTs website, lists the total number of Arkansas NBCTs as 2,329, as of 2012 (National Board for Professional Standards, Directory, 2012). This number includes all teachers who certified in AR and any NBCT who certified in another state but has moved into Arkansas to teach. The National Board directory list was compared to the ADE list. The NB list contained 264 names that were not on the ADE list. An effort was made to locate the email addresses of the 264 teachers who were on the list and still in education, i.e. district office personnel or college faculty. Twelve teachers meeting those requirements were located and their email addresses were added to the ADE list of active NBCTs, bringing the total number of NBCTs, to 2,144. An electronic survey was sent out to all 2,144 AR NBCTs, of which 1,177 (55%) responded (see Appendix H). The survey was established in Qualtrics and administered through the University of Arkansas’s secure network. The survey was set to record all responses given, even if the respondent stopped out of the survey without completing it or skipped a question, thus the questions have varied response numbers.

The first section of the survey was developed to gather demographic information about AR NBCTs. The second section was designed to determine what factors influenced them to pursue National Board Certification and how they perceived their professional practice, leadership practice, and student achievement have been impacted since becoming NB certified.

Descriptive Characteristics of Respondents

The response rate was 55%; however, 44 of the respondents opened the survey but did not take the survey, reducing the response rate to 53%. Some questions were answered with
inappropriate responses, such as giving their certification type instead of the year they certified or stating “yes” to the question “Where were you employed when you went through the National Board process.” The researcher used the National Board Directory and Arkansas Department of Education database to determine the correct information for that particular respondent.

Gender response (n=1,133) to the survey was 5% male and 95% female; this percentage is comparable to the male and female percentages of NBCTs in Arkansas of 4% and 96%, respectively (Arkansas Department of Education, Fast Facts, 2012). The ethnicity response (n=1,135) of the sample population was primarily white (92%), with black (5%) following, Hispanic and Native American both with 1%. This reflects the trend for the ethnicity of all certified teachers in the state of 75% white, 17% two or more races, 7% black, 1% Native American and .43% Hispanic (Arkansas Department of Education, Data Center, 2013). However, the percent of survey respondents who identified white are 23% higher than the states. This may be because the participants, who are two or more races, identified first with white and responded that way on the NBCT survey, since the option to select two or more races, was not given to them on the NBCT survey.

The highest level of education for respondents was MA or MS (74%), followed by BA or BS (24%), and Ed.D. or Ph.D. (2%). The large percentage of teachers with master’s degrees is not surprising, considering the salary increase from bachelor’s to master’s with no years experience in the state is $4,386.00 (Arkansas Department of Education, Teacher Salary Schedule, 2013). The respondents’ years experience ranged from 3 to 47 years. The mean for the respondents’ years experience (n = 1,131) was 18 years (SD = 7.61). The 95% confidence interval of the years experience in the sample is 12 years to 23 years experience.
NBCTs were asked to provide the year in which they certified. The certification span for respondents ranged from 1992 to 2012; there were four years that were not represented in the sample 1993, 1996, 1997, and 1998. National Board certification program was not initiated in Arkansas until 1997, and thus, the respondents represented in 1992, 1994, 1995, and 1996 are NBCTs who have moved in from another state and have recertified in Arkansas when their initial certification ended. The number of teachers successfully certifying increased with each succeeding year. The life of a NB certificate is 10 years; teachers who certified from 1998 through 2002 would have to recertify to keep their certification active. If they chose not to recertify or were not successful then this would reduce the number of potential respondents from the next years in the sample. The greatest respondent participation (94%) was from the most recently certified teachers in 2012. The least respondent participation (23%) was from the teachers who certified in 2009. The state trend shows an increasing number of teachers certifying from one year to the next. The surveyed sample follows the same trend of increasing in number from the prior year, except in 2009, where the number of NBCTs decreased (see Figure 1).
NBCTs were asked to describe the school district in which they taught when they certified. The data show that the study sample tended to teach in large, rural schools where more than 50% of their students qualified for free and reduced lunches (see Table 1). Of the 1,130 NBCTs who responded, 84% of them have remained in the school district in which they certified. The NBCTs who moved school districts were asked to describe their new school district, using the same descriptors as the prior question. From that data, a slight shift can be seen from rural schools (45%) toward more urban and suburban (57%) schools. There is also a small increased movement to high performing school districts with a corresponding inverse decrease in high poverty schools (as identified through free and reduced lunch data). It should be noted that 18 (11%) of the 167 who moved school districts after becoming NB certified were NBCTs who moved into AR from other states, AL (1), FL (2), LA (1), MS (2), OK (10), RI (1), SC (1).
Table 1

*School District Descriptions*

<table>
<thead>
<tr>
<th>School Characteristic</th>
<th>Description of School District When Respondent Certified % (n = 1,130)</th>
<th>Description of Current School District if Respondent moved % (n = 165)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>45</td>
<td>38</td>
</tr>
<tr>
<td>Urban</td>
<td>22</td>
<td>28</td>
</tr>
<tr>
<td>Suburban</td>
<td>22</td>
<td>29</td>
</tr>
<tr>
<td>Small (less than 500 K-12 students)</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Medium (less than 1500 K-12 students)</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Large (more than 1500 K-12 students)</td>
<td>48</td>
<td>35</td>
</tr>
<tr>
<td>At risk</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>High Performing</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>More than 50% Free and Reduced</td>
<td>54</td>
<td>48</td>
</tr>
</tbody>
</table>

*Note.* Respondents could select as many descriptors as applied to their district; the percentage represents the number of times the characteristic was selected per total respondents to the question.

To determine if NBCTs were retained in their teaching or specialized teaching positions after certifying, participants were asked to select their current job position. Thirty-seven of the 1,104 responses were removed because the respondent selected more than one job position. Of the 1,069 NBCTs who responded, 94% were still teaching or in specialized teaching positions and only 6% had moved out of the classroom into administration, higher education, or out of education altogether (see Table 2). The calculated confidence interval at a confidence level of 95% for the surveyed sample was 92.5% to 95.4%. The data is statistically significant in that it provides support that teachers are staying in the classroom or in specialized teaching positions after becoming National Board certified. Research Question 4 of this study asks how effective the financial incentives provided by the state were at retaining teachers in the classroom. The data strongly support a high retention rate of NBCTs. NBCTs are remaining in the school district they were teaching in when they certified and they continue in a teaching capacity.
Table 2

<table>
<thead>
<tr>
<th>Job Description</th>
<th>Positions</th>
</tr>
</thead>
<tbody>
<tr>
<td>% (n = 1,069)</td>
<td></td>
</tr>
<tr>
<td>Teacher</td>
<td>67</td>
</tr>
<tr>
<td>Special Education Teacher</td>
<td>6</td>
</tr>
<tr>
<td>Alternative Education Teacher</td>
<td>0</td>
</tr>
<tr>
<td>Career and Technology Teacher</td>
<td>2</td>
</tr>
<tr>
<td>Specialist (Literacy, Math, Curriculum Coach)</td>
<td>13</td>
</tr>
<tr>
<td>School Counselor</td>
<td>6</td>
</tr>
<tr>
<td>Building - Level Administrator</td>
<td>4</td>
</tr>
<tr>
<td>District – Level Administrator</td>
<td>1</td>
</tr>
<tr>
<td>Higher Education</td>
<td>1</td>
</tr>
<tr>
<td>Not Employed</td>
<td>0</td>
</tr>
</tbody>
</table>

Research Questions and Analysis

Research Question 1 asked, “What factors influence Arkansas teachers to pursue National Board certification?” AR NBCTs were asked to select a factor that “most influenced them to pursue National Board Certification” from a list of factors. They were also given an “other” option, where NBCTs could type in a factor that was not on the list (see Table 3). Forty-two percent of respondents selected yearly financial bonus as the factor that most influenced them to pursue National Board certification, followed by professional growth and development (24%). Of the 2% of NBCT respondents who selected “other,” most responded with combinations of the influences listed such as “all the above” or “bonus and professional growth.” There were two influences given by NBCTs that were not on the list. Several listed they were “encouraged to pursue” certification by principals, peers, or family, or they pursued certification as a “personal challenge.”
Table 3

Factors that influenced teachers to pursue National Board Certification

<table>
<thead>
<tr>
<th>Factors</th>
<th>Participants Response % (n = 1,100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary subsidy fee and support</td>
<td>11</td>
</tr>
<tr>
<td>Yearly financial bonus</td>
<td>42</td>
</tr>
<tr>
<td>Professional growth and development</td>
<td>24</td>
</tr>
<tr>
<td>Leadership opportunities</td>
<td>3</td>
</tr>
<tr>
<td>Prestige</td>
<td>4</td>
</tr>
<tr>
<td>Career/credential</td>
<td>13</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
</tr>
</tbody>
</table>

Note. Of the 37 respondents who selected “other” 14 of them listed combinations of the factors given.

NBCTs were asked three questions in the survey to determine if the financial incentives provided by Arkansas legislative policies were an effective model for recruiting teachers into the National Board certification program (Research Question 2) and if the financial incentives were effective at retaining NBCTs in the classroom teaching (Research Question 3). The first survey question asked NBCTs to select the type of funding they received, if any, for National Board Certification. This question was asked to establish how NBCTs were funding their National Board Certification. Respondents could select as many funding sources as they received. Eleven percent of the NBCTs (n=1,071) reported they received funding from multiple sources. Over half of the NBCT respondents (69%) were funded with full state funding and 28% received Candidate Subsidy Funding, which provides half of the registration fee. This would require teachers to pay personally the other half or find other funding sources. This could account for the NBCTs who reported they received school district funding (10%) or scholarships (2%). Forty-four (4%) of the NBCTs responded “other” on the survey, and of the 44, 13 (1%) of NBCTs reported that they used personal funds to pay their registration fees for National Board Certification, and 18 (2%) reported they paid half of the fee (see Figure 2).
Note. (n = 1,071) Respondents could select as many funding sources as applied to them. Because not all teachers certified the first year they pursued National Board Certification, they may have sought other funding sources for their second or third-year attempts.

The second question asked AR NBCTs if they would have pursued National Board certification without the provided state funding for participation (application fee). Of the 1,089 that responded, 59% (SD = .49) responded “no” they would not have pursued certification if financial assistance had not been available to them. This question was followed by the third question, “Would you have pursued National Board certification if a yearly stipend were not offered as an incentive?” Overwhelmingly, 73% (SD = .44) responded that they would not have pursued National Board Certification without the financial incentive (See Figure 3). The data supports the idea that teachers are strongly influenced by the financial incentives offered by the state of Arkansas to recruit their participation in the National Board certification program and that financial incentives act as an effective model for retention of NBCTs in the classroom, as well.
NBCTs were asked to select the type of formal support that was most beneficial to them while completing the National Board certification process. Several support systems exist in the state to assist and support NB candidates during the yearlong certification process. ADE provides funding for State Regional Candidate Support Sites across the state with legislatively appropriated funds. The State Regional Support Site funds provide materials and resources for NB candidates, as well as a stipend for NBCTs who facilitate the support sites. Of the 1,037 respondents, 32% felt State Regional Support Sites were most beneficial to them. Peer mentoring followed with 29%, and school district organized support groups with 26%. Both peer mentoring and school district organized support groups require individual NBCTs to volunteer their time and expertise by providing assistance and feedback to the NB candidate. The Master of Education in Advanced Teaching and Learning graduate program offered by Harding University was selected by 12% of the respondents as most beneficial to them. Only 2% of the NBCT respondents selected the professional organization, Arkansas Teacher for
National Board Certification, which provides a statewide conference on topic specific sessions for NB candidates and provides an environment of professional learning and collaboration (See Figure 4).

**Figure 4  Formal Support Systems Selected as Most Beneficial**

<table>
<thead>
<tr>
<th>Support System</th>
<th>Most Beneficial Support System</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR Teacher for NB Certification Conference</td>
<td>19</td>
</tr>
<tr>
<td>Graduate Program</td>
<td>121</td>
</tr>
<tr>
<td>School District Support Groups</td>
<td>272</td>
</tr>
<tr>
<td>NBCT Mentor</td>
<td>296</td>
</tr>
<tr>
<td>State Regional Support Site</td>
<td>329</td>
</tr>
</tbody>
</table>

Research Question 4 asks, “How do Arkansas NBCTs perceive their professional practice has been affected by their participation and achievement of National Board certification?” To determine those perceptions two questions were asked. The first question asked AR NBCTs to identify ways in which they had shared their expertise in instructional practices with other teachers, and the second asked AR NBCTs to identify ways in which they had shared their content expertise. They were given a list to select from, consisting of peer coaching, novice teacher mentoring, site presentation, district presentation, state or regional presentation, national presentation, and other.

In response to the sharing of their instructional practices, AR NBCTs selected peer coaching (85%), novice teacher mentoring (62%), site presentation (32%), district presentation (25%), state or regional presentation (16%), national presentation (4%), and other (5%). The 5%
of NBCTs who responded “other” listed seven other sharing opportunities in their written responses: professional learning communities (PLCs), NB Support Sites, professional organizations, teaching, coaching, encouragement of others, and none.

Given the same selection as the above question, NBCTs were asked to identify ways in which they had shared their content expertise with other teachers. The results were similar to the pedagogical question: peer coaching (86%), novice teacher mentoring (63%), site presentation (36%), district presentation (27%), state or regional presentation (16%), national presentation (4%), and other (5%). The 5% of NBCTs who responded “other” listed the same seven sharing opportunities as given in the instructional sharing question (See Figure 5.1).

![Figure 5.1. Comparison of AR NBCT Pedagogical and Content Sharing](image)

Note. Pedagogical Sharing (n = 1,081) and Content Sharing (n = 1,066) Respondents could select as many sharing actions as applied to them.

Research Question 5 asks, “How do Arkansas NBCTs perceive their leadership practice has been affected by their participation and achievement of National Board certification?” The data collected from survey questions 16 and 17 were further disaggregated by the total number of
selections chosen by individual NBCTs to determine the level of professional sharing for the population. From the sample data collected, 71% responded that they shared their instructional expertise with other teachers in two or more ways, and the remaining 39% shared their instructional expertise in only one way. Respectively, 73% responded that they shared their content expertise with other teachers in two or more ways and the remaining 27% shared their content expertise in only one way (see Figure 5.2).

![Figure 5.2. Comparison of Pedagogical and Content Sharing per Number of Selections](image)

**Figure 5.2. Comparison of Pedagogical and Content Sharing per Number of Selections**

<table>
<thead>
<tr>
<th>Total Number of Sharing Opportunities Selected</th>
<th>Total number of Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>300</td>
</tr>
<tr>
<td>3</td>
<td>200</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>7</td>
<td>10</td>
</tr>
</tbody>
</table>

**Pedagogical sharing**

**Content sharing**

*Note.* Pedagogical sharing (n = 1,081), Content sharing (n = 1,066)

To determine if AR NBCTs were specifically helping and mentoring other teachers as a result of the certification process, they were asked to select the specific ways they had helped other teachers who were pursuing their National Board certification. NBCTs were asked to select all that apply to them from the list. They were also given the option “other” and a place to add other ways they had helped teachers pursuing National Board Certification. The responding 1,134 AR NBCTs listed they had read a NB candidates’ portfolio entry (83%), acted as a mentor to NB candidates (66%), viewed a entry video for a NB candidate (25%), presented to a group of NB candidates (17%), facilitated a NB Candidate Support site (10%), and 7% selected ‘other’
(see Figure 6.1). Of the 71 respondents who selected “other” the following were given as examples of their sharing: giving advice, discussing ideas, encouragement, presentation, assessed portfolios or state grants, and taught a NB candidacy class. The data were disaggregated by the number of support actions taken by each NBCT to determine how active NBCTs were at providing support to NB candidates. NBCTs who selected only one supportive action were 304 or 29%; the remaining 71% selected two or more supportive actions (see Figure 6.2). This supports the finding that AR NBCTS are active teacher leaders.

![Figure 6.1 Support Actions of AR NBCTs to Support NB Candidates](image)

*Note.* n = 1,033 Respondents could select as many support actions as applied to them.
Research Question 6 asks, “How do Arkansas NBCTs perceive their impact on student achievement has been affected by their participation and achievement of National Board certification?” To answer Research Question 6 and further answer Research Questions 4 and 5, a set of Likert scale questions were used in the survey. The Likert scale questions were statements relating to professional practice, leadership practice, and student achievement. AR NBCTs were asked to rank each statement using a 5-point Likert scale, where 1 represented not affected, 2 – slightly affected, 3 – moderately affected, 4 – highly affected, and 5 – extremely affected. The scale was positively aligned so a high ranking would indicate a positively perceived effect by NBCTs to the statement. The resultant data were collected and all incomplete responses were removed from each Likert Scale Question (n = 1,045). The mean and standard deviation were determined for each Likert scale question (see Table 4). The Likert scale question ranked with the highest mean was ‘self-reflection’ (M = 4.56, SD .70).
Table 4

Items 1-22 on Likert Scale Question 20

<table>
<thead>
<tr>
<th>Item</th>
<th>Likert Statement</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q20_1</td>
<td>Critical analysis of my own teaching</td>
<td>4.45</td>
<td>.68</td>
</tr>
<tr>
<td>Q20_2</td>
<td>Mentoring or coaching other teachers</td>
<td>3.79</td>
<td>.91</td>
</tr>
<tr>
<td>Q20_3</td>
<td>Leadership</td>
<td>3.93</td>
<td>.86</td>
</tr>
<tr>
<td>Q20_4</td>
<td>My own knowledge of the subject matter</td>
<td>3.87</td>
<td>.99</td>
</tr>
<tr>
<td>Q20_5</td>
<td>Whole class assessment</td>
<td>3.88</td>
<td>.90</td>
</tr>
<tr>
<td>Q20_6</td>
<td>Formal student assessment</td>
<td>3.87</td>
<td>.89</td>
</tr>
<tr>
<td>Q20_7</td>
<td>Using student assessment data to change instruction</td>
<td>4.00</td>
<td>.84</td>
</tr>
<tr>
<td>Q20_8</td>
<td>Effective instructional techniques and strategies</td>
<td>4.21</td>
<td>.76</td>
</tr>
<tr>
<td>Q20_9</td>
<td>Differentiated instruction</td>
<td>4.00</td>
<td>.88</td>
</tr>
<tr>
<td>Q20_10</td>
<td>Motivating reluctant learners</td>
<td>3.80</td>
<td>.93</td>
</tr>
<tr>
<td>Q20_11</td>
<td>Improving students’ critical thinking skills</td>
<td>4.05</td>
<td>.82</td>
</tr>
<tr>
<td>Q20_12</td>
<td>Increasing student driven discourse</td>
<td>3.86</td>
<td>.92</td>
</tr>
<tr>
<td>Q20_13</td>
<td>Promoting students’ independent thinking</td>
<td>3.95</td>
<td>.83</td>
</tr>
<tr>
<td>Q20_14</td>
<td>Peer Networking</td>
<td>3.84</td>
<td>.93</td>
</tr>
<tr>
<td>Q20_15</td>
<td>Communication with parents</td>
<td>3.78</td>
<td>.97</td>
</tr>
<tr>
<td>Q20_16</td>
<td>Involvement with community partners</td>
<td>3.57</td>
<td>1.06</td>
</tr>
<tr>
<td>Q20_17</td>
<td>Classroom management</td>
<td>3.46</td>
<td>1.03</td>
</tr>
<tr>
<td>Q20_18</td>
<td>Self-reflection</td>
<td>4.56</td>
<td>.70</td>
</tr>
<tr>
<td>Q20_19</td>
<td>Efficacy</td>
<td>3.99</td>
<td>.86</td>
</tr>
<tr>
<td>Q20_20</td>
<td>Professional growth</td>
<td>4.32</td>
<td>.77</td>
</tr>
<tr>
<td>Q20_21</td>
<td>Student achievement</td>
<td>4.01</td>
<td>.83</td>
</tr>
<tr>
<td>Q20_22</td>
<td>Participation in professional organizations</td>
<td>3.39</td>
<td>1.11</td>
</tr>
</tbody>
</table>

A Cronbach alpha test was run to determine the internal consistency of the scale items for reliability. A Cronbach’s alpha value ≥ .80 or 80% is strong evidence for internal consistency. It was found that the Cronbach’s alpha value for the scale items was .844 or 84%, a statistically high value.

A factorial analysis (see Table 5) was conducted on the data collected from the survey using SPSS to determine if each statement was placed in the correct category or another category should be considered. Each factor was extracted and analyzed using the Principal Component Analysis method. The extraction, produced three components: component 1, including Likert...
question 1, 4, 7, 8, 17, 18, 19, 20, component 2, including Likert questions 2, 3, 14, 15, 16, 22, and component 3 including Likert questions 5, 6, 9, 10, 11, 12, 13, and 21. The extracted components 1, 2, 3, matched the researchers’ categories, professional practice, professional leadership and student achievement, respectively. The cumulative variance of all three components was significantly high at 62.4%.

Table 5

Summary of Items and Factor Loading for a Three-Factor Solution (N=1,045)

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q20_1</td>
<td>43</td>
<td>58</td>
<td>12</td>
</tr>
<tr>
<td>Q20_4</td>
<td>41</td>
<td>57</td>
<td>10</td>
</tr>
<tr>
<td>Q20_7</td>
<td>43</td>
<td>64</td>
<td>12</td>
</tr>
<tr>
<td>Q20_8</td>
<td>47</td>
<td>67</td>
<td>14</td>
</tr>
<tr>
<td>Q20_17</td>
<td>43</td>
<td>58</td>
<td>9</td>
</tr>
<tr>
<td>Q20_18</td>
<td>49</td>
<td>57</td>
<td>8</td>
</tr>
<tr>
<td>Q20_19</td>
<td>49</td>
<td>67</td>
<td>15</td>
</tr>
<tr>
<td>Q20_20</td>
<td>48</td>
<td>65</td>
<td>12</td>
</tr>
<tr>
<td>Q20_2</td>
<td>2</td>
<td>-18</td>
<td>68</td>
</tr>
<tr>
<td>Q20_3</td>
<td>3</td>
<td>-21</td>
<td>72</td>
</tr>
<tr>
<td>Q20_14</td>
<td>2</td>
<td>-16</td>
<td>78</td>
</tr>
<tr>
<td>Q20_15</td>
<td>2</td>
<td>-17</td>
<td>77</td>
</tr>
<tr>
<td>Q20_16</td>
<td>1</td>
<td>-20</td>
<td>80</td>
</tr>
<tr>
<td>Q20_22</td>
<td>5</td>
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<td>70</td>
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<tr>
<td>Q20_5</td>
<td>66</td>
<td>-39</td>
<td>-4</td>
</tr>
<tr>
<td>Q20_6</td>
<td>70</td>
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<tr>
<td>Q20_9</td>
<td>71</td>
<td>-41</td>
<td>-10</td>
</tr>
<tr>
<td>Q20_10</td>
<td>73</td>
<td>-41</td>
<td>-13</td>
</tr>
<tr>
<td>Q20_11</td>
<td>77</td>
<td>-37</td>
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<td>Q20_12</td>
<td>74</td>
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<tr>
<td>Q20_13</td>
<td>74</td>
<td>-39</td>
<td>-11</td>
</tr>
<tr>
<td>Q20_21</td>
<td>73</td>
<td>-37</td>
<td>-6</td>
</tr>
</tbody>
</table>

Note. Printed values are multiplied by 100 and rounded to the nearest integer. The highest value for each item is bolded.

The Cronbach’s alpha coefficient was calculated for each component for internal consistency and reliability (see Table 6). All components were statistically high. The component student achievement had the greatest reliability at 93%, followed by professional
practice (90%) and professional leadership (86%). The Standard Error of Measurement (SEM) was calculated for each component to determine reliability and the confidence levels (CI). The SEM for each component was very small, student achievement (.19), professional practice (.20), and professional leadership (.28), indicating high reliability. The results indicated the mean for professional practice (M = 4.10, SD = .64) was significantly greater than the mean for student achievement (M = 3.93, SD = .72) and professional leadership (M = 3.72, SD .75).

Table 6

Descriptive Statistics and Internal Consistency for Components

<table>
<thead>
<tr>
<th>Component</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>Cronbach’s alpha</th>
<th>SEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional practice</td>
<td>8</td>
<td>4.1</td>
<td>.64</td>
<td>.90</td>
<td>.20</td>
</tr>
<tr>
<td>Professional leadership</td>
<td>6</td>
<td>3.7</td>
<td>.75</td>
<td>.86</td>
<td>.28</td>
</tr>
<tr>
<td>Student Achievement</td>
<td>8</td>
<td>3.9</td>
<td>.72</td>
<td>.93</td>
<td>.19</td>
</tr>
</tbody>
</table>

Note. professional practice (n = 1,052), professional leadership (n = 1,061), student achievement (n = 1,045)

A paired samples t-test was conducted to evaluate whether AR NBCTs perceived whether one component most affected their participation on the National Board Certification process over another. The mean and standard deviation for each pair was determined: student achievement and professional leadership (M = .21, SD = 1.02), student achievement and professional practice (M = .18, SD .90) and professional leadership and professional practice (M = .39, SD = 1.00). The 95% confidence interval for the mean differences between each component was found to be similar with student achievement and professional leadership ranging between .15 to .27, student achievement and professional practice ranging between -.23 to -.12, and professional leadership
and professional practice ranging between -.45 and -.33. The paired samples t-test determined all three components to be statistically significant, p < .0005 (two-tailed) (see Table 6).

Table 7

Paired Samples t-Tests

<table>
<thead>
<tr>
<th></th>
<th>M</th>
<th>SD</th>
<th>SEM</th>
<th>Lower</th>
<th>Upper</th>
<th>T</th>
<th>df</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>.21</td>
<td>1.0</td>
<td>.03</td>
<td>.15</td>
<td>.27</td>
<td>6.67</td>
<td>1044</td>
<td>.000</td>
</tr>
<tr>
<td>Achievement – Leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 2</td>
<td>-.18</td>
<td>.90</td>
<td>.03</td>
<td>-.23</td>
<td>-.12</td>
<td>-6.31</td>
<td>1044</td>
<td>.000</td>
</tr>
<tr>
<td>Achievement – Practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pair 3</td>
<td>-.39</td>
<td>1.0</td>
<td>.03</td>
<td>-.45</td>
<td>-.33</td>
<td>-12.64</td>
<td>1051</td>
<td>.000</td>
</tr>
<tr>
<td>Leadership – Practice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Achievement - Leadership (n = 1,045), Achievement - Practice (n = 1,045), Leadership - Practice (n = 1,052), *α = 0.05

Research Question 7 asks, “What is the impact of the National Board certification process on Arkansas teachers?” Analysis of survey question 20 indicates that AR NBCTs perceive that their professional practice has been most affected by their participation in the National Board certification program, followed by their student achievement and leadership, respectively. A high level of efficacy can also be theorized among AR NBCTs, as evidenced by the eight highest ranked Likert scale questions with a mean of 3.99 and higher. AR NBCTs perceive the National Board Certification process has ‘highly affected’ their efficacy (M = 3.99) or efficacy practices, such as “self-reflection” (M = 4.56), “critical analysis of my teaching” (M = 4.45), ‘professional growth” (M = 4.32), “effective instructional techniques and strategies” (M = 4.21), “improving students’ critical thinking skills” (M = 4.05), “student achievement” (M = 4.01) and “differentiated instruction” (M = 3.99).
Summary

In summation, this study examined the characteristics of AR NBCTs, the factors that influence them to pursue National Board certification and their perception of how National Board certification has affected their professional practice, leadership and student achievement. The response to the survey by AR NBCTs (55%) was high, providing a large sample population. Demographically the sample population of AR NBCTs who responded to the survey are similar to the state’s population of NBCTs. The NBCTs represented in the survey were 95% female and 92% white. The most common level of education was MA or MS (74%), and the average time of experience in teaching was 18 years. The number NBCTs represented per certification year in the sample also followed the trend for the state population of NBCTs.

The data collected demonstrates that AR NBCTs (53%) are motivated by the financial incentives offered to them by the state to pursue and achieve National Board certification. The found that AR NBCTs are active teacher leaders who share their expertise in content and pedagogy with other teachers in a variety of ways, but primarily through peer coaching and mentoring. AR NBCTs also support NB candidates by providing assistance, expertise, and encouragement. They perceive that National Board certification has had a positive impact on their professional practice, student achievement, and leadership in that order.
Chapter Five

Findings, Conclusions, and Implications

Research has established that teacher quality is an essential cornerstone to promoting educational reform. Thus, identifying, recruiting, and retaining quality teachers are imperative to bringing about educational reform to promote student achievement. The challenge set forth by the Carnegie Forum on Education and Economy Task Force on Teaching as a Profession, to define professional standards for teaching and to develop assessments of teachers who meet those standards, has been met through the foundation of the National Board of Professional Teaching Standards and certification process. The voluntary certification process is considered by most in the education field to be a rigorous and valid assessment of a teacher’s ability to teach effectively. Understanding the affects of the National Board Certification program on teachers gives insight to how teachers develop in their teaching practice. This information can be used to foster and develop teachers into quality teachers. This study focused on the effects of National Board Certification as perceived by AR NBCTS on their teaching practice.

This chapter discusses the study’s findings, examines the conclusions formed, and explores the implications of those findings. Recommendations for further research or studies will be discussed.

Summary of Study

A substantial amount of funding is committed each year by the state of Arkansas toward the recruitment, support, and retention of teachers into the National Board Certification program. This study examined the effects of the National Board Certification process on Arkansas teachers, their professional practice, leadership practice, and students’ achievement. The data gained from this research provides state stakeholders quantitative and qualitative data that can be
used in determining the effectiveness of current legislative policy and the design of future policy. The study provides stakeholders insight on how Arkansas NBCTs perceive their teaching practice has changed from undergoing and achieving National Board Certification. It provides them a greater understanding of how NBCTs perceive their leadership growth and the kind of leadership roles NBCTs have taken on since becoming certified. The study also asked NBCTs to describe how they perceived their students’ achievement has been affected from their participation in the National Board Certification process. Though quantitative data (benchmark tests) for student achievement was not utilized in this study, NBCTs did perceive a positive impact on their students’ achievement.

The theoretical framework for this study was based upon the NBPTS Five Core Propositions. Lee Shulman’s study of knowledge growth in teaching was foundational in establishing what accomplished teachers should know and be able to do. Using National Board Certification as an indicator of teacher quality for the purpose of recruiting and retaining teachers into AR classrooms is supported by the literature reviewed in this study. The literature also supports the idea that the National Board Certification process is an effective professional development for teachers. The certification process helps to develop teacher skills and practices (Park, Oliver, Johnson, Graham & Oppong, 2007). Many teachers describe the National Board Certification process as a “transformative experience” and they perceive the process has changed their beliefs and teaching practices (Lustick and Sykes, 2006, p. 25). Research supports the supposition that NBCTs make a significant difference in their students’ achievement (National Research Council, 2008; Goldhaber & Anthony, 2007; Clotfelter, Ladd & Vigdor, 2007; Smith, Gordon, Colby, & Wang, 2005; Calvaluzzo, 2004; Vandervoort, Beardsley, and Berliner, 2004; Bond, Smith, Baker and Hattie, 2000).
AR NBCTs were surveyed to determine the factors that influenced them to participate in the NB program and to continue teaching in their area of certification. They were also asked to describe how the National Board Certification process affected their professional practice, leadership practice, and students’ achievement. All AR NBCTs, for whom an email address could be obtained, were surveyed (2,144 of 2,329). The electronic survey was sent out twice in a four-week period and returned a 53% response rate. The demographic data collected from the surveyed NBCT population was very similar to the demographics for the state population of NBCTs for gender and ethnicity. The state percentages of NBCTs who are male and female are 4% and 96%, respectively. The surveyed population was 5% male and 95% female. The ethnicity of the surveyed population was 92% white, 7% black, 1% Hispanic, and 1% Native American corresponding the state’s percentages of 75% white, 17% two or more race, 7% black and 1% Native American.

Findings

Represented in the survey sample were AR NBCTs who certified from 1999 to 2012. AR NBCTs were asked to provide demographic information about theirself and about the school district in which they were teaching in when they certified. If the NBCT had moved school districts, they were asked to describe their current school district. NBCTs described their school as large (48%), rural (45%), having more than 50% of their students qualified for free and reduced lunches (54%), and 18% describe their school as high performing. Only 16% of NBCTs surveyed said they left the school district they were in when they certified for another school district. The data indicate that the NBCTs who moved school districts describe their new district as more urban (28%) and suburban (29%) than rural (38%), having fewer students who qualified for free and reduced lunches (48%), and higher performing (24%). This suggests that the 16% of
NBCTs who moved to new school districts moved to suburban or urban school districts where there were more jobs available for parents that provide higher household income and more opportunity for academic support for their students. National Board Certification provides added credentialing for teachers, making them more competitive in the job market. Thus, it could be assumed that when NBCTs seek other job opportunities they seek teaching positions in more affluent school districts.

Of the 1,071 AR NBCTs surveyed, 69% said they had received full state funding. This is a large percentage of teachers, considering that non-achievement or not meeting the three year mandated teaching in an AR classroom, would mean paying back the registration fee and any yearly stipend the teacher had received or risk losing their teaching license. Yet even with the three year teaching mandate the data shows that 94% of AR NBCTs surveyed have continued in their teaching or specialized teaching positions. This is important as it demonstrates to stakeholders that the funds dedicated to supporting the professional growth of teachers through National Board Certification has been used responsibly and there is belief that the professional growth of the teacher gained from National Board Certification will positively affect their students’ achievement.

The level of professional practice and professional leadership for AR NBCTs is highly active, with 95% of the surveyed AR NBCTs stating that they shared their content and pedagogical knowledge with other teachers. Of those 71% and 73% of them indicated that they shared their content and pedagogical expertise in two or more ways with teachers, respectively. Coaching and mentoring roles are the two primary methods given by NBCTs, but they also indicated they shared their expertise in more formal venues, such as state and national presentations. The findings of this study reflect the findings of other studies showing that
NBCTs are engaged in many leadership roles within their school district. Yankelovich Partner’s (2001) study found that the average NBCT is active in 10 leadership activities, and 83% of NBCTs act as teacher mentors. Sykes, Anagnostopoulos, Chard, Frank, McCrory, & Wolfe’s (2006) study of NBCTs at 1,500 schools found that NBCTs are highly engaged in leadership activities, more than non-NBCTs, in their schools and their activity increases over time.

The AR NBCTs surveyed also demonstrated a high level of teacher efficacy toward other teachers pursuing National Board, as demonstrated by their support actions toward NB teacher candidates. Of the surveyed NBCTs, 91% indicated they had helped a NB teacher candidate and 70% of those helped a NB candidate in two or more ways. The majority (83%) listed they had read an entry portfolio for a NB candidate, followed by 66% who listed they had acted as a mentor to a NB candidate.

The results from the Likert scale questions revealed that AR NBCTs perceive their professional practice has been most affected by their participation in the National Board Certification process, followed by student achievement and leadership.

Conclusions

Almost half of the AR NBCTs surveyed selected the yearly financial bonus (42%) offered by the state as influencing them the most to pursue National Board Certification. This is not surprising, as becoming NB certified offers an opportunity to increase a teachers’ salary substantially over their career. The $5,000 bonus from the state and any financial incentive offered by their school district provide a strong influence to teachers to become NB certified, especially when considering that the average teacher salary in AR is $47,316. Though the increase in income is a very strong influence, it is important to note that the second most selected factor was professional growth and development (24%). This demonstrates that AR NBCTs
have a high level of self-efficacy and desire to become teachers that are more effective in their practice.

One of the concerns of stakeholders who have supported the legislation of financial incentives for teachers to pursue National Board Certification is that teachers will not continue to teach after becoming NB certified, but instead, will use the credential to gain access to other job opportunities outside the classroom that offer higher paying salaries or prestige. To prevent this from happening, AR legislators have been proactive and designed legislation to encourage NBCT retention by offering yearly financial incentives, and to discourage attrition with penalties to those who accept financial assistance for certification and leave without teaching three years in an AR public school. According to the NBPTS teacher directory, 2,571 NBCTs have certified in AR and ADE has record of 2,138 NBCTs receiving a yearly bonus, this calculates to less than 17% attrition rate of NBCTs from the classroom (National Board for Professional Teaching Standards, Directory, 2013; Arkansas Department of Education, 2013). Success of these legislative policies is further supported by this study in that 94% of the AR NBCTs surveyed have remained in a teaching or counseling position after becoming National Board certified.

It can be concluded that the AR legislative initiative to recruit teachers into participating in the National Board Certification program by offering financial assistance is an effective model of recruitment. In addition, there is significant evidence that supports the idea that the yearly financial incentives offered by the state to teachers who certify acts as a positive motivation for teachers to remain in a classroom teaching. Not only are they staying in the classroom but also the data from this study suggest that AR NBCTs (84%) remain in the school district for which they certified and take on teacher leadership roles. This is an important piece of data because it demonstrates that teachers are not pursuing National Board Certification for the opportunity to
advance their career at a different level outside the classroom but instead are pursuing the credentials to become effective teachers to their students and in their school districts.

The Likert scale questions revealed that AR NBCTs feel that the NB certification process has “highly affected” their professional practice (M = 4.1), and has “moderately affected” their students’ achievement (M = 3.99) and professional leadership (M = 3.7). The eight highest ranked Likert scale questions (M ≥ 3.99) are statements that demonstrate AR NBCTs have a high-level of efficacy toward their practice and student achievement. “Self-reflection,” “critical analysis of my teaching,” and “professional development” are the top three ranked Likert scale questions by AR NBCTs. These statements ranked as highly affected indicate that AR NBCTs feel that the National Board Certification process has helped them to develop more self-awareness of their practice and greater self-efficacy. AR NBCTs ranked effective “instructional techniques and strategies,” “improving students’ thinking skills,” “student achievement” and “differentiated instruction” as highly affected. These statements indicate AR NBCTs recognize changes in their teaching practices affect their students’ achievement.

**Implications**

One implication of this research is that it is very clear that teachers are highly influenced by the financial incentives offered by the state to pursue National Board certification. So what would happen if the financial incentives were removed? Would teachers seek National Board Certification if there were not a financial incentive offered by the state or school districts? The current economic restraints being felt by the country and by the state of AR make this scenario a very real concern. AR stakeholders may look to their neighboring state Oklahoma to see the ramifications of removing NB financial incentives. Oklahoma had a NB program very similar to AR; it offered a scholarship to teachers who wanted to pursue National Board Certification and
provided a yearly financial bonus of $5000 to certified teachers. In 2010, the OK legislature put a moratorium on the law. They would no longer offer the scholarship program, and the state would no longer pay the yearly bonus. Through negotiations, they agreed to fulfill their prior commitment to NB teachers who were already in the pipeline and pay a yearly bonus for the life of their certificate. However, they would no longer offer a yearly financial bonus to teachers who started the program after June 30, 2010 and certified. This allowed teachers who had started the program prior to June 2010 to complete the program within the three-year limit. The results were catastrophic to the program, as evidenced by the decreasing numbers of teachers certifying since the moratorium in 2010 to 2013: 224, 175, 73, and 20 (National Board for Professional Teaching Standards, State Profiles OK, 2013). The overall effect of this legislative decision has yet to be seen, in respect to teacher morale, professional growth, and attrition, as well as their students’ achievement.

AR stakeholders must determine the value of a National Board Certified Teacher to the educational system. They must determine if the cost of the professional development offered through the National Board Certification program is price effective professional development. This research indicates that teachers perceive that their practice is positively affected by their participation in the National Board Certification process. They feel they have grown professionally, have greater self-efficacy, and have affected their students’ learning. The study has shown that AR NBCTS are active teacher leaders in their schools and desire to help other teachers become NB certified. Together, each of these outcomes helps to create productive school cultures where teachers communicate, collaborate, and share their expertise and experiences with other teachers, for the sole purpose of increasing student achievement.

Goddard, Hoy and Hoy’s (2000) study of teacher efficacy found that individual teacher efficacy
evolves into collective teacher efficacy, and collective teacher efficacy is positively correlated to changes in student achievement. Goddard, Hoy, and Hoy’s study supports this studies finding that teachers perceive the National Board certification process has increased their teacher efficacy and their student’s achievement. Providing Arkansas stakeholders reason to continue funding the National Board Certification Program. Arkansas educational stakeholders should maintain financial incentives, even as surrounding states abandon them in order to build an economic infrastructure founded in soundly educated citizens.

**Future Research**

This study found that 74% of the surveyed AR NBCTs held a master’s degree, yet only 43% of AR teachers hold a master’s degree. This is a significantly large difference in population demographics. Future researchers may want to determine if a correlation exists between education level and becoming National Board certified. Does getting six to nine hours college credit for the National Board Certification process compel teachers to get their master’s degree or do teachers get their master’s degree prior to becoming National Board certified because they are teachers with high motivation and efficacy.

This study surveyed only teachers who had successfully achieved NB certification. Surveying a cohort of National Board Teacher Candidates about their practice, leadership, and student achievement prior to starting the program, then surveying them after they have completed the program would provide measureable data to determine change or growth in a particular area.

This study focused on how NBCTS perceived their students’ achievement had been affected by their participation in the National Board Certification program. It did not use quantitative student achievement data (benchmark testing) to support their perception. The
results of this study would have been more strongly supported if there had been data that provided evidence of increased student achievement. A study that uses the Value Added Growth Model and focuses on the academic growth of students whose teachers are NBCTs would be beneficial to understanding the impact of NBCTs on their students’ achievement.

Summary

The purpose of this study was to determine the factors that influence AR teachers to pursue National Board Certification and affects of the certification process on their practice, leadership, and student achievement. All AR NBCTs for whom a contact email could be attained (2,144 of 2,329) were surveyed in May of 2013. Legislators will be able to use the information gained from this research to make future decisions and policy for the state. They will have quantitative data to determine if the policies already in place have been beneficial to promoting and increasing teacher quality and effectiveness in the state of Arkansas. School district administrators can use the data gained from this study to determine if the monetary incentives provided by school districts to recruit and retain NBCTs is a beneficial investment to the district and to improving student achievement.
References


# Appendix A

## National Board for Professional Teaching Standards (NBPTS) SFY02 - SFY12 Expenditures

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<th></th>
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<td>$516,000</td>
<td>$956,000</td>
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<td><strong>$863,241</strong></td>
<td><strong>$1,398,025</strong></td>
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<td>FY02</td>
<td>FY03</td>
<td>FY04</td>
<td>FY05</td>
<td>FY06</td>
<td>FY07</td>
</tr>
<tr>
<td>--------------------------</td>
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<td>----------</td>
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<tr>
<td>Candidate Support Centers</td>
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<td>$9,234</td>
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<td>Substitute Pay***</td>
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<td>TOTAL</td>
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<td>$6,060,151</td>
<td>$7,167,782</td>
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Note: SFY = State Fiscal Year - July 1 - June 30 *SFY02 - SFY03 - NBPT Bonus Payments = $2,000 each. SFY04 NBPTS Bonus Payments = $3,000 each. SFY05 NBPTS Bonus Payments = $4,000 each SFY06 - SFY12 NBPTS Bonus Payments = $5,000 each **National Standards Board - Payment - SFY06 - see SFY07 includes 2 payments ***Substitute Pay - SFY10 includes SFY09

## Appendix B

### AR Public School Incentives for National Board Certified Teachers

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<th>DISTRICT</th>
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<th>INCENTIVE</th>
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<td>Alma</td>
<td>Crawford</td>
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<td>Alpena</td>
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<tr>
<td>Arkadelphia</td>
<td>Clark</td>
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<td>Armorel</td>
<td>Mississippi</td>
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<tr>
<td>Ashdown</td>
<td>Little River</td>
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<tr>
<td>Balb Knob</td>
<td>White</td>
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</tr>
<tr>
<td>Barton-Lexa</td>
<td>Phillips</td>
<td>$2,500 annually</td>
</tr>
<tr>
<td>Batesville</td>
<td>Independence</td>
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</tr>
<tr>
<td>Bay</td>
<td>Craighead</td>
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</tr>
<tr>
<td>Beebe</td>
<td>White</td>
<td>$2,000 annually</td>
</tr>
<tr>
<td>Benton</td>
<td>Saline</td>
<td>$2,000 first year, $1,000 annually remaining</td>
</tr>
<tr>
<td>Bentonville</td>
<td>Benton</td>
<td>$3,000 annually</td>
</tr>
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<td>Bismarck</td>
<td>Hot Springs</td>
<td>$1,000 annually</td>
</tr>
<tr>
<td>Blytheville</td>
<td>Mississippi</td>
<td>$3,000 annually</td>
</tr>
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<td>Logan</td>
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<td>Craighead</td>
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<td>Saline</td>
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<tr>
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<td>Pope</td>
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<tr>
<td>Dumas</td>
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<tr>
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</tr>
<tr>
<td>Location</td>
<td>County</td>
<td>Amount</td>
</tr>
<tr>
<td>---------------------------</td>
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</tr>
<tr>
<td>El dorado</td>
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<td>$3,000 annually</td>
</tr>
<tr>
<td>Junction City</td>
<td>Union</td>
<td>$2,000 first year, $1,500 annually remainder</td>
</tr>
<tr>
<td>Kirby</td>
<td>Pike</td>
<td>$1,000 annually</td>
</tr>
<tr>
<td>Lake Hamilton</td>
<td>Garland</td>
<td>$2,500 annually</td>
</tr>
<tr>
<td>Lakeside</td>
<td>Garland</td>
<td>$2,080 annually</td>
</tr>
<tr>
<td>Lamar</td>
<td>Johnson</td>
<td>$3,000 one time</td>
</tr>
<tr>
<td>Lavaca</td>
<td>Sebastian</td>
<td>$2,000 annually</td>
</tr>
<tr>
<td>Lawrence County</td>
<td>Lawrence</td>
<td>$1,000 one time</td>
</tr>
<tr>
<td>Little Rock</td>
<td>Pulaski</td>
<td>$3,000 annually</td>
</tr>
<tr>
<td>Lonoke</td>
<td>Lonoke</td>
<td>$1,000 annually</td>
</tr>
<tr>
<td>Magnet cove</td>
<td>Hot Springs</td>
<td>$1,000 annually</td>
</tr>
<tr>
<td>Malvern</td>
<td>Hot Springs</td>
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<tr>
<td>Manila</td>
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<td>$730 annually</td>
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<td>Mansfield</td>
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<tr>
<td>Marion</td>
<td>Crittenden</td>
<td>$2,000 annually</td>
</tr>
<tr>
<td>Marked Tree</td>
<td>Poinsett</td>
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</tr>
<tr>
<td>Town</td>
<td>County</td>
<td>Amount</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Marmaduke</td>
<td>Greene</td>
<td>$2,000 annually</td>
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<tr>
<td>Midland</td>
<td>Independence</td>
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<tr>
<td>Monticello</td>
<td>Drew</td>
<td>$2,500 annually</td>
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<tr>
<td>Mountain Home</td>
<td>Baxter</td>
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</tr>
<tr>
<td>Mountain View</td>
<td>Stone</td>
<td>$2,000 annually</td>
</tr>
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<td>Mountainburg</td>
<td>Crawford</td>
<td>$1,500 annually</td>
</tr>
<tr>
<td>Mt. Vernon-Enola</td>
<td>Faulkner</td>
<td>$1,000 annually</td>
</tr>
<tr>
<td>Nettleton</td>
<td>Craighead</td>
<td>$4,000 annually</td>
</tr>
<tr>
<td>Nevada</td>
<td>Nevada</td>
<td>$4,000 annually</td>
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<tr>
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<tr>
<td>Ouachita</td>
<td>Hot Springs</td>
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</tr>
<tr>
<td>Ozark</td>
<td>Franklin</td>
<td>$2,000 annually</td>
</tr>
<tr>
<td>Ozark Mountain</td>
<td>Searcy</td>
<td>$2,147 annually</td>
</tr>
<tr>
<td>Pangburn</td>
<td>White</td>
<td>$625 per semester</td>
</tr>
<tr>
<td>Paragould</td>
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</tr>
<tr>
<td>Paris</td>
<td>Logan</td>
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<td>Pocahontas</td>
<td>Randolph</td>
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<td>Poyen</td>
<td>Grant</td>
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<tr>
<td>Prairie Grove</td>
<td>Washington</td>
<td>$1,000 for 5 years</td>
</tr>
<tr>
<td>Prescott</td>
<td>Nevada</td>
<td>$1,500 first year, $1,000 annually remainder</td>
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<tr>
<td>Pulaski County</td>
<td>Pulaski</td>
<td>$3,000 annually</td>
</tr>
<tr>
<td>Quitman</td>
<td>Cleburne</td>
<td>$1,500 annually</td>
</tr>
<tr>
<td>Riverside</td>
<td>Craighead</td>
<td>$3,000 annually</td>
</tr>
<tr>
<td>Riverview</td>
<td>White</td>
<td>$1,000 annually</td>
</tr>
<tr>
<td>Rogers</td>
<td>Benton</td>
<td>$1,000 annually</td>
</tr>
<tr>
<td>Russellville</td>
<td>Pope</td>
<td>Laptop computer</td>
</tr>
<tr>
<td>Searcy</td>
<td>White</td>
<td>$1,000 annually</td>
</tr>
<tr>
<td>Sheridan</td>
<td>Grant</td>
<td>$3,000 first year, $2,000 annually remainder</td>
</tr>
<tr>
<td>Siloam Springs</td>
<td>Benton</td>
<td>$2,000 one time</td>
</tr>
<tr>
<td>Sloan-Hendrix</td>
<td>Lawrence</td>
<td>$1,000 annually for 5 years</td>
</tr>
<tr>
<td>South Pike County</td>
<td>Pike</td>
<td>$1,000 annually</td>
</tr>
<tr>
<td>Spring Hill</td>
<td>Hempstead</td>
<td>$1,500 annually</td>
</tr>
<tr>
<td>Stuttgart</td>
<td>Arkansas</td>
<td>$2,000 annually</td>
</tr>
<tr>
<td>Texarkana</td>
<td>Miller</td>
<td>$1,050 annually, $1,500 onetime NBPTS fee reimbursement</td>
</tr>
<tr>
<td>Trumann</td>
<td>Poinsett</td>
<td>$3,000 annually</td>
</tr>
<tr>
<td>Valley springs</td>
<td>Boone</td>
<td>$1,500 annually, $2,000 completion</td>
</tr>
<tr>
<td>Valley View</td>
<td>Craighead</td>
<td>$4,000 annually</td>
</tr>
<tr>
<td>Van Buren</td>
<td>Crawford</td>
<td>$2,000 annually</td>
</tr>
<tr>
<td>Vilonia</td>
<td>Faulkner</td>
<td>$2,000 annually</td>
</tr>
<tr>
<td>Waldron</td>
<td>Scott</td>
<td>$1,000 annually</td>
</tr>
<tr>
<td>Warren</td>
<td>Bradley</td>
<td>$1,500 one time</td>
</tr>
<tr>
<td>West Memphis</td>
<td>Crittenden</td>
<td>$2,000 annually</td>
</tr>
<tr>
<td>Western Yell County</td>
<td>Yell</td>
<td>$1,500 annually</td>
</tr>
<tr>
<td>Westside Consolidated</td>
<td>Craighead</td>
<td>$3,000 annually</td>
</tr>
<tr>
<td>District</td>
<td>City</td>
<td>Amount</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------</td>
<td>--------------------</td>
</tr>
<tr>
<td>White County Central</td>
<td>White</td>
<td>$1,250 annually</td>
</tr>
<tr>
<td>Yellville-Summit</td>
<td>Marion</td>
<td>$2,000 first year, $1,000 annually remainder</td>
</tr>
</tbody>
</table>

Appendix C


<table>
<thead>
<tr>
<th>STATE</th>
<th># OF NBCT’s or SAM</th>
<th>BONUS</th>
<th>AMOUNT</th>
<th>FEE SUPPORT</th>
<th>OTHER INCENTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>2,007</td>
<td>Bonus</td>
<td>$4,450 annual</td>
<td>Full fee for those who pass state selection process</td>
<td>0</td>
</tr>
<tr>
<td>Alaska</td>
<td>120</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Arizona</td>
<td>769</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Arkansas</td>
<td>1,690</td>
<td>Bonus</td>
<td>$5,000 annual</td>
<td>$2,500 for first time candidates</td>
<td>3 days release time</td>
</tr>
<tr>
<td>California</td>
<td>4,913</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Colorado</td>
<td>545</td>
<td>Bonus</td>
<td>$1,600 annual, $3,200 in low-performing schools</td>
<td>$750 for 200 candidates on a first-come, first served basis</td>
<td>0</td>
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<tr>
<td>Connecticut</td>
<td>136</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Delaware</td>
<td>440</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>66</td>
<td>Bonus</td>
<td>$4,000 one-time bonus</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Florida</td>
<td>13,532</td>
<td>Bonus &amp; SAM</td>
<td>Annual bonus of up to 10% for ten years only</td>
<td>Some federal money available to teachers in selected high-needs schools to pay half of fee</td>
<td>An additional 10% for 12 work days of mentoring non-NBPTS teachers (not funded by state currently)</td>
</tr>
<tr>
<td>Georgia</td>
<td>2,604</td>
<td>n/a</td>
<td>0</td>
<td>Some federal money available to teachers in selected high-needs schools to pay half of fee</td>
<td>2 days release time</td>
</tr>
<tr>
<td>Hawaii</td>
<td>284</td>
<td>Bonus</td>
<td>$5,000 stipend for life of certificate</td>
<td>$1,500 upon completion, the remainder of the fee completed upon certification</td>
<td>0</td>
</tr>
<tr>
<td>Idaho</td>
<td>368</td>
<td>Bonus</td>
<td>$2,000 annual increase for 5 years (prior to 2011) Possible leadership award stipend at the</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>State</td>
<td>NBCTs</td>
<td>Type</td>
<td>Stipend/Compensation</td>
<td>Funding Details</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>-------</td>
<td>-------</td>
<td>----------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Illinois</td>
<td>44,692</td>
<td>Bonus</td>
<td>$3,000 annual stipend &amp; mentor compensation available as state funds permit</td>
<td>State and federal funds combine to pay up to $2,000 per candidate as funds are available</td>
<td></td>
</tr>
<tr>
<td>Indiana</td>
<td>149</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Iowa</td>
<td>664</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Kansas</td>
<td>344</td>
<td>Bonus</td>
<td>$1,000 by statute, districts pay to NBCT’s for the life of the certificate</td>
<td>State and federal funds combine to pay up to $2,000 per candidate as funds are available</td>
<td></td>
</tr>
<tr>
<td>Kentucky</td>
<td>2,156</td>
<td>Bonus</td>
<td>$2,000 for the life of the certificate</td>
<td>75% fee reimbursement, $400 for candidate preparation</td>
<td></td>
</tr>
<tr>
<td>Louisiana</td>
<td>1,681</td>
<td>Bonus</td>
<td>$5,000 for life of certificate, funded by the districts</td>
<td>$750 from LA Department of Education grant</td>
<td></td>
</tr>
<tr>
<td>Maine</td>
<td>201</td>
<td>Bonus</td>
<td>$3,000 annual stipend for life of certificate, pending budgetary review</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Maryland</td>
<td>1,976</td>
<td>Bonus</td>
<td>State matches up to $1,000 from local districts and $2,000 for NBCT’s assigned to specific low-performing schools</td>
<td>2/3 fee for up to 1000 candidates</td>
<td></td>
</tr>
<tr>
<td>Massachusetts</td>
<td>518</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td></td>
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<tr>
<td>Michigan</td>
<td>348</td>
<td>n/a</td>
<td>0</td>
<td>State and federal funds are combined to pay the application fee as funds are provided</td>
<td></td>
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<tr>
<td>Minnesota</td>
<td>352</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Mississippi</td>
<td>3,222</td>
<td>Bonus</td>
<td>$6,000 annual increase for life of the certificate</td>
<td>Reimbursement upon completion for public school teachers</td>
<td></td>
</tr>
<tr>
<td>Nebraska</td>
<td>85</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Nevada</td>
<td>487</td>
<td>SAM</td>
<td>5% annual salary increase for life of the certificate</td>
<td>$1,250 reimbursement</td>
<td></td>
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123
<table>
<thead>
<tr>
<th>State</th>
<th>Number</th>
<th>Level</th>
<th>Free</th>
<th>Amount</th>
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</tr>
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<tr>
<td>New Hampshire</td>
<td>19</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>upon certification</td>
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<tr>
<td>New Jersey</td>
<td>211</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>New Mexico</td>
<td>578</td>
<td>SAM</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>New York</td>
<td>1,131</td>
<td>Bonus</td>
<td>$10,000 annual stipend for three years to teach in low-performing schools and mentor new teachers</td>
<td>$2,500 for eligible public school teachers</td>
<td>0</td>
</tr>
<tr>
<td>North Carolina</td>
<td>17,957</td>
<td>SAM</td>
<td>NBCT placed on salary schedule 12% higher than base pay for life of certificate</td>
<td>$2,500 for eligible teachers as funds are available through a loan from the state at 3% interest rate to be repaid over three years, with no payment required in the first 12 months</td>
<td>3 days of release time for candidates</td>
</tr>
<tr>
<td>North Dakota</td>
<td>32</td>
<td>Bonus</td>
<td>$1,000 annual bonus for the life of the certificate</td>
<td>%50 of fee for up to 17 candidates</td>
<td>0</td>
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<tr>
<td>Ohio</td>
<td>3,268</td>
<td>SAM</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>2,820</td>
<td>Bonus</td>
<td>$5,000 for life of certificate for current NBCT’s only</td>
<td>Fee support currently suspended on a two-year moratorium</td>
<td>0</td>
</tr>
<tr>
<td>Oregon</td>
<td>243</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Pennsylvania</td>
<td>769</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>$1,250 for approximately 200 candidates</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>417</td>
<td>n/a</td>
<td>0</td>
<td>0</td>
<td>$750 for approx. 50 candidates</td>
</tr>
<tr>
<td>South Carolina</td>
<td>7,784</td>
<td>Bonus</td>
<td>$7,500 annual salary increase for</td>
<td>0</td>
<td>0</td>
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<td>State</td>
<td>Candidates</td>
<td>Incentive</td>
<td>Details and Requirements</td>
<td>Funding Amounts</td>
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<td>------------------</td>
<td>------------</td>
<td>-----------</td>
<td>--------------------------</td>
<td>-----------------</td>
<td></td>
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<tr>
<td>South Dakota</td>
<td>74</td>
<td>n/a</td>
<td>$5,000 stipend after July 2010; capped at 900 candidates</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Tennessee</td>
<td>484</td>
<td>Bonus</td>
<td>Stipends by local school districts only, as available</td>
<td>0</td>
<td></td>
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<tr>
<td>Texas</td>
<td>627</td>
<td>n/a</td>
<td>$5,000 annual bonus</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Utah</td>
<td>204</td>
<td>n/a</td>
<td>$5,000 bonus</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Vermont</td>
<td>124</td>
<td>n/a</td>
<td>$3,500 for life of certificate</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Virginia</td>
<td>2,180</td>
<td>Bonus</td>
<td>Initial $5,000 award, with a subsequent annual award of $2,500 for the life of the certificate contingent upon continued funding</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>5,232</td>
<td>Bonus</td>
<td>$5,000 annual bonus, $5,000 annual bonus for teaching in challenging schools</td>
<td>A conditional loan that funds $2,000 of the $2,500 fee</td>
<td></td>
</tr>
<tr>
<td>West Virginia</td>
<td>580</td>
<td>Bonus</td>
<td>$3,500 for life of certificate</td>
<td>50% upon application, 100% on certification for 200 candidates</td>
<td></td>
</tr>
<tr>
<td>Wisconsin</td>
<td>783</td>
<td>Bonus</td>
<td>Reimbursement of fee-related expenses up to $2,000 in first year of certification; $2,500 for subsequent 9 years</td>
<td>$600 reimbursement for certification expenses</td>
<td></td>
</tr>
<tr>
<td>Wyoming</td>
<td>314</td>
<td>Bonus</td>
<td>$4,000 each year as funding is approved</td>
<td>$2,500 for teaching in high-needs schools (60% FRL)</td>
<td></td>
</tr>
</tbody>
</table>

http://www.nbpts.org/resources/state_local_information/state_profiles Data reflect teachers’ residences as self-reported in the NBPTS database. Financial incentives may be subject to state imposed eligibility requirements, caps, or other restrictions. Additional incentives may also be offered by local districts on a case by case basis. The information above reflects the data available to the National Board for Professional Teaching Standards as of June 14, 2011. NBPTS is not responsible for the accuracy of the incentive and support information found herein.
Appendix D

From: Kathy McKean <XXXXX@otac.info>
Date: Tue, Oct 30, 2012 at 4:49 PM
Subject: Re: Permission to use Survey
To: Darlynn Cast <XXXXX@gmail.com>

I thought I had replied to you on this. You are welcome to use the survey, and I would like a copy of your findings (a digital copy is fine.)

Sent via phone

----- Reply message -----

From: "Darlynn Cast" <XXXXX@gmail.com>
To: "XXXXX@otac.info" <XXXXX@otac.info>
Cc: "XXXXX@otac.info" <XXXXX@otac.info>
Subject: Permission to use Survey
Date: Tue, Oct 30, 2012 4:19 pm

Good afternoon Dr. McKean,

My name is Darlynn Cast. I spoke with you on the phone, earlier in the year, about the 2011 NB survey you developed for OCTP ELO/NB program. I would like to have your permission to use the survey in my dissertation study. I am evaluating the AR NB program and its effects on teachers. I will need to add or replace a few questions to fit the AR NB program.

My committee requires your written permission before I can proceed. I will also need the reliability and validity stats for the survey, if available.

Thank you,
Darlynn Cast
Appendix E

Hey Darlynn,

I've been given permission to share the NBCT school email list for your research. Let me know when you need the list.

Michael Rowland, Public School Program Advisor
Office of Educator Effectiveness
Arkansas Department of Education
Four Capitol Mall, Room 107A
Little Rock, AR 72201
501-682-1146 W
501-682-5118 F
XXXXX@arkansas.gov

This message is intended only for the named recipient. If you are not the intended recipient you are notified that disclosing, copying, distributing, or taking any action in reliance on the contents of this information is strictly prohibited.

From: Darlynn Cast <XXXXX@uafs.edu>
Date: Friday, August 24, 2012 1:01 PM
To: Michael Rowland <XXXXX@arkansas.gov>
Subject: NBCT emails

Michael,

As per our conversation, I am requesting access to the email addresses of all NBCTs in the state. I would like to send out a survey to AR NBCTs in order to gather data for my dissertation. I am currently working on the survey but hope to have it complete and approved by Christmas break. The survey asks for demographic information, their dispositions toward the NB certification process, and how becoming a NBCT has affected their practice, professional growth and student achievement.

If you are not able to give me direct access to the emails then please let me know the procedure ADE needs completed to get them.

Thanks,
Darlynn
April 2, 2013

To Whom It May Concern:

Mrs. Darlynn Cast has the permission of the Arkansas Department of Education (ADE) to use basic information (names, school districts, email addresses) of Arkansas’s National Board Certified Teachers (NBCT) and financial data for the state’s NBCT support program. The NBCT information and financial data provided to Mrs. Cast were collected by the ADE for purposes of employment verification, which is required for Arkansas NBCTs to receive the state’s $5,000 bonus. Bonuses are paid from public funds, so the information is public record.

We look forward to the results of Mrs. Cast’s study and wish her well.

Please contact me if I can be of further assistance.

Kind regards,

Michael Rowland, Public School Program Advisor
Office of Educator Effectiveness
Arkansas Department of Education
Four Capitol Mall, Room 107-A
Little Rock, AR 72201
501-682-1146 W
501-682-5118 F
michael.rowland@arkansas.gov
http://www.ArkansasEd.org

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From: irr
Sent: Thursday, May 09, 2013 4:35 PM
To: XXXXX@gmail.com
Cc: Kit Kacirek
Subject: IRB #13-04-692 Protocol Approval

Hello,

Your IRB protocol titled The Perceived Impact of the National Board Certification Process on Arkansas Teachers was approved on 5/9/13. You may begin your project. Your official approval letter is attached.

If you have any questions, please do not hesitate to contact me.

Thank you,

Ro Windwalker

**********************************************************************

Iroshi (Ro) Windwalker, CIP
IRB/RSC Coordinator
Research Compliance
210 Administration Building
Fayetteville, AR 72701
Ph. 479.575.2208
Fax 479.575.3846
May 9, 2013

MEMORANDUM

TO: Darlynn Cast
Kit Kacirek

FROM: Ro Windwalker
IRB Coordinator

RE: New Protocol Approval

IRB Protocol #: 13-04-692

Protocol Title: The Perceived Impact of the National Board Certification Process on Arkansas Teachers

Review Type: ☒ EXEMPT ☐ EXPEDITED ☐ FULL IRB

Approved Project Period: Start Date: 05/09/2013 Expiration Date: 05/08/2014

Your protocol has been approved by the IRB. Protocols are approved for a maximum period of one year. If you wish to continue the project past the approved project period (see above), you must submit a request, using the form Continuing Review for IRB Approved Projects, prior to the expiration date. This form is available from the IRB Coordinator or on the Research Compliance website (http://vpred.uark.edu/210.php). As a courtesy, you will be sent a reminder two months in advance of that date. However, failure to receive a reminder does not negate your obligation to make the request in sufficient time for review and approval. Federal regulations prohibit retroactive approval of continuation. Failure to receive approval to continue the project prior to the expiration date will result in Termination of the protocol approval. The IRB Coordinator can give you guidance on submission times.

This protocol has been approved for 2,312 participants. If you wish to make any modifications in the approved protocol, including enrolling more than this number, you must seek approval prior to implementing those changes. All modifications should be requested in writing (email is acceptable) and must provide sufficient detail to assess the impact of the change.

If you have questions or need any assistance from the IRB, please contact me at 210 Administration Building, 5-2208, or irb@uark.edu.
Appendix G
Survey Cover Letter

Dear Arkansas NBCTs,

My name is Darlynn Cast, I am a NBCT and a doctoral student at the University of Arkansas. I am asking for your participation in a survey about the impact of National Board certification and achievement on Arkansas teachers. The study will better help understand the perceived changes, if any that take place in a teachers’ professional practice, leadership practice and their students’ learning as a result in participating in the AR NB program. Demographic information will be asked to determine characteristics of AR NBCTs and trends occurring within the state relating to NBCTs.

Below you will find a link to the Arkansas NBCT survey. Your consent to participate in the study will be given by clicking on the link and going to the website. Your survey is voluntary and information gained from it will be kept confidential to the extent allowed by law and University policy. You will not be penalized or lose any benefits as a result of not participating in the study. All the data collected will be analyzed collectively and used only for statistical analysis. Data collected from the Arkansas Department of Education, such as email addresses, will be uploaded onto the UA Fayetteville Qualtrix survey program for electronic distribution of the survey to all AR NBCTs. Data collected from the AR NBCT survey will be stored on a UAF secure server. When the data collection period is over, the data will be uploaded to the researchers’ password protected computer for statistical analysis using SPSS program. All data will be deleted when analysis is complete. The University of Arkansas’s Institutional Review Board (IRB) has reviewed and approved this research. You may contact the UA IRB administrator at irb@uark.edu or call 479 575-2208 if you have questions about your rights as a participant.

Thank you for your participation. My hope is that this study will provide educational stakeholders information about the impact of National Board certification on AR teachers. As AR NBCTs, your experiences and beliefs of how National Board certification has impacted your teaching practice is valuable information and needed to make data-driven decisions for the future of the AR National Board Program. Your time, effort, and support for this research are appreciated. The survey will take approximately 10-15 minutes to complete. Please click on the link below to go to the survey.

Sincerely,

Darlynn Cast, NBCT

Dr. Kit Kacerik (Faculty Advisor)
Appendix H

Arkansas NBCT Survey 2013

1. Gender:
   □ Male
   □ Female

2. Ethnicity:
   □ Hispanic or Latino
   □ White (not Hispanic or Latino)
   □ Black or African American (not Hispanic or Latino)
   □ American Indian or Alaskan Native
   □ Native Hawaiian or Pacific Islander (not Hispanic or Latino)
   □ Asian (not Hispanic or Latino)
   □ Pacific Islander

3. What is the highest level of education you have completed?
   □ BA or BS
   □ MA or MS
   □ EdD or PhD

4. Where are you currently employed?
   District Name
   School Name

5. How many years have you been employed in education (include 2012-13)?

6. In what year did you initially earn your National Board certification?

7. Where were you employed when you went through the National Board process?

8. Describe the school district you were teaching in when you certified. Select all that apply.
   □ Rural
   □ Urban
   □ Suburban
   □ Small (less than 500 K-12 students)
   □ Medium (less than 1500 K-12 students)
   □ Large (1500+ students K-12 students)
   □ At risk
   □ High performing
   □ More than 50% free/reduce
9. Are you teaching in a different school district than the one you were in when you certified?
   □ Yes
   □ No

(If the responder answered Yes to the above question 9 then they were directed to Q 10, if they answered No then they were directed to Q 11)

10. If you are currently teaching in a different school district then describe your current district?
    Select all that apply.
    □ Rural
    □ Urban
    □ Suburban
    □ Small (less than 500 K-12 students)
    □ Medium (less than 1500 K-12 students)
    □ Large (1500+ students K-12 students)
    □ At risk
    □ High performing
    □ More than 50% free/reduce

11. What is your current position in your school district? Please select the one that best reflects your area of primary responsibility.
    □ Teacher
    □ Special Education Teacher
    □ Alternative Education
    □ Specialist (literacy, math, curriculum coach)
    □ School Counselor
    □ Building –level Administrator (principal, assistant principal)
    □ District-level Staff (responsible for more than one school)
    □ Career and Technology Education
    □ Higher Education
    □ Not employed in education

12. What factor most influenced you to pursue National Board certification?
    □ Monetary Fee subsidy and support
    □ Yearly financial bonus
    □ Professional growth/development
    □ Leadership opportunities
    □ Prestige
    □ Career/credential enhancement
    □ Other
13. Select the type of funding you received, if any, for National Board. Mark all that apply.
- Full state funding
- Candidate Subsidy Funding
- School district funding
- Scholarship
- Other

14. Would you have pursued National Board certification without the provided funding for participation?
- Yes
- No

15. Would you have pursued National Board certification if a yearly stipend were not offered as an incentive?
- Yes
- No

16. What type of formal support was most beneficial to you when completing the NB process?
- State Regional Support Sites
- School district or site support groups
- NBCT mentor
- Arkansas Teachers for National Board Certification Conference
- Graduate Program- M. Ed Adv. Studies in Teaching and Learning at Harding University

17. Since becoming a National Board Certified Teacher (NBCT), in what ways have you shared your expertise in instructional practices with other teachers
Select all that apply
- Peer coaching
- Intern/Novice teacher mentoring
- Site presentation
- District presentation
- State or Regional presentation
- National presentation
- Other

_______________________________
18. Since becoming a National Board Certified Teacher (NBCT), in what ways have you shared your expertise in your content knowledge with other teachers. Select all that apply.

- Peer coaching
- Intern/Novice teacher mentoring
- Site presentation
- District presentation
- State or Regional presentation
- National Presentation
- Other

19. Since becoming a National Board Certified Teacher (NBCT), in what ways have you helped other teachers pursuing NB certification. Select all that apply.

- Acted as mentor
- Facilitated a NB Support Site
- Read portfolio for NB candidate
- Viewed video for NB candidate
- Videod for NB candidate
- Presented to group of NB candidates
- Other

20. Think about how the NB certification process affected your knowledge, skills and teaching practice. Using the likert scale below, select the appropriate descriptor.

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<th>1-not affected</th>
<th>2-slightly affected</th>
<th>3-moderately affected</th>
<th>4-highly affected</th>
<th>5-extremely affected</th>
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<tr>
<td>Critical analysis of my own teaching</td>
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<td>Mentoring or coaching other teachers</td>
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<td>Leadership</td>
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<td>My own knowledge of the subject matter</td>
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<td>Whole Class Assessment</td>
<td>Formal student assessment</td>
<td>Using student assessment data to change instruction</td>
<td>Effective instructional techniques and strategies</td>
<td>Motivating reluctant learners</td>
<td>Increasing student driven discourse</td>
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<td>Participation in professional organizations</td>
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