8-8-2007

National Board Certification and School Leadership in Louisiana

Kathleen A. Severns
University of New Orleans

Recommended Citation

National Board Certification and School Leadership in Louisiana

A Dissertation

Submitted to the Graduate Faculty of the
University of New Orleans
in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy
in
Educational Administration

By

Kathleen A. Severns

B.S. Stephen F. Austin State University, 1976
M.Ed. Stephen F. Austin State University, 1978

August 2007

Table of Contents

List of Tables

Abstract

The challenges of school accountability call for new models of school leadership. Teacher leaders are needed to create, implement, and sustain reform efforts. This study investigated whether a specific model of professional development, National Board Certification (NBC), can create sustained change aimed at improved school leadership. The research question which guided this study was: Does the National Board Certification professional development model contribute to school leadership in Louisiana?

The state of Louisiana currently has approximately 1,000 teachers with National Board Certification (NBPTS, 2006f). These NBC teachers and approximately 3,000 non-NBC teachers received the online *School Leadership Survey,* which included survey items taken from a previous study of NBC teachers by Sykes, et al. (2006). A total of 449 NBC teachers and 911 non-NBC teachers responded. The survey included 32 checklist items which explored teacher leadership activities and perceptions in five main areas: types of leadership activities, sense of responsibility to the profession, influence in school-wide policy development, career satisfaction, and future commitment to the teaching profession.

A quantitative research design was applied. The research followed an ex post facto, cross-sectional survey model in an attempt to identify a relationship between the independent variable, National Board Certification, and the dependent variable, school leadership, by comparing the leadership activities of NBC and non-NBC teachers. Univariate analysis was used to examine and report the results of the *School Leadership Survey*. Additionally, the data were used to calculate independent *t*-tests, factor analysis, chi square tests, and regression analysis.

The results of this study revealed that, overall, National Board Certification teachers are leaders in their schools and beyond. When compared to their non-NBC peers, NBC teachers were more likely to be involved in leadership activities at the school, district, and state level. Further, the NBC teachers reported a greater sense of responsibility to the profession, greater career satisfaction, and a deeper commitment to stay in the teaching profession than non-NBC teachers. Using a distributed leadership conceptual framework as a lens to guide the interpretation, the data collected gave evidence that the benefits of National Board Certification are far greater than previously suspected.

Keywords: National Board Certification, School Leadership, Teacher Leadership

Chapter One: Introduction

Introduction

The *No Child Left Behind* (*NCLB*) legislation of 2002 (U.S. Department of Education, 2002a; U.S. Department of Education, 2003b), a reauthorization of the *Elementary and Secondary Education Act of 1965* (ESEA), passed with overwhelming bipartisan support from Congress. Although the U.S. government has spent more than $267 billion since the passage of ESEA in 1965 to close the achievement gap between poor and more economically advantaged children, the achievement gap continues to exist (U.S. Department of Education, 2004). While *NCLB* represents federal efforts to reform and support elementary and secondary education in the United States, the goal of this legislation is for every child to master state-defined education standards by the end of the 2013-14 school year (U.S. Department of Education, 2004).

The passage of *NCLB* has focused public attention on high quality teachers. Although the literature is rich with studies on the importance of having high quality teachers, there has been an ongoing debate among school leaders on how to develop and identify high quality teachers (Goldhaber, 2005; U.S. Department of Education, 2003a). While *NCLB* states the minimum qualifications for a teacher are a bachelor's degree, full state certification, and demonstration of subject-matter competency for each subject taught, the law recognizes the need for each state to have the opportunity to develop a definition of high quality teachers that fits the unique context and needs of the state. In developing the guidelines for states to identify highly qualified teachers, *NCLB* recognized advanced certification, such as National Board Certification (NBC), as a high quality professional teacher enhancement programs (U.S. Department of Education, 2002b). Accordingly, each state had to define highly qualified teachers and assure that all

teachers met the qualifications by the end of the 2005-06 school year (U.S. Department of Education, 2003b). Additionally, each school and school district must report on the number of teachers not meeting these requirements in annual report cards (U.S. Department of Education, 2004). In order to meet these high expectations, it is imperative that school leaders and policymakers move beyond traditional means for developing and identifying high quality teachers who contribute to school leadership.

Teacher involvement in leadership has been emphasized in recent literature on school leadership (Elmore, 2004; Fullan, 2006; Hargreaves & Fink, 2006; Spillane, 2006). For example, Elmore (2004) points out principals are recruited "almost exclusively from the ranks of practice" (p. 2). Elmore also discusses the need to unlearn the old behaviors of the solo leadership models:

> It appears from early research that school systems that improve are those that have succeeded in getting people to internalize the expectations of standards-based accountability systems, and that they have managed this internalization largely through modeling commitment and focus using face-to-face relationships, not bureaucratic controls. The basic process at work here is unlearning the behaviors and normative codes that accompany loose coupling, and learning new behaviors and values that are associated with collective responsibility for teaching practice and student learning. (p.82)

Hargreaves and Fink (2006) summarize recent teacher leadership studies in their book *Sustainable Leadership.* They state that teacher leaders contribute to school development and classroom change, promote collaboration within and across schools, improve school decision-making processes, enhance teacher morale and retention, consider leadership an emergent property of the group rather than one individual, and improve the achievement of students in disadvantaged schools. However, they point out that not all teacher leadership is for the good.

There may be bad teacher leadership when it leads teachers to protect their own interests rather than student achievement and school improvement (Hargreaves and Fink).

Fullan (2006) calls for a reform strategy in which school leadership focuses relentlessly and deeply on capacity building and accountability that is carried out on a collective basis. He further points out that lower quality teachers are more likely to hide behind the classroom door. Fullan pays careful attention to developing leadership of teachers in the school organization, and claims that this is the heart of sustainable leadership. Fullan (2006) elaborates, "In the school, individual teachers stop thinking about 'my classroom' and start thinking about 'our school'" (p. 67).

Spillane (2006) supports a distributed leadership perspective in which the focus is about leadership practice, not an individual leader. He argues it is the collective interactions of the leaders, followers, and their situation that are central to leadership practice. This perspective on school leadership involves the teachers in a wide variety of roles and extends beyond the role of the principal. Similar to Fullan, Spillane states, "Members of a group have a sense of themselves as an ensemble or collective. They don't just think about their individual actions, but think about what they do in terms of other members of the group" (p.59).

The National Board for Professional Teaching Standards (NBPTS) professional development model may offer a connection between distributed leadership and teacher leadership. Although NBPTS, an independent, nonprofit, nonpartisan, and nongovernmental organization, does not specifically recognize distributed leadership, it does purport to prepare and identify high quality teachers with an emphasis on collaboration and leadership through the National Board Certification process (NBPTS, 2002). To this end, NBPTS has constructed standards and certification assessments for teachers who meet those standards (NBPTS, 2006h).

Accordingly, teachers seeking National Board Certification must submit a portfolio and successfully demonstrate proficiency in their content area in a six-part test. Successful completion of this process takes one to three years. On the whole, recent research suggests that the efforts of NBPTS have been successful in identifying teachers who demonstrate greater school leadership (NBPTS, 2001b; Sykes et al., 2006). However, NBC is a relatively new process, and there is a need for further investigation. Recent research on school leadership points to the importance of teacher leadership in the overall success of the school (Fullan, 2006; Hargreaves & Fink, 2006; Spillane, 2006; Spillane, Halverson, & Diamond, 2001). To date, no studies have been conducted relating school leadership in Louisiana to National Board Certification. With the recent emphasis on the importance of teacher leadership, the present study may help fill this gap and add to our understanding of the benefits of the National Board Certification professional development model.

The National Board for Professional Teaching Standards had received almost $150 million in federal funds and approximately $260 million in private funds as of September 2005 (NBPTS, 2007). The state of Louisiana passed legislation in 1999, 2001, and 2006 demonstrating its support of National Board Certification by providing a $5,000 stipend for NBC teachers and administrators (Louisiana State Legislature, n.d.). Louisiana will spend more than $5 million on salary supplements annually for the approximately 1,000 Louisiana teachers who have currently achieved NBC. The number of NBC teachers grows each year and will increase these salary supplement expenditures. As the spending increases, it stands to reason that there will be a call for additional evidence that this professional development model impacts school leadership.

At least two studies have been released that support National Board Certification as identifying teachers who are school leaders (NBPTS, 2001b; Sykes et al., 2006). However, each

has reported a need for further study. Therefore, there is a need to fill this gap in the literature with empirical evidence that National Board Certification is indeed worthy of the significant investment Louisiana has made in this professional development model. To this point, the present study examined the impact of National Board Certification on school leadership in Louisiana.

Timperley (2005) completed early research on the impact of distributing leadership to teachers on student achievement. In her study, using observations, interviews, and analyses of first grade student achievement data of seven schools in New Zealand over a period of four years, Timperley found that adopting a focus on student achievement data moved the schools to both greater student achievement and greater distribution of leadership. The conclusions of the study pointed to the need for additional study on distributing leadership to teachers, pointing out that distributing leadership may have negative impact. Timperly suggests that the effectiveness of increasing the distribution of leadership is dependent on the quality of the teacher leaders and the leadership activities.

The present study attempts to substantiate that the benefits of the National Board Certification professional development model are not limited to the individual classroom, but go far beyond into the school, district, or state. The distributed leadership perspective shifts the focus from the principal to the web of leaders, followers, and their situations which frame the leadership practice (Spillane, 2006). Using a framework of distributed leadership to guide this study, it is possible to examine if the impact of the NBC teacher is, in fact, multiplicative rather than additive.

This study attempts to address the gaps in the literature on school leadership by examining the contributions of the National Board Certification professional development model to school leadership.

Background

National Board Certification has been a centerpiece in Louisiana's push for improved teacher quality. The state of Louisiana has supported NBC as an effective model of professional development and means of identifying high quality teachers. Myron Lieberman, formerly an American Federation of Teachers (AFT) official, first conceptualized a national board for certification of teachers. He introduced this idea in his book, *The Future of Public Education* (Lieberman, 1960). In Lieberman's vision of national boards, the purpose was to gain support from unions to allow better teachers to earn higher salaries. However, this idea went untested for more than 20 years, until public attention became focused on an alarming report about problems in the nation's schools (Wilcox, 1999).

In April 1983, the news about American education was not good. Indeed, Americans were shocked by a report to the U.S. Secretary of Education from the National Commission on Excellence in Education (NCEE). This report, *A Nation at Risk: The Imperative for Educational Reform* (NCEE, 1984), claimed "the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people" (p. 5). News of high rates of adult illiteracy, declining Scholastic Aptitude Test (SAT) scores, deficiencies in higher order thinking skills, American students performing at significantly lower levels than students of other countries, and problems with workers who lacked verbal and mathematical skills quickly grabbed the headlines and the attention of citizens across the nation.

The public tends to have two reactions to concerns about the quality of education. First, they call for greater accountability or monitoring of school performance. Second, they use public forums to set goals for education (Eisner, 2000). In this case, the alarming news of the dismal state of the educational system led to the call for a national teacher standards and evaluation board. Seeing an opportunity to revisit the idea of a national board for teachers, Lieberman approached AFT president, Albert Shanker in 1985 (Wilcox, 1999). Under pressure from legislators for opposing merit pay, Shanker welcomed the approach and, in fact, became very influential in the creation of a national board for teaching through his work with the Carnegie Forum on Education and the Economy (Wilcox).

As a result of mounting public concern about the crisis in education, the Carnegie Forum on Education and the Economy created the Task Force on Teaching as a Profession (Carnegie Forum on Education and the Economy, 1986). In 1986, the task force issued the report, *A Nation Prepared: Teachers for the 21st Century*. This report identified quality teaching as the key to student achievement. As a result, the task force recommended the establishment of the National Board for Professional Teaching Standards. The charge for this national board was to define what teachers should know and be able to do and to create certification assessments for teachers who meet those standards. Testimony given in hearings conducted by the National Commission on Excellence in Education in 1982 reported that although teaching had historically attracted those who score below average on achievement tests, the trend had intensified. Further, the report stated, "both the number and quality of those entering the profession are declining" (NCEE, 1984, p. 57). Although teaching had traditionally been considered a noble profession, these reports eroded public confidence in teachers. Accordingly, the goal was to transform teaching into a profession that would garner the public's respect (NBPTS, 2002).

To address this goal, the NBPTS issued its first policy statement in 1991. This statement, found on the NBPTS website (NBPTS, 2006g), identified the NBPTS's five core propositions:

1. Teachers are committed to students and their learning.

    NBC teachers believe their students can learn. They recognize individual differences and adjust their practices to meet these differences. They are concerned with the students' self-concept, motivation, peer relationships, and character development.

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

    NBC teachers have mastery of the subject matter they teach. They have skill and experience in teaching these subjects. They use diverse teaching strategies to teach for understanding.

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

    NBC teachers deliver instruction effectively. They use a variety of instructional resources and techniques. They keep students focused and engaged.

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

    NBC teachers read, question, and are willing to try new things. They are familiar with learning theories and stay abreast of current issues.

5. Teachers are members of learning communities.

    NBC teachers collaborate with other teachers to improve student learning. They are leaders and work with other professionals on educational policy, curriculum development, and professional development. They are able to evaluate school progress and the allocation of resources to meet state and local objectives.

Together, these goals address student achievement and teacher leadership (NBPTS, 2006g).

The next step for NBPTS was to develop content standards for each certificate field (NBPTS, 2002). Eventually, the number of certificate fields grew to 24, identified by the developmental age of the students and the subject matter being taught (see Table 1). Using these standards as a foundation, NBPTS worked with teachers and assessment specialists to create a series of performance based assessments to accurately identify teachers meeting the NBPTS Standards specific to their field (NBPTS, 2006h). These performance based assessments were developed to serve as a professional development experience for teachers seeking certification (Harman, 2001). Subsequently, the first National Board Certification assessment took place during the 1993-94 school year, with 177 teachers becoming the first NBC teachers (NBPTS, 2002).

Table 1

NBPTS Fields of Certification by Subject Matter and Developmental Age

Certificate	Student age categories
1. Art	Early and Middle Childhood
2. Art	Early Adolescence through Adulthood
3. Career and Technical Education	Early Adolescence through Adulthood
4. English as a New Language	Early and Middle Childhood
5. English as a New Language	Early Adolescence through Adulthood
6. English Language Arts	Early Adolescence
7. English Language Arts	Adolescence and Young Adulthood
8. Exceptional Needs Specialist	Early Childhood through Young Adulthood
9. Generalist	Early Childhood
10. Generalist	Middle Childhood
11. Library Media	Early Childhood through Young Adulthood
12. Literacy: Reading-Language Arts	Early and Middle Childhood
13. Mathematics	Early Adolescence
14. Mathematics	Early Adolescence through Adulthood
15. Music	Early and Middle Childhood
16. Music	Early Adolescence through Young Adulthood
17. School Counseling	Early Childhood through Young Adulthood
18. Science	Early Adolescence
19. Science	Early Adolescence through Adulthood
20. Social Studies	Early Adolescence
21. Social Studies	Early Adolescence through Adulthood
22. Physical Education	Early and Middle Childhood
23. Physical Education	Early Adolescence through Adulthood
24. World Languages Other than English	Early Adolescence through Adulthood

In further refining the process of identifying teachers regarded as highly accomplished, NBPTS introduced a uniform structure for all assessment areas in 1996 (NBPTS, 2002). To accomplish this, NBPTS developed a two-part assessment process to measure teaching practice against the NBPTS Standards. National Board Certification focuses on educational reform in the classroom, where teaching and learning occur. Therefore, the first part of the assessment process examines classroom practices in a series of four portfolio entries. Specifically, the portfolios include videotaped lessons, student learning products, lesson plans, and other artifacts. Teachers are required to describe, analyze, explain, and reflect on the artifacts submitted. The second part of the assessment is a series of content knowledge tests. The portfolio and content knowledge assessments are scored on stringent criteria by trained educators (NBPTS, 2006b). Altogether, the process takes more than a year to complete. Typically, less than 50% of the candidates are successful in attaining certification on the first attempt (Goldhaber & Anthony, 2004). However, unsuccessful candidates may bank their scores and complete the process the following year, with up to three attempts allowed. Banking the scores allows the candidate to retake any combination of portfolio and assessment exercises to meet the performance standards (NBPTS, 2006a). Candidates must submit new work in the same specialty area. The candidate's new score will replace the original score and the total weighted scaled score is recalculated to determine if it meets or exceeds the NBPTS performance standard. The new scores are reported in late December, at the same time all results are released (NBPTS, 2006b).

It is important to note, National Board Certification does not replace state licensing, which is generally an entry level certification. Rather, National Board Certification is a voluntary professional development model designed for experienced teachers who aspire to meet the

advanced NBPTS Standards. Moreover, the process, which requires intense reflection and analysis of the teachers' own classroom practices, results in powerful professional development. Once attained, the National Board certificate is valid for 10 years and can be renewed. Renewal requires the candidate to complete and submit activities similar to those required for the initial certification with a focus on connections the candidate has made between continued professional growth and student learning (NBPTS, 2006b).

As recent research on the importance of school leadership and student achievement has surfaced, support for the National Board Certification professional development model has come from both public and private sources. Approximately $109.3 million of the project's initial cost was funded by the National Science Foundation and the U.S. Department of Education (Cavalluzzo, 2004). This represented about one half of the start up cost, with the other half coming from non-governmental sources, such as private foundations (Cavalluzzo). Today support is found in all 50 states and in over 500 school districts, each of which provide financial support to encourage National Board Certification (Goldhaber & Anthony, 2004). Further, the federal government continues to invest about $10 million each year in NBPTS (NBPTS, 2007). One source of funding for these initiatives is found in *NCLB Title II* legislation which provides a discretionary grant program to fund activities that support teachers seeking advanced certification. These funds specifically target high quality professional teacher enhancement programs (U.S. Department of Education, 2002b).

Over the past decade, Louisiana has incorporated National Board Certification into its reform efforts. Moreover, Louisiana has struggled with problems in public education for decades. As early as 1965, Edwin Davis, a respected historian, wrote about the state's challenges with high quality education in his book *Louisiana: A Narrative History*:

…public education in Louisiana, as well as in other states, has been widely attacked

during the past several years. Most of the criticism has been directed at teacher

certification methods, the college or university professional education courses required at

the expense of content courses, the growing number of fringe, or non-content courses

offered in secondary schools, the lunch program, the cost of transportation, the practice of

automatic promotions, the uneconomical continuance of small high schools, the lack of

needed special schools for physically handicapped children, and the public educational

system's inability to weed out weak teachers (pp. 360-361).

According to the *Louisiana Department of Education One Hundred Thirty-Second*

Annual Report 1980-81, Louisiana had a higher rate of illiteracy than any other state in 1950,

1960, and 1970. The same report states that 8.7% of the Louisiana adult population were

functionally illiterate or had less than a fifth grade education in 1980 (Louisiana Department of

Education, n.d.). Unfortunately, this trend has continued. A Tulane University 1998 report states:

There is no denying that Louisiana public schools needed help. In a review of research,

Tulane educators found that of all 50 states, Louisiana had the highest percentage—34.6

percent—of children living in poverty, it had America's highest illiteracy rate, and among

the highest rates of unemployment, teen pregnancy and juvenile delinquency. A full 40

percent of the state's high school students dropped out before graduating—the second

highest dropout rate in the nation (Johnson, 1998).

Similarly, Commissioner of Higher Education, Joseph Savoie, reported in 2001 to the Louisiana

Board of Regents that Louisiana had the highest poverty rate for children, the highest dropout

rate, the highest incarceration rate, lowest test scores, and one of the highest illiteracy rates in the

nation (Louisiana Board of Regents, 2001).

Over time, Louisiana has addressed these problems by creating accountability systems for the schools. For example, in 1976, the Louisiana Legislature passed the "Public School Accountability and Assessment" law calling for minimum proficiency levels for reading and mathematics (Public Affairs Research Council of Louisiana, 1999). As the state refined these programs, there are currently high stakes tests in fourth and eighth grades, as well as graduation exit examinations (Louisiana Department of Education, n.d.).

In 1997, the Louisiana Legislature amended and reenacted the statutes relative to the Louisiana Competency-Based Education program to require proficiency on certain subject area tests for student promotion (Public Affairs Research Council of Louisiana, 1999). This movement was the result of public demand for a better accounting of education dollars. The reformed testing program became known as the *Louisiana Educational Assessment Program for the 21st Century* (*LEAP 21*) and the *Graduation Exit Examination for the 21st Century* (*GEE*) and require criterion-reference testing (CRT) given in the fourth, eighth, and high school grade levels. These tests are considered high stakes tests because the students must pass the *LEAP 21* to be promoted to fifth or ninth grades, and must pass the *GEE* to graduate from high school. Both *LEAP 21* and *GEE* assess English language arts, mathematics, science, and social studies student performance on specific benchmarks from the state's content standards. The tests assess students' complex thinking skills as well as content knowledge. The *LEAP 21* testing program began in 1999 and is also used as a major component of both school and district accountability programs. In addition, norm-referenced tests, the *Iowa Tests of Basic Skills,* have been administered to students in third, fifth, sixth, seventh, and ninth grades. The norm-referenced tests are intended to compare the performance of Louisiana students to the performance of other students across the nation (Louisiana Department of Education, 2007).

The *LEAP 21* and *GEE* tests are designed to measure student achievement in relation to the curriculum and content standards of Louisiana. States, districts, and schools use different assessments, so it is difficult to make comparisons. In contrast, the *National Assessment of Educational Progress* (*NAEP*), created in 1969, serves as a common yardstick to measure student performance across states and school districts (U.S. Department of Education, 2007). Louisiana fourth and eighth grade students participate in the NAEP. Sometimes referred to as the *Nation's Report Card*, the *NAEP* reveals important data on the state of education in Louisiana. This information is included in the *Louisiana State Education Progress Report* compiled annually by the Louisiana Department of Education.

The annual reports are posted on the Department's website each year (Louisiana Department of Education, n.d.). Table 2 gives the results of Louisiana's performance in reading and mathematics in relation to other states. Not all tests are given each year. Table 2 gives information on the years, grade levels, and subjects in which Louisiana has participated.

Table 2

National Assessment of Educational Progress *Results for Louisiana Fourth and Eighth Graders*

Grade level and subject	Year	Louisiana ranking and number of states participating
8th grade Mathematics	1990	35th of 35
4th grade Mathematics.	1992	39th of 40
4th grade Reading	1992	38th of 40
8th grade Mathematics	1992	39th of 40
4th grade Reading	1994	38th of 38
4th grade Mathematics	1996	39th of 40
8th grade Mathematics	1996	37th of 38
4th grade Reading	2000	37th of 39
4th grade Mathematics	2000	38th of 40
8th grade Reading	2000	36th of 36
8th grade Mathematics	2000	38th of 39
4th grade Reading	2003	48th of 50
4th grade Mathematics	2003	47th of 50
8th grade Reading	2003	45th of 50
8th grade Mathematics	2003	45th of 50
4th grade Reading	2005	49th of 50
4th grade Mathematics	2005	47th of 50
8th grade Reading	2005	47th of 50
8th grade Mathematics	2005	47th of 50

In an effort to address the needs of Louisiana students, the state supports high quality teachers, The state encourages National Board Certification through recruitment programs, application fee subsidies, workshops, mentoring for applicants, and a stipend for teachers who are successful in attaining NBC. Recruitment meetings are held throughout the state each spring (NBPTS, 2006e; NBPTS, 2006f). The application fee for NBC is $2,565. The state of Louisiana pays $2,000 of this for most of the candidates. Teachers interested in NBC must attend a recruitment meeting and complete an application, with committees appointed by the Louisiana Department of Education making the final selection for the teachers to receive the subsidies. The number of candidates who receive the subsidy is based on the funds available. Candidate workshops are provided statewide by Louisiana Department of Education employees, university facilitators, and NBC teachers. Louisiana offers teachers who have been successful in attaining NBC $1,000 per year to meet monthly and to mentor small groups of candidates in 13 candidate support centers. These workshop sites are located in New Orleans, St. Charles Parish, Jefferson Parish, St. Tammany Parish, Thibodeaux, Lafayette, Lake Charles, Natchitoches, Alexandria, Shreveport, Ruston, and two in Baton Rouge. In addition, the state provides training for mentors and a website for communication among the mentors, candidates, and university facilitators.

Additional forms of support for National Board Certification include university courses, cooperative peer support via cohorts of teachers working on NBC, and salary supplements (NBPTS, 2006f). For example, graduate level courses tied to NBC are offered at the University of New Orleans, University of Louisiana at Lafayette, Nicholls State University, Northwestern State University, and Louisiana Tech University. In addition, Northwestern State University received a grant from the Entergy Corporation to pay the certification fees for 10 candidates and stipends for five mentors. Further, funding from NBPTS and the Orleans Parish School Board

has resulted in a special program to sponsor more than 50 teachers per year and mentors to support New Orleans candidates (NBPTS, 2006e). Perhaps the most powerful show of support for NBC is that Louisiana pays NBC teachers an annual stipend of $5,000 during the 10 year lifetime of the certificate.

Through these efforts, Louisiana has been successful in increasing the number of NBC teachers. In fact, Louisiana ranked eighth in 2004, ninth in 2005, and tenth in 2006 in the nation for new NBC teachers with 239, 250, and 207 teachers respectively achieving certification. The number of teachers who completed NBC in 2006 is especially impressive in light of the fact that Hurricanes Katrina and Rita impacted the entire state. As a result of the hurricanes, many schools were closed for weeks or months and the time lost had to be made up through longer school days. Further, schools that were not directly impacted by the hurricanes took in record numbers of displaced students, creating overcrowding in many of those schools. Even so, Louisiana is currently ranked 14th in the nation for total number of teachers who have achieved certification to date (NBPTS, 2006d). In just five years, the number of Louisiana teachers who have achieved National Board Certification has grown from 85 in 2001 to 1,032 in 2006 (NBPTS, 2006d).

The *Louisiana Plan for Highly Qualified Teachers* (revised July 2006) states:

The pervasiveness of large number of students in poverty in the state's public schools cannot be overlooked. The state's efforts to ensure that poor and minority children are not taught at higher rates than other children by inexperienced, unqualified, and out-of-field teachers touch every corner of the state. (Louisiana Department of Education, 2006. p.2)

As previously discussed, Louisiana has the highest poverty rate for children (Johnson, 1998; Louisiana Board of Regents, 2001). A study of the distribution of NBC teachers in lower performing schools in six states concluded that in five of the six states poor, minority, and lower

performing students were less likely to be taught by a NBC teacher (Humphrey, Koppich, &

Houg, 2005). Interestingly, more than 36% of the NBC teachers in Louisiana teach in Title I

schools. Schools in Louisiana are designated as a Title I school if they serve large numbers of

lower socio-economic students. The Title I designation is based on free and reduced lunch

counts.

In summary, Louisiana schools will need new approaches to school leadership to address

the challenges of today's schools. The present research may substantiate that the benefits of the

National Board Certification professional development model are not limited to the individual

classroom, but go far beyond into the school, state, or district. The distributed leadership

perspective shifts the focus from the principal to the web of leaders, followers, and their

situations which frame the leadership practice (Spillane, 2006). Using the framework of

distributed leadership to guide this study, it is possible to examine if the impact of the NBC

teacher is, in fact, multiplicative rather than additive.

Statement of the Problem

The United States Congress has made it clear that schools must improve student

achievement and close the achievement gap (U.S. Department of Education, 2004). The *Trends

in International Mathematics and Science Studies* (TIMSS) have compared mathematics and

science achievement of U.S. students to that of students in other countries for a number of years.

TIMMS data were collected in 1995, 1999, and 2003. According to the National Center for

Education Statistics (Gonzales et al., 2004), the 2003 results reveal that U.S. fourth graders

ranked 13th of 26 countries in mathematics and 6th of 26 in science. At the eighth grade level U.S.

students ranked 15th of 45 countries in mathematics and 9th of 45 in science. There were no

measurable changes in the average mathematics and science scores of U.S. fourth graders

between 1995 and 2003. However, eighth graders showed improvement in both mathematics and science in the same time period. Interestingly, the achievement gap between Black and White students narrowed in both mathematics and science between 1995 and 2003 (Gonzales et al., 2004). Further, as described in the previous section, Louisiana ranks low in the U.S. in student achievement and high in illiteracy and dropout rates.

To address these problems, Louisiana's School Accountability System requires ongoing improvement in student achievement, attendance, and dropout rates. Each year the schools must show improved performance by meeting a growth target. The accountability system provides both rewards for schools showing improvement and assistance for schools in need of improvement (Louisiana Department of Education, n.d.).

Louisiana's school accountability efforts have not gone unnoticed. In fact, in 2004 Louisiana ranked first in the country for its efforts to improve student achievement, scoring 98 on a scale of 100 in Standards and Accountability in a report from *Education Week* ("Quality Counts," 2004). The score for Standards and Accountability was based on whether the state tested students in the core academic subjects at the elementary, middle, and high school level. Additionally, the score also considered whether states provide technical help and impose sanctions for schools that fail to make adequate yearly progress in all public schools. The same report ranked Louisiana fifth in the nation for its efforts to improve teacher quality. Considerations for the Teacher Quality scores included raising licensing requirements for new teachers, requiring high school and middle school teachers to pass a subject specific test for licensure, requiring high school teachers to major in the subject they teach, and holding teacher education programs accountable for the preparation of their graduates. The *No Child Left Behind* legislation (U.S. Department of Education, 2003b) highlights the importance of high quality

teachers as a current concern. It is important to note that while *Education Week* has identified specific characteristics of states' efforts to improve teacher quality in their study, policymakers and school leaders have struggled to identify exactly what constitutes a high quality teacher (Goldhaber, 2005; U.S. Department of Education, 2003a).

Similar to other states, Louisiana faces a critical shortage of teachers. Commissioner of Higher Education, Joseph Savoie, identified the shortage of qualified teachers as the single most significant barrier to raising student achievement in Louisiana (Louisiana Board of Regents, 2005). These matters become especially important in the context of the fact that 12,835 experienced teachers and administrators of the total 48,273 teachers and 2,599 administrators in Louisiana are currently nearing retirement age or participating in Deferred Retirement Option Plan according to the Teacher Retirement System of Louisiana (TRSL, 2007). With this as a primary consideration, the present study investigated teacher commitment to stay in the profession, in addition to leadership activities and perceptions of influence over school-wide policy.

The state of Louisiana has followed other states in its support for National Board Certification. As Louisiana has pushed for greater school accountability over the past decade, the state has increasingly embraced National Board Certification as one path to school improvement. Louisiana has shown legislative support for NBC in *1999 Act 975, 2001 Act 312, 2001 Act 42,* and *2006 Act 253* (Louisiana State Legislature, n.d.). The original legislation, *1999 Act 975,* provided a salary adjustment of $5,000 for public school teachers having certificates issued by NBPTS. When *Act 975* expired, *2001 Act 42* extended the stipend until 2007. Also in 2001, *Act 312* added school administrators who had achieved NBC to those qualified for the $5,000

stipend. In 2006, *Act 253* extended the stipend to 2013. In another example of support for NBC, the *Louisiana Plan for Highly Qualified Teachers* (revised July 2006) states:

> Louisiana supports the value of having highly qualified teachers and recognizes the
> connections between teacher qualifications and student achievement. This support is
> exemplified through the Louisiana NBC Initiative project that provides financial and
> technical support for teachers seeking the NBC designation. (Louisiana Department of
> Education, 2006, p.11)

As Louisiana struggles to meet the challenges of accountability, new models of teacher leadership will be needed. In order to understand the relationship of the NBC professional development model and teacher leadership, the present study examined the extent to which NBC and non-NBC teachers participated in leadership activities beyond the classroom. In the past, teachers were expected to obey the principal and not question authority. What is more, good teachers were expected to remain in the classroom (Hart, 1995). However, there is a need for a change in school cultures to empower teachers to take on leadership roles which impact student achievement (Elmore, 2000; Fullan, 2006; Timperley, 2005). These roles may include participation in school leadership activities, a sense of responsibility to the profession, influence in school-wide policy development, and a commitment to remain in the teaching profession.

In a show of support for the National Board Certification professional development model, Louisiana has funded a variety of initiatives, including incentives and supports, designed to increase the number of NBC teachers in Louisiana. If this significant commitment of the states' limited resources is to continue, there needs to be clear evidence that National Board Certification contributes to school leadership. Understanding that school leaders are needed to create, implement, and sustain reform efforts (Elmore, 2006; Fullan, 2006), the contributions of

the National Board Certification professional development model to school leadership were the focus of this research. This study compared the leadership activities and perceptions of Louisiana teachers who have successfully completed the National Board Certification professional development model and non-NBC teachers. Additionally, using the distributed leadership framework to guide the study, the extent of the influence of the NBC teachers is examined.

Purpose

The purpose of this study was to investigate whether a specific model of professional development, National Board Certification, can create sustained change aimed at improved school leadership. Fullan and Hargreaves (1996) state:

> Most attempts at educational reform fail. Neither bottom-up or top-down strategies seem to work. There are many reasons for this failure…In short, the conditions for mobilizing teachers as a resource for reform simply do not exist. Many of us in the business of school improvement and educational change have painfully come to realize what should have been obvious over the years—that the heavy burden of responsibility for change and improvement in schools ultimately rests on the shoulders of the teachers. However noble, sophisticated, or enlightened proposals for change and improvement might be, they come to nothing if teachers don't adopt them in their own classrooms and if they don't translate into effective classroom practice. (p. 13)

Using distributed leadership theory as the conceptual framework, this study examined whether the influence of the NBC teachers is mobilized through leadership activities. Of particular interest was whether the influence of the NBC teachers was contained within their classroom, or was extended across their school, district, or state. The results of this study may contribute to our understanding of school leadership and effective professional development for teachers.

Research Question and Hypotheses

This study addressed the question: Does the National Board Certification professional development model contribute to school leadership in Louisiana? The dependent variable is school leadership. The independent variable is the National Board Certification professional development model.

The following research hypotheses guided this study:

Hypothesis 1: Louisiana teachers who have completed the National Board Certification professional development model exhibit greater participation in leadership activities beyond the classroom than Louisiana non-National Board Certification teachers.

Hypothesis 2: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report a sense of leadership responsibility to their profession than Louisiana non-National Board Certification teachers.

Hypothesis 3: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model perceive that they have influence in school-wide policy development than Louisiana non-National Board Certification teachers.

Hypothesis 4: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report career satisfaction due to school leadership roles than Louisiana non-National Board Certification teachers.

Hypothesis 5: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report future commitment to stay in the teaching profession than Louisiana non-National Board Certification teachers.

Leadership is usually defined as a relationship of social influences (Fullan and Hargreaves, 1996; Spillane, 2006; Timperley, 2005). Using a distributed leadership

perspective, which focuses on leadership patterns, the present study examined the leadership activities of National Board Certification (NBC) and non-NBC teachers. The constructs of the first hypothesis were the number and types of activities in which teachers participate at the school, district, and state level. The constructs of the second hypothesis were willingness to put in extra time for leadership, willingness to encourage others to enter the teaching profession, and willingness to mentor new teachers. The constructs of the third hypothesis included teacher perceptions of their level of influence over school policies such as those related to establishing curriculum, professional development, discipline, and allocation of resources. The constructs of the fourth hypothesis included teacher perceptions of career satisfaction and significance to the profession as a result of leadership activities. Finally, the constructs of the fifth hypothesis included how long the teacher plans to stay in the profession and how seriously they have considered leaving the profession. It should be noted, that the number of years that a teacher has been in the profession may influence his or her commitment to continuing to teach or whether they are considering retirement (Grissner & Kirby, 1997, American Association of Retired Persons, n.d.).

Theoretical Framework

Rudestam and Newton (2001) state, "A theory is the language that allows us to move from observation to observation and make sense of similarities and differences" (p. 6). Thus, theory often provides explanations for phenomena. Further, understanding the phenomena may lead to action (Knowles, 1990a). The theoretical framework for this study is meant to build a basis for understanding the basic curiosities associated with the research and the findings of this study pertaining to the relationship between the dependent variable, school leadership, and the independent variable, the National Board Certification professional development model.

25

Accordingly, the framework for this study is built on three assumptions. First, based on the assumption that National Board Certification is a professional development experience, and that the adult learning that takes place as a result of professional development leads to better teachers, the framework for this research is founded upon the andragogy theory of adult learning. Research conducted during the 20th century on adult learning has led to a much better understanding of how adults learn. For example, Knowles (1974) believes adult learning should move from dependency to self-directedness, draw on the learners' previous experience, and allow adults to take new roles. Further, Knowles' work suggests adults want the opportunity to apply new knowledge immediately.

Second, the NBC professional development model is an example of constructivist learning for adults. NBPTS Standards support constructivist learning for students and adults. Constructivist learning theory suggests that learners construct their own knowledge as they interact with their environment. Similar to andragogy theory, the constructivist learning theory focuses on the learner-centered experiences. Therefore, the framework is also founded upon the constructivist theory of learning.

Third, based on the assumption that the National Board Certification professional development model builds leadership for teachers that goes beyond the classroom, distributed leadership theory will guide the present study. Using the distributed leadership perspective will give greater insight into the findings of the study. By examining leadership as a collective practice, not as an individual understanding, the study may shed light on the possibilities for teacher leadership activities in the schools, districts, and state levels.

The first two assumptions deal with the NBC professional development model as a learning experience. To that point, the discussion of andragogy and constructivist learning

theories build a framework for understanding how the NBC process changes teacher behaviors in ways that lead to greater school leadership. The discussion and the review of literature show how andragogy and constructivism are both founded in the organismic model of learning and are closely related (Knowles, 1974). In contrast, the third assumption deals with the implications of the impact of the NBC professional development model. Hence, the distributed leadership theory will frame the discussion of how the impact of the NBC professional development may be much broader than the obvious benefits to the individual classroom.

Malcolm Knowles is often referred to as "the Father of Adult Learning" (Billington, 1996). Although he was not the first to use the term andragogy, he was the first to use it in American literature. In fact, the term was originally used more than 100 years earlier by Alexander Kapp, a German educator (Smith, 1999). Kapp used the term to contrast adult education with pedagogy, a term originally used for children's education. Knowles began using the term in 1968 in describing his theoretical framework for thinking about adult learning (Knowles, 1984). In 1970, Knowles put this theory in his book, *The Modern Practice of Adult Education: Andragogy Versus Pedagogy*.

In 1984, Knowles published a revised edition of the book with the subtitle *From Pedagogy to Andragogy* (Knowles, 1984). Knowles made an important distinction between how adults and children learn. Although the term "pedagogy" has become a synonym for teaching, in the strictest sense, pedagogy refers to the art and science of educating children. Therefore, the operational definition of pedagogy for the present study will be the art and science of educating children. In contrast, andragogy will be used to refer to the art and science of helping adults learn. In general, pedagogy is teacher-focused education (Browning, 1987), while andragogy refers to learner-focused education and is sometimes used for people of all ages (Knowles,

1990b). Burns (1995) points out andragogy is very much in the spirit of the humanist approach to learning and education, emphasizing the natural desire of adults to learn. Some years after the publication of *The Modern Practice of Adult Education: Andragogy Versus Pedagogy* (Knowles, 1970)*,* Knowles's ideas shifted somewhat. He recognized that the andragogical model was sometimes appropriate for teaching children, as the pedagogical model was sometimes appropriate for teaching adults.

Knowles characterized adult learning as self-directed. With this premise, he developed the tenets of his adult learning theory and suggested important changes in the design of educational experiences for adults (Knowles, 1984). First, he recognized that the experiences adult learners bring to the learning environment should be considered and used as a resource. Second, he pointed out that adults have strong feelings about what they learn and how they learn it. Third, Knowles encouraged active participation of the adult student in the design of adult learning. Also, adults need to see the applications for their new learning. Finally, the adult learner needs to be involved in the evaluation of the learning. Knowles believed that when adults are asked for feedback, they expect their responses to be acted upon. Based on these tenets of adult education, Knowles suggested adult learning is self-directed, experience based, problem oriented, and collaborative. Likewise, learning must be aligned with what the adult learner needs (Knowles, 1984).

Andragogy puts the student at the center of the learning experience. Largely, these principles of adult learning provide the rationale for new methods for delivery of professional development models such as National Board Certification (NBPTS, 2002: NBPTS, 2006a). Teachers attempting NBC work at their own pace, examining their own practice. The assessment

center exercises are problem-based and examine teacher content knowledge. Further, NBPTS encourages collaboration through communities of learners (NBPTS 2006a).

Similarly, constructivist theories put the student at the center of the learning experience. Constructivist theories are based on the idea that learning is constructed. Learners build new knowledge on previous experience and learning. Thus, the learner must discover and explore concepts in meaningful context (Battista, 1999). Constructivist theories, built on the ideas of Piaget (1971) and Glasserfeld (1995), focus on learning as active in nature, interacting with the environment, and learning based on reorganization of previous knowledge (Huitt, 2003). Piaget was one of the most influential researchers on child development theory during the 20th century. Piaget's work focused on the process of coming to know and understand the stages children move through and how they process the stimuli in their environments (Huitt & Hummel, 2003). Glasersfeld was influenced by the work of Piaget and referred to Piaget as "the great pioneer of the constructivist theory of knowing" (Glasersfeld, 1990). Glasserfeld is best known for his radical constructivism, which suggests knowledge is a self-organized cognitive brain process (Riegler, 2006).

Over time, constructivism has become a metaphor for learning, comparing the acquisition of knowledge to the process of construction (Fox, 2001). However, it should be noted that constructivism, like andragogy, is a philosophy of learning, not a method of teaching. Thus, constructivist theories are meant to guide effective teaching and learning by serving as a framework for examining the teaching and learning processes.

These principles of adult learning provide the rationale for new models of professional learning for teachers. It appears that the National Board Certification professional development model is a good example of both andragogy and constructivist learning in action. Thus, the

question becomes, how does adult learning inspired by the requirements of the NBC professional development model impact the school in ways that create meaningful change and improvement, particularly with regard to school leadership.

Mark Goldberg, an education writer and consultant, interviewed John Goodlad in 1984 about change in leadership for the *Phi Beta Kappan*. In this interview, Goodlad, an educational researcher and theorist best known for his work for educational renewal, stated:

> One of the major reasons schools don't change much is that change needs leadership. It needs committed, intelligent leadership, an agenda, an awareness of the conditions that have to be put into place, a grasp of the strategies that one has to use to effect change. (Goldberg, 2000, p. 84)

Along the same lines, in an article on how successful leaders create change in schools, Wagner (2001) points out that successful educational leaders know they cannot dictate change. Today's successful leader must motivate teachers to learn and solve problems together (Gronn, 2002; Grubb & Flessa, 2006; Spillane, 2006). Hargreaves and Fink (2006) report that the increasing demands of principals are exhausting our school leaders. Teachers are not interested in moving into school administrator positions due to low pay and high demands (Gilman & Lanman-Givens, 2001). Moreover, these researchers point to the need for new models of leadership, with one such model being distributed leadership.

The distributed leadership perspective examines how leadership practice is spread across multiple individuals in a variety of leadership roles. The roots of distributed leadership can be traced to earlier concepts such as shared decision-making. Hargreaves and Fink (2006) point out that more than a century ago, John Dewey proposed that public education be organized so that teachers had some representative way to participate in matters of educational importance in a

meaningful way. They further trace the origination of the distributed perspective to the 1960s

(Hargreaves & Fink). In the late 1960s, Chester Barnard suggested that leadership was not

limited to executive position; instead, any member of an organization might share responsibility

for leadership (Barnard, 1968). Similarly, in 1967, James Thompson proposed the idea that

leadership does not just exert influence in a downward direction, but flows throughout the

organization (Thompson, 1967). As the study of leadership progressed, transformational

leadership theory developed. Although transformational leadership proposes that individual

leaders can inspire followers to greater commitment through shared purposes, this theory focused

on the individual leader (Burns, 1978; Siegrist, 1999, Spillane, 2006)..

However, Spillane and his colleagues (Spillane, Halverson, & Diamond, 2001) point out

that current definitions of leadership are more far-reaching. From a distributed leadership

perspective, leadership moves beyond the gallant acts of one or more leaders of an organization.

Spillane (2006) states:

> A distributed perspective is first and foremost about leadership practice. This practice is
>
> framed in a very particular way, as a product of the joint interactions of school *leaders*,
>
> *followers,* and aspects of their *situation* such as tools and routines. This distributed view
>
> of leadership shifts focus from school principals…to the web of leaders, followers, and
>
> their situations that give form to leadership practice. (p.3)

Spillane proposes that a distributed perspective on leadership is like a framework for thinking

about and analyzing leadership rather than a blueprint for making school leadership more

effective (Spillane). Thus, leadership becomes an emergent property of a group of individuals.

Further, leadership becomes a product of the interactions of a variety of school leaders.

Distributed leadership opens the boundaries of leadership, widening the net of potential leaders (Bennett, Wise, Woods, & Harvey, 2003).

Distributed leadership focuses on communities of practice or task forces that address organizational missions and outcomes. According to Lussier and Achua (2004) distributed leadership "is where multiple leaders take complimentary leadership roles in rotation within the same self-managed team according to their area of expertise or interest" (p. 322). Distributed leadership is sometimes referred to as democratic leadership, dispersed leadership, or delegated leadership. However, distributive leadership is distinctive in its view of individual contributions. In contrast to additive action, in which each individual adds his or her expertise to the group, distributed leadership is signaled by the multiplicative effect of bringing individuals together. In other words, bringing people with variety of expertise together will result in a product which is greater than the sum of their individual actions (Gronn, 2002).

The members of the school must be prepared to take on new roles in this model of shared leadership. Wagner (2001) details an action theory of change which describes how to create the conditions and capacities for sustaining change. Similar to the way teachers help students construct new knowledge, educational leaders must help teachers construct new understandings that will lead to better teachers. Consequently, successful school leaders are constantly seeking sources of professional learning for their teachers which will lead to sustained change and improved school leadership. As previously discussed, one such model of adult learning is National Board Certification.

Taken as a whole, the theories of distributed leadership, andragogy, and constructivism provide the framework needed to investigate the contributions of the National Board Certification professional development model to school leadership in Louisiana. To that point,

the discussion of andragogy and constructivism will build an understanding of the NBC

professional development model and how it changes teacher behaviors which may lead to greater

school leadership. Further, discussion of the theory of distributed leadership will give insight into

how this professional development model may be leveraged to create benefits beyond the

classroom of the individual teacher.

It is often helpful to have a visual model of the theoretical framework to introduce the

possibilities of connecting the independent and dependent variables (Creswell, 2003). The

illustrated conceptual framework map that follows is meant to represent the path from the

independent variable, National Board Certification, to the dependent variable, school leadership.

Further, the model represents how the effects of this independent variable are magnified through

the lens of distributed leadership, leading to benefits beyond the individual teachers' classrooms.

Theoretical Framework

NATIONAL BOARD CERTIFICATION
(Independent Variable)

Organismic Models

What motivates adults to learn?

Adult Learning

Andragogy
Theory

NBC
Process

Constructivist
Theory

Adult Constructivist Learning

How do adults learn?

Increased Teacher Involvement in School Leadership
(Dependent Variable)

Distributed Leadership
Examining School Leadership as a Practice

School, District, and State Benefits

Importance of the Study

The NBPTS began its journey to the National Board Certification process with the release of *The Five Core Propositions*: Teachers are committed to students and their learning; teachers know the subjects they teach and how to teach those subjects to students; teachers are responsible for managing and monitoring student learning; teachers think systematically about their practice and learn from experience; and, teachers are members of learning communities (NBPTS, 2006g). The first four propositions address student achievement. However, the fifth proposition, which gives examples of leadership activities such as working with colleagues on educational policy, curriculum development, professional development, and evaluating school progress, specifically addresses teacher leadership. *A Nation Prepared: Teachers for the 21st Century* (Carnegie Forum on Education and the Economy, 1986), a report very influential in the development of the National Board for Professional Teaching Standards, proposed that future schools should have teachers who would provide active leadership in school improvement and work in collaboration with their colleagues to uphold high standards of teaching and learning. A study conducted by NBPTS (2001) cites other examples of leadership activities for teachers such as mentoring or coaching candidates for NBC, mentoring or coaching struggling teachers, and school and district leadership. Examining school leadership through the present study may have signaled how well the NBC teachers are fulfilling this fifth proposition.

As school leaders in Louisiana struggle to meet the challenges of accountability, new models of school leadership are needed. Teacher leaders are needed to create, implement, and sustain reform efforts (Gronn, 2002; Spillane, 2006). The movement of educational leadership theory and practice from the *person solo* to the *person plus* gives evidence of the need to better understand the distributed leadership of the school (Perkins, 1992). It is imperative that school

administrators understand the idea that school leadership is stretched over individuals, that leadership roles are shared, in a variety of tasks in different settings if they are to make the best uses of human resources (Spillane, Halverson, & Diamond, 1999).

Further, there is a need for empirical evidence that the National Board Certification professional development model is making a difference in Louisiana. Empirical research linking National Board Certification to school leadership is in the early stages due to the fact that NBC is a relatively new professional development model. An exhaustive review of the literature on NBC found only two studies linking the contributions of the National Board Certification professional development model to school leadership (NBPTS, 2001b; Sykes et al., 2006) and no such studies conducted in Louisiana. Moreover, most studies on National Board Certification that have been completed are very recent (e.g. Cavalluzzo, 2004; Cohen & Rice, 2005; Lustick & Sykes, 2006; Sykes, et al., 2006). Consequently, the limited number of studies that have been completed to date cite the need for additional research.

In summary, this study was important because its findings may give school leaders a better understanding of the National Board Certification professional development model and how it may contribute to greater school leadership. Further, by investigating the leadership activities of NBC teachers and non-NBC teachers, the study examined whether the contributions of NBC extend beyond the individual classroom and how that leadership may lead to a shift from the single leader model to a distributed model of school leadership. Finally, this study served to fill a gap in the literature by adding to the evidence of how National Board Certification contributes to overall school leadership.

Scope of the Study

This study investigated a target population of approximately 1,000 Louisiana teachers who achieved National Board Certification between 1994 and 2006 and approximately 3,000 non-NBC teachers from two southern parishes in Louisiana. Four hundred and forty nine NBC teachers and 911 non-NBC teachers responded. The *School Leadership Survey* (adapted from the *State Level Survey* by Sykes et al., 2006) was used to investigate whether the influence of the NBC teacher is contained within the classroom or extends to the school and beyond. This study was the first of its kind to examine the contributions of National Board Certification in Louisiana in the context of distributed leadership.

Methodology

A quantitative approach is one in which the researcher seeks to develop knowledge by employing strategies to collect data on selected instruments that yield statistical data (Creswell, 2003). For this study, the data collected from the survey were analyzed using several approaches to prevent a Type I error. First, an independent one-tailed *t* test was performed to determine if there was a significant difference for each of the hypotheses. Additionally, factor analysis was used to assess construct validity. The chi square statistic was used to examine the relationships between the variables. Finally, multiple regression procedures were used to identify extraneous variables that might be predictors.

An invitation to participate in an online *School Leadership Survey* (adapted from Sykes et al., 2006) was emailed to the approximately 1,000 teachers who have achieved National Board Certification and 3,000 non-NBC teachers in Louisiana. The survey examined the teachers' leadership activities and perceptions of their leadership in the school setting, as well as the extent

of their influence. To this point, the results of the survey were examined in the context of distributed leadership theory.

Definitions of Terms

For the purpose of this study, the following definitions apply to the terms used in the discussion. Terms are listed alphabetically and operationally defined for the purpose of this research.

Andragogy. Andragogy is the art and science of helping adults learn.

Checklist. A checklist is a list of behaviors, characteristics, or other entities being investigated.

Chi square test independence. The chi square test for independence tests the association between two variables by examining the frequencies and proportions from the sample.

Constructivist learning theory. Constructivist learning theory purports that learners construct their understanding of the world by reflecting on their own experiences.

Distributed Leadership. Distributed leadership is about leadership practice. This practice is a product of the joint interactions of school leaders, followers, and situation. The distributed leadership paradigm shifts the focus from the principal to the web of leaders, followers, and their situations which frame the leadership practice.

Factor analysis. Factor analysis is a statistical technique used to identify correlations among variables and clusters of highly interrelated variables that reflect underlying themes or factors within the data.

Leadership. Leadership is signaled by participation in school leadership activities, a sense of responsibility to the teaching profession, influence in school-wide policy development, and commitment to stay in the teaching profession.

Masters Plus 30. A masters plus 30 credential is recognition of achievement of 30 graduate hours beyond the Masters Degree.

Multiple regression. Multiple regression is a statistical technique used to predict scores of a normal/scale dependent variable from one normal/scale independent variable.

National Board Certification (NBC). National Board Certification is a professional development model that certifies educators who meet professional standards that define what accomplished teachers should know and be able to do.

NBC teacher. The NBC teacher is an educator who has successfully completed the assessment process demonstrating that he or she meets the professional standards set forth by National Board for Professional Teaching Standards.

National Board for Professional Teaching Standards (NBPTS). The NBPTS is the organization recognized for developing the professional standards that define what accomplished teachers should know and be able to do. NBPTS administers the assessment process for National Board Certification.

Pedagogy. Pedagogy is the art and science of educating children.

Professional development. Professional development is an adult learning experience that enables educators to acquire and apply the knowledge, understandings, and skills needed to facilitate student learning.

Questionnaire. A questionnaire is a collection of questions eliciting self-reported responses from or items to be completed by the participants.

Rating scale. A rating scale measures a behavior, attitude, or other phenomenon on a continuum.

Statistical Package for Social Sciences (*SPSS*). The SPSS is a software package used for statistical calculations.

t-test. The *t*-test is a statistical technique used to determine whether one group of numerical scores is statistically higher or lower than another group of scores.

Limitations and Delimitations

Limitations and delimitations are two parameters that establish the boundaries, exceptions, reservations, and qualifications of the study. It is necessary to establish these parameters in order to recognize the conditions that may restrict the study and how those conditions may affect the outcomes of the study (Creswell, 2003). Limitations are restrictions in the study over which the researcher has no control and which could possibly negatively affect the results or generalizability of the study (Rudestam & Newton, 2001). Unlike limitations, delimitations are controlled by the researcher and are used to narrow the scope of the study by deliberately focusing on specific variables or phenomena (Creswell, 2003; Rudestam & Newton, 2001).

The present study examined the impact of the independent variable, the National Board Certification professional development model, on the dependent variable, school leadership. Of particular interest were the leadership activities that take place at the school, district, and state levels. There were a number of limitations that needed to be considered which could have negatively affected the outcomes of the study. Some limitations addressed the use of survey data. Additionally, the causal-comparative design of the study was a limitation that was considered. Each of these limitations were carefully evaluated in order to better understand the results of the study.

The first three limitations concerned the use of survey data. First, data collected in a survey captures a single moment in time and may or may not be generalized to a longer period of time (Leedy & Ormrod, 2005). Second, survey data relies on self-reporting which runs the risk of respondents intentionally misrepresenting facts in order to please the researcher (Leedy & Ormrod). Third, there may be a low return rate. Consequently, the participants who do return the questionnaire may not necessarily be representative of the sample. To address these considerations, multiple survey items addressed each hypothesis and reminders were sent midway through the time period of the online survey.

The fourth limitation was the causal-comparative research design used to compare leadership activities and perceptions. National Board Certification is a professional development model to which teachers ascribe voluntarily. The NBC teachers in this study were not randomly selected to receive the treatment, National Board Certification. Therefore, the causal-comparative design attempted to describe a relationship, but the relationship was suggestive due to the lack of control over the independent variable in this study. It did not explain the cause and effect interaction of the relationship (Gravetter & Wallnau, 2004).

One delimitation was employed to narrow the scope of the study. Only Louisiana teachers were included in the sample. Access, manageability, and control for confounding variables were considerations in defining this delimitation.

The limitations and delimitation served to focus this study on the research question: Does the National Board Certification professional development model contribute to school leadership in Louisiana? Further discussion of these boundaries for the study is included in Chapter Three.

Organization of the Study

This investigation of the impact of the National Board Certification professional development model on school leadership consists of five chapters. Chapter One introduces the research topic of the study, school leadership as it is related to Louisiana teachers who have completed the National Board Certification professional development model. Accordingly, Chapter One includes the statement of the problem, the purpose, the research question, and the implications of the study. Further, the theoretical framework of the study and an illustrated conceptual framework map are discussed. Finally, the scope of the study, a brief overview of the methodology, definitions, and limitations are included.

Chapter Two reviews the literature relevant to the study. A synthesis of current research on adult learning theory, professional development, and the National Board Certification process builds an understanding of the independent variable, NBC, and lays the foundation for the study. Research on the dependent variable, school leadership is explored. More specifically, traditional leadership models, teacher empowerment, and research on National Board Certification are reviewed. Finally, an examination of distributed leadership theory lays the foundation for the framework for the study.

Chapter Three is an overview of the research design. The methodology, sampling, instrumentation, and methods of data collection are described. Additionally, Chapter Three summarizes the statistical procedures employed to evaluate the data. Finally, the chapter includes a discussion of the analyses of the data.

Chapter Four presents the results of the analyses. The chapter gives a description of the sample. The results of the hypotheses tests are given. The current conditions as reported by the NBC teachers are described.

Chapter Five provides a final discussion of the study. A summary of the results, as well as evaluation and interpretation of the results, are given. Implications for the study are discussed. Recommendations for future studies are suggested.

Chapter Two: Review of Literature

Introduction

National Board Certification (NBC) is the highest credential in the teaching profession. NBC teachers are celebrated and promoted as highly accomplished teachers (Goldhaber, Choi, & Cramer, 2004). As of December 2006, records indicate more than 55,000 teachers nationwide have achieved NBC, including approximately 1,000 Louisiana NBC teachers (NBPTS, 2006d). This study examined the relationship between the National Board Certification professional development model and school leadership.

After a little more than a decade of National Board Certification, research is becoming available to document the benefits of this professional development model. While this literature review provides an overview of the current findings of leading researchers, it is important to note that additional research is still needed and will contribute to a better understanding of the NBC process. In particular, there is a need to examine the impact of National Board Certification on school leadership in Louisiana, a state which has made a significant commitment to NBC. If NBC does contribute to school leadership, it is informative to determine if those contributions are contained within the classroom or go beyond to the school, district, or state. Further, examining the findings of this study within the framework of distributed leadership theory may reveal that the benefits of National Board Certification are potentially much broader than previously discussed in most studies.

School leaders will have to go beyond traditional measures of teacher quality and professional development to meet the challenges of school accountability in the 21st century. Building upon the conceptual framework of adult learning, constructivism, and distributed

leadership theory, this review of literature will examine how the National Board Certification professional development model may contribute to school leadership. National Board Certification is an organismic model of professional learning that combines andragogy theory and constructivist theory to guide high quality teacher growth. Further, NBPTS claims this professional development results in greater school leadership (NBPTS, 2001b). The review of literature, therefore, investigates how the teacher leadership effect is holonomous (relating the part to the whole) in the context of distributed leadership theory.

Prior to reviewing the literature, specific topics were identified that could be related to either the independent variable, National Board Certification, or the dependent variable, school leadership. A number of factors related to the independent variable, National Board Certification, were identified and explored. These include adult learning theories, professional development, and the process of NBC. Similarly, topics related to the dependent variable, school leadership, such as traditional leadership models and teacher empowerment were identified and explored. Additionally, the distributed leadership perspective, which examines leadership as a practice rather than as an individual, was identified as an appropriate framework for this study. Accordingly, current literature on distributed leadership will be discussed.

National Board Certification

Adult Learning Theory

Andragogy adult learning theory. The earliest learning theorists, Confucius, Aristotle, Socrates, and Plato, were all teachers of adults. Moreover, they viewed learning as a process of active inquiry and they utilized techniques suited to adult learning such as the case method and the Socratic dialogue strategy (Conner, 2005). The case method strategy poses a situation and the

group explores solutions to the situation described. In the Socratic dialogue strategy, the leader poses questions and the group seeks an answer or solution.

In contrast, in the seventh century when schools began teaching children, the purpose of these early schools was to prepare young boys for priesthood (Knowles, 1990a). The assumptions about learning at this time became known as pedagogy, which literally means the art and science of teaching children. The word *pedagogy* originated from the Greek word *paidagogia*, meaning office of a child's tutor (Pedagogy, n.d.). It is important to note that more recently pedagogy has become a synonym for teaching and learning. This shift began with John Dewey in the 1900s when he encouraged activity-based learning rather than traditional teacher-focused learning, believing children learned from experience. In fact, he developed a learner-focused philosophy (Conner, 2005). Although in present times pedagogy more often refers to teaching and learning in general, for the purposes of this study it will be operationally defined in the more strict sense as the art and science of teaching children.

According to Knowles (1990a), the pedagogy theory of learning puts the teacher in full charge of learning, with the student as a passive recipient of knowledge. More specifically, it is based on the assumptions that learners only need to know what the teacher teaches them and that the learner's self-concept is dependent on the teacher. On the whole, pedagogy remained the primary model for learning and teaching through most of the 20th century and is the foundation upon which the United States' educational system was built (Knowles, 1990a).

Building on this theory, Knowles (1974), in an article on human resources development, described two basic models of learning and teaching, mechanistic and organismic. In the mechanistic model, the purpose of education is to fill the empty vessel. Thus, pedagogy, as described above, is an example of the mechanistic model. In contrast, the purpose of education in

the organismic model is the continuous development of individuals toward their full and unique potential. Hence, the organismic model replaces lock step curricula with more flexible learning systems and has been influential in changing educational methodologies.

As adult education began to emerge in the early 20th century, designs were based on pedagogy and the mechanistic model of learning. After World War I, there began a new line of inquiry into adult education. First, there was the scientific branch which was concerned with the ability of adults to learn. In 1927, Thorndike reported that adults could learn, contrary to the general belief at the time that only children could learn (Crawford, 2004; Knowles 1970). Second, there was the artistic or intuitive/reflective branch which was concerned with how adults learn. During this time, Lindeman's 1926 book, *The Meaning of Adult Education*, laid the foundation for adult learning theory. In this book, Lindeman identified what he believed to be the central assumptions of adult learning (Smith, 1997). Subsequently, early work on adult learning theory and the term andragogy appeared in the late 1940s. Andragogy, with its learner centered perspective, is based on the organismic model.

Over the past century, there has been a revolution in education due to research on how people learn. The humanistic theories of learning put forth by Maslow and Rogers in the 1950s viewed the learning process as a personal act to fulfill potential which facilitates the development of the whole individual (Kimble, Hilgard, & Marquis, 1961; Smith, 1997). This led to major shifts in our understanding of how learning occurs. Later, Carl Rogers (1967) introduced a student centered approach. Although Rogers is best known for his contributions to client centered therapy and developmental counseling, he related his principals of client centered to education in his books, *The Interpersonal Relationship in the Facilitation of Learning* (Rogers, 1967) and *Freedom to Learn* (Rogers, 1993). Rogers felt that teaching and imparting knowledge

could only happen in an unchanging environment. However, Rogers believed that we live in an environment that is constantly changing; therefore we can only facilitate learning. Hase and Kenyon (2000) extended the paradigm of learner-centered education to heutagogy, the idea of self-determined learning. Heutagogy builds on the humanistic theory and other adult learning theories explored during the 1950s (Hase & Kenyon, 2000). These humanistic theories have implications that move beyond the teacher-focused education model in pedagogy toward more self-determined approaches to learning in the 21st century. In fact, the humanistic theories are closely related to the constructivist learning theory which is discussed in the next section. Although the present discussion is focused on adult learners for the purpose of this study, the humanistic theories are similarly related to children's learning.

Research into the reasons for engaging in adult education activities by Cyril Houle laid the groundwork for the idea of self-direction in learning (Brockett & Hiemstra, 1991). In addition to being a major professor to Malcolm Knowles, Houle's work is sometimes credited with igniting the interest in self-direction approaches. Houle identified three categories of adult learners: goal oriented, learning oriented, and activity oriented. In 1960, Houle interviewed 22 adult learners in Milwaukee, Wisconsin. He used an informal interview approach to investigate the participants regarding their reasons for participating in continuing education. As a result, he concluded that these individuals fell into three groups. The first group he identified was the goal oriented group, who participated for career advancement or change. Second, there was the activity oriented group, who participated for fellowship or to meet new people. Finally, he identified the learning oriented group, who sought learning opportunities for personal enjoyment or simply for the sake of learning (Brockett & Hiemstra).

Houle's work influenced another of his students, Tough, who investigated what motivated adult learners to begin a learning project (Tough, 1967). Tough studied the motivation to learn by interviewing 40 adults. The subjects were college graduates obtained by Tough's acquaintances. After the interview, the subjects were asked to complete a questionnaire. Tough found that his subjects anticipated that certain desired outcomes and benefits would result from the learning project.

Since the 1970s, the focus of learning theory has shifted to adult learning, or andragogy. Knowles (1970) defined andragogy as an emerging technology for adult learning. Subsequently, Knowles put forth four andragogical assumptions. First, adults move from dependency to self-directedness. Next they draw upon their reservoir of experience for learning. Third, adults are ready to learn when they assume new roles. Finally, adults want to solve problems and apply new knowledge immediately.

Based on these assumptions, Knowles made suggestions for adult education. In his book, *The Modern Practice of Adult Education,* Knowles (1974) suggested adult learning should be set in a cooperative learning environment. Moreover, Knowles felt there should be opportunities for mutual planning. Further, he recommended inclusion of a diagnosis of learner needs and interests. Additionally, learning objectives should reflect the diagnosed needs and interests of the learner, while sequential activities should be planned for achieving the objectives. Finally, Knowles suggests there should be an evaluation of the learning experiences and opportunities to assess needs for further learning**.**

Constructivist learning theory in adult education. The works of Dewey, Piaget, Bruner, and Vygotsky laid the foundation for constructivism (Huitt, 2003). Constructivist theory, another example of the organismic model of learning, assumes that learners construct their own

knowledge as they interact with their environment (Battista, 1999, Fox, 2001). Although

constructivist learning theory was not developed in the context of adult education, the tenets

have important implications for adult learning. Over time, constructivism has become an

important premise in adult education.

Further, many of the principles of constructivism overlap with the principles of

andragogy. Indeed, these theories share the same focus on learner-centered education (Montes &

Gonzales, 2000). Fox (2001), a Senior Lecturer at the University of Exeter, posits that

constructivism is about understanding, and goes beyond the idea of rote learning. He summarizes

the principles of constructivism into six broad concepts: learning is an active process; knowledge

is constructed, rather than absorbed; knowledge is invented, not discovered; all knowledge is

personal, idiosyncratic, and socially constructed; learning is making sense of the world; and

effective learning requires meaningful problem solving. Both andragogy and constructivism

make the teacher the facilitator of learning. In sharp contrast to the early views of pedagogy in

which the teacher was the dispenser of knowledge, the learner is actively involved in the process

from planning to discovery to problem solving.

The call for more and better professional development for teachers has created a need for

more information about teacher learning, a relatively new research topic (Wilson & Berne,

1999). Accordingly, school leaders must be cognizant of the importance of adult learning theory

if they hope to be successful in meeting school accountability goals. School leaders and

policymakers are given limited resources which must be used wisely. Thus, professional

development models which contribute to greater teacher leadership need to be accurately

identified in order to meet these challenges.

Professional Development

The knowledge base for teaching is growing so rapidly that it is difficult to know what is not known about teaching. Therefore, assertions about what teachers should know may conceal what is lacking in this knowledge base. The NBPTS *Middle Childhood Generalist Portfolio Instructions* (NBPTS, 2006c) explains:

The fundamental requirements for proficient teaching are relatively clear: a broad grounding in the liberal arts; knowledge of the subjects to be taught, of the skills to be developed, and of the curricular arrangements and materials that organize and embody that content; knowledge of general and subject-specific methods for teaching and evaluating student learning; knowledge of students and human development; skills in effectively teaching students from racially, ethnically, and socioeconomically diverse background; and the skills, capacities and dispositions to employ such knowledge wisely in the interest of students.

This enumeration suggests the broad base for expertise in teaching but conceals the complexities, uncertainties and dilemmas of the work. The formal knowledge teachers rely on accumulates steadily, yet provides insufficient guidance in many situations. Teaching ultimately requires judgment, improvisation, and conversation about means and ends. Human qualities, expert knowledge and skill, and professional commitment together compose excellence in this craft. (p.10)

Nevertheless, research findings are beginning to provide authoritative support for understandings related to the teaching field which can guide professional development efforts (NBPTS, 2006c).

Many researchers have attempted to define professional development. For example, Emily Hassel, Codirector of Public Impact which is a North Carolina education policy and

management firm, believes professional development is the process of improving teaching skills and competencies needed to produce outstanding educational outcomes for students (Hassel, 1999). Similarly, Deborah Ball, Dean of the Michigan State University School of Education, and David Cohen, Professor of Education at the University of Michigan, feel that the primary purpose of teacher learning is to cultivate knowledge, skills, and values that will enable teachers to be highly effective in helping students learn (Ball & Cohen, 1999). In yet another example, Showers, Joyce, and Bennett (1987) accumulated a file of research on professional development for more than ten years to assess the research areas where the findings would provide working hypotheses for program design. As a result of their work, Showers, Joyce, and Bennett believe the purpose of teacher training is to create conditions under which sufficient levels of knowledge and skill are attained to sustain practice and to create the conditions that support practice until transfer has occurred. Linda Darling-Hammond, the founding Executive Director of the National Commission for Teaching and America's Future, believes that professional learning leads to changes in teacher knowledge and practices and students benefit from teacher professional development (Darling-Hammond, 1998b).

Older literature gives historical perspective to the study of teacher learning. Showers, Joyce, and Bennett (1987) were among the first to compile, organize, and assess the research on staff development. They found almost all relevant research on staff development had been conducted in the twenty years previous to 1987. For example, they found that a 1957 yearbook on inservice education reported only about 50 studies on professional development. Even in the late 1980s, Showers et al. (1987) reported limited studies dealing with the acquisition of teaching skills and strategies which would permit development of hypotheses about effective professional development.

Of particular interest, were the conclusions of Showers, Joyce, and Bennett (1987) after examining the conditions needed to change teacher practice. Specifically, they suggested a combination of theory, demonstration, practice, and feedback. In addition, they recognized sustained practice as a key to the success of changing teacher practice. Similarly, other studies show the most important characteristic of effective professional development is enhancement of teachers' content and learning theory knowledge, which helps teachers better understand the content they teach and ways students learn that content (Guskey, 2003; Kennedy, 1998).

Teachers accumulate experience, but experience alone does not improve teaching. Certainly there is a need for ongoing professional learning. Darling-Hammond has written extensively on professional development for teachers. In an article examining a 1996 report from the National Commission on Teaching and America's Future, Darling-Hammond (1998b) reports that more time studying teaching does, in fact, lead to more effective teachers. She expands on this idea in a later article (Darling-Hammond, 2004) in which she states teachers need to learn to experiment in response to unique students and situations. Further, teachers need to be able to use what they learn in those situations to inform and improve teaching. Darling-Hammond concludes that for improvement to occur, teachers must learn how to inquire systematically into practice (Darling-Hammond, 2004).

In an effort to identify characteristics of effective professional development, Guskey (2003) examined 13 recent lists of characteristics of effective professional development. The lists were drawn from publications of such reputable organizations as Association for Supervision and Curriculum Development, Educational Testing Service, Eisenhower Professional Development Program, and others. Guskey was interested in to what extent the list of characteristics agreed. He found the lists varied greatly. Even so, Guskey identified 21 important characteristics thought

to represent effective teacher learning opportunities. However, his review of the literature found little evidence to support many of these practices. For instance, sufficient time and resources are among the characteristics of effective professional development that literature frequently mentions. However, in Guskey's review, he found no evidence that the time spent in professional learning activities was related to improved student achievement (Guskey, 2003). Hence, Guskey's conclusions from this review of current research led him to conclude there appears to be little agreement among professional development researchers on what constitutes effective professional development.

One characteristic frequently mentioned in studies on quality professional learning is the promotion of collegiality and collaboration. Research shows, however, teachers may actually use this collaboration to block changes (Fullan & Hargreaves, 1996). In another example, the emphasis on school- or site-based professional development may be misplaced. The Consortium for Policy Research in Education (as reported by Darling-Hammond, Ball, & Loewenberg, 1998) found staff members did little more than pay lip service to professional development when it was school-based. In fact, these educators were more interested in programs that promoted what they were already doing (Darling-Hammond, Ball, & Loewenberg, 1998).

In writing about educational reform and professional development, Ball and Cohen (1999) pose the question, "What do teachers need to know?" Their research shows the answers to this question have changed in recent decades. For example, teachers need a deeper, more conceptual understanding of the meanings and connections of the content, not just procedures and information. In addition, understanding children and how they learn is essential. Furthermore, today's teacher needs to know what children find interesting and where the students might encounter problems. In order to be effective, teachers need to see children as

capable learners rather than blank slates that lack knowledge. Additionally, teachers need to recognize cultural differences and respect diversity rather than presuming sameness. With this in mind, educators need to develop and expand their ideas about how children learn and question long held beliefs about learning. Finally, there is a need to be familiar with a variety of learning theories and have an understanding of strategies that effectively engage learners.

How do teachers learn? In the book, *How People Learn*, (Bransford, Brown, & Cocking, 1999) the authors examined data from the National Research Council (1989) and current research on learning. Their investigation into the kinds of learning opportunities available to teachers led them to the conclusion that teachers learn in a variety of ways. For example, teachers learn by monitoring, adjusting, and analyzing lessons. As well, educators learn from their own practice or action research. Also, teachers learn from their work with other teachers, through mentoring relationships, presentations at inservices, and work with professional organizations. Another learning opportunity is through teacher enhancement projects, often provided by professional consultants. In addition, teachers learn from master's degree programs, additional certification, or other advanced degree programs. Further, educators may add to their knowledge in ways that are not connected with teaching, such as their roles as parents. Ideally, teacher learning will be centered around a focus on content knowledge.

In the same book, *How People Learn* (1999) Bransford, Brown, and Cocking identify four characteristics that promote effective teacher learning experiences. Consistent with the tenets of adult learning theory, they report these experiences should be learning centered, building on the foundation of what teachers know and are able to do. Moreover, learning opportunities for teachers should be knowledge centered, giving teachers the chance to develop well organized bodies of knowledge in their discipline. Further, teacher learning should be

assessment centered, providing opportunities for feedback and revision. Finally, teacher learning should be community centered, giving teachers time to work together and provide each other feedback. In fact, thoughtful discussion among teachers is the primary vehicle for analysis, criticism, and communication of ideas.

Similarly, Ball and Cohen (1999) report that teachers need to hear others' assumptions and ideas about student learning and content. Along the same lines, in highlighting the findings of a five year study of almost 900 teachers conducted by the Center for Research on the Context of Secondary School Teaching, McLaughlin and Talbert (1993) concluded that educators who belonged to strong professional communities were better able to adapt to the challenges of teaching today's students. In fact, they went on to report that teachers define their classroom practices through interactions with their professional communities of teachers and administrators

A national survey conducted by the National Education Association which asked teachers to evaluate the effectiveness of 14 sources of teacher education revealed that teachers feel that direct experience in the classroom is the most effective source of learning. The teachers also found peer consultation, individual study and research, and observation of other teachers to be valuable learning strategies. In contrast, the respondents to the survey identified graduate level education courses, formal evaluations, and inservices provided by the school districts to be the least effective form of professional development (Smylie, 1989).

In a resource for effective teacher learning models, the North Central Regional Educational Laboratory's *Toolkit for Schools on Professional Development*, Hassel (1999) contends that professional development is most effective when it is an ongoing course of action. As such, teacher learning should be viewed as a process, rather than an event or project. Further, teachers need to be comfortable in the role of the learner. Hassel reports that in the most

successful schools, teachers are given the authority and resources to take charge of their own learning.

Today's school leaders are interested in the cost effectiveness of professional development models. Interestingly, the National Board Certification professional development model is no more costly than many other approaches to professional development. In fact, NBC may be less costly (Cohen & Rice, 2005). In a study of eight candidate support programs across the nation investigating the design and cost of NBC professional development as compared to other forms of professional development, the researchers concluded the NBC model holds great potential (Cohen & Rice). Based on nine studies of per-participant costs of other professional development programs, the average costs were $1,000 to $5,500, while the average cost of support programs and candidate fees for NBC was about $4,500. Further, Cohen and Rice estimated the cost of a master's degree in Virginia was greater than the cost of the National Board Certification professional development model.

Indeed, additional funding for more highly qualified teachers nets greater increases in student achievement than any other use of school resources (Ferguson, 1991). Even with this evidence, states are spending, on average, only 1.3 % of their budgets on staff development (Hetert, 1997). With this in mind, there is a need to distinguish between "spending" and "investing" in teacher learning. In fact, this parsimonious approach to professional learning would be unacceptable in other professions.

In summary, there is a need for effective teacher learning as a key strategy for school leadership (NCTAF, 1996). A renewed and sustained commitment to teachers' professional development is critical to enhancing school performance. Teachers will need a great deal of training in order to produce the kind of student learning that is expected in the current reform

efforts. Moreover, these teachers will have to become serious learners in content knowledge. In addition, professional learning, while grounded on adult learning theory, must be built on the cornerstones of education: content (what needs to be learned), theories of learning (how it might be learned), and curriculum and the science of teaching (materials and ways learners learn). Consequently, there is a need to shift our vision and thinking about professional development. National Board Certification may offer an avenue to the needed reform in teacher learning opportunities.

National Board Certification: The Process

According to the NBPTS (2006b) website, teachers are eligible to pursue National Board Certification if they have a baccalaureate degree and have taught for three or more years with a valid state license. While the eligibility requirements are not particularly demanding, the certification process is lengthy and rigorous (NBPTS, 2006b). In fact, completion of the requirements usually takes at least one year and often up to three years. It should be noted that unlike the mandatory entry level state licensing, NBC is a voluntary process for teachers willing to hold themselves to the high NBPTS Standards. Specifically, National Board Certification was developed to provide effective professional development and identify experienced teachers for the quality of their practice (NBPTS, 2006a). More than 55,000 teachers have achieved NBC nationwide as of December, 2006 (NBPTS, 2006d). Although fewer than 50% of candidates are successful the first time they attempt certification, it is reported the process is beneficial whether or not certification is attained. In a study to examine what teachers might learn from the NBC process, Lustick (2002) found:

Rather, National Board Certification acted as a mirror for candidates to gaze into their practice and gain a much desired affirmation of their way of teaching… The process of

National Board Certification seems to help teachers learn how to address and manage

more effectively three inherent issues of their work: 1) uncertainty of outcome, 2)

complexity of task, and 3) professional isolation. (pp. 17-18)

The requirements of attaining National Board Certification have evolved as more has

been learned about the process. After the initial certificate assessments were completed, the

NBPTS contracted with Educational Testing Service beginning in the 1996-97 application cycle,

in order to adopt a uniform assessment structure for all certificate areas. This new assessment

model included both portfolio and assessment center pieces. First, the portfolio component

contained six entries. Four of the entries focused on classroom practices with examples of

student work and videotaped segments, while two additional entries examined the teachers' work

outside of the classroom that impacted student learning. The portfolio centered on written

commentaries in which the candidate described, analyzed, and reflected on classroom teaching

practices. The second component was a series of four, 90-minute, subject matter assessments to

be completed at a secure testing site. These tests were designed to measure the teachers' content

knowledge, as well as their knowledge of how to teach that content (NBPTS, 2002).

In an attempt to validate this assessment model, Bond, Smith, Baker, and Hattie (2000)

conducted a study of the NBPTS certification process. They were particularly interested in two

validity matters. First, they sought evidence as to whether the NBPTS vision of accomplished

teaching was in line with what is known about characteristics of effective teaching. Second, the

researchers wanted to know if the NBC teachers could be distinguished from their non-certified

peers on the basis of the quality of their students' work. This study used a comprehensive review

of research on expert/novice comparisons, teaching practices, and schooling effects to identify 15

dimensions used to compare 31 teachers who were successful and 34 teachers who were not

successful in completing NBC. The results gave strong initial evidence that the NBPTS certification process does identify teachers who are significantly more proficient and whose students have greater achievement.

Based on the findings of this early research on the effectiveness of the assessment process (Bond, Smith, Baker, & Hattie, 2000), the certification requirements were refined again in 2001. Consequently, the new portfolio, completed during the school year, includes four entries. More specifically, three are classroom-based and one documents the teacher's work outside the classroom (NBPTS, 2002). In addition, the assessment center component, which is completed at one of more than 300 secure testing locations, now consists of six thirty-minute tests that focus on the teachers' content knowledge and ability to teach that content to students. Together, the entire certification process is meant to encourage teachers to assess their impact on student learning and to strengthen collaborative relationships among teachers as learners (NBPTS, 2002).

Moreover, the three classroom portfolio entries are performance based assessment using two sources of evidence: student work samples and video recordings of lessons. The teacher must use his or her current classes and students to provide evidence used in the portfolio entries. This evidence must be gathered in the 12 months prior to the portfolio submission (NBPTS, 2006a). To that point, the teacher uses student work samples and video recordings as the basis for the documentation of meeting the NBPTS Standards. For example, student work samples are required in each of the three entries and give evidence about what the students are asked to do, how the teacher interprets the student work, and how the teacher uses the student work to guide future learning. Additionally, the teacher is asked to look for patterns in the work that is submitted through description, analysis, and reflection. Also, the video recordings, required in

two entries, offer a window into the classroom, capturing different kinds of instruction and interactions with students. Altogether, the purpose of the written commentaries which accompany the student work samples and video recordings is to give details about the context and instructional practice. Consequently, the written commentary is the main vehicle for communication with the assessors and is meant to reveal how and what the teacher thinks about his or her work (NBPTS, 2006c).

Accordingly, the first three portfolios are meant to demonstrate the candidate's insight into what is happening in the classroom, and also to examine the rationale for those events. For example, one classroom portfolio entry asks the candidate to submit a written commentary of no more than 12 pages in which the teacher must contextualize, analyze, and evaluate his or her teaching as illustrated by student work samples from two writing assignments/prompts. With this in mind, the candidate must submit a total of four student work samples from the teaching over a three to four week period (NBPTS, 2006c).

In contrast, the fourth portfolio entry is meant to demonstrate the candidate's commitment to student learning through work with families, community, leadership, and continuing learning. For this entry the candidate must submit description and analysis of no more than eight accomplishments in a maximum of 10 pages. The documentation to support the written commentary may not exceed 16 pages. Finally, a two page reflective summary is required to demonstrate the significance of the accomplishments taken together (NBPTS, 2006c).

Next, the candidate must demonstrate content knowledge in a six-part assessment taken at a testing center. The purpose of these assessment center exercises is to measure content knowledge not likely to be demonstrated in the portfolio entries. The exercises were designed by practicing teachers in the same certification area. The candidate has up to 30 minutes to complete

each of the six exercises. It is important to note, candidates are responsible for content

knowledge designated in the NBPTS Standards across the full age range of the certificate area

(NBPTS, 2006a). The entire assessment center process takes approximately one half day, and the

candidate may take short breaks between the exercises.

The criteria for assessment of the portfolio entries and the assessment center exercises is

clearly articulated in a scoring guide and rubric provided to the applicants and the assessors

(NBPTS, 2006b). As might be expected, no one approach to instruction is considered correct. In

fact, the NBPTS recognizes multiple paths to successful teaching. The assessors are given

extensive training. Each entry is scored by one or more assessors, with at least one portfolio

entry and one assessment center exercise scored by two assessors. A final scaled score is

computed and reported based on candidates' responses, videotapes, analyses, and reflections.

The assessment is based on the entire entry, not the level of the students' performance. After

many months of waiting, the results are reported in December (NBPTS, 2006b).

Teachers who do not achieve certification may "bank" scores for up to two years and

retake any combination of portfolio and/or assessment center pieces on which they did not meet

the performance standard, at a cost of $350 for each portfolio or assessment center exercise.

Candidates must retest within the same specialty area and all work submitted must be new.

Retake candidates may not submit identical or amended versions of the original portfolio entry.

To ensure fairness, the assessors are unable to distinguish retake entries from first time entries as

they are all scored at the same time. The candidate's original score will be replaced with the new

score for each retake piece. The candidate's total weighted scaled score will be recalculated to

determine if it meets or exceeds the NBPTS performance standard. The retake results are

reported in December, at the same time those of first time candidates (NBPTS, 2006b).

In completing the assessment process, reflection on one's own practice is essential to this professional development model. The portfolio entries require the teacher to describe, analyze and reflect on the activities that take place in their classroom. In 1987, Schon introduced the concept of reflective practice. He defined it as a critical process in refining one's craft, requiring thoughtful consideration of one's own experiences (Ferraro, 2000). Boud added that individuals explore their experiences in order to lead to new understandings (Ghaye & Lillyman, n.d.). Bohen (2001) found that teachers believed the intensive reflection and analysis required in the portfolio process strengthened their skills and professional judgment.

However, Burroughs, Schwartz, and Hendricks-Lee (2000) find fault with the assessment process. After working with both successful and unsuccessful candidates, they believe NBPTS is identifying candidates with better writing abilities. Burroughs (2001) feels the National Board Certification assessment can be thought of as a "test in writing about one's teaching in which candidates must solve a number of rhetorical problems to be successful" (p. 233). He feels these rhetorical problems may be intimidating. Even so, similar requirements for portfolios, written reflections, and analysis are becoming a part of pre-service training and new teacher induction programs across the nation (Kilpatrick, Swafford, & Findell, 2001; Tokona, 2003). Ultimately, this may make the writing requirements of NBC less intimidating for teachers currently entering the workforce, should they later seek certification.

Another explanation for the success or lack of success by NBC candidates may be found in research by Linquanti and Peterson (2001). They found that there are specific challenges in pursuing NBC while teaching in lower socio-economic schools including students moving during the process, finding quality student work to submit, and difficulty in engaging parents. Ironically, research on the impact of National Board of Certification suggests that NBC teachers

are especially effective in working with lower socio-economic students (Goldhaber, Perry, & Anthony, 2003; Goldhaber & Anthony, 2004).

In another study of the National Board Certification process, Goldhaber, Perry, and Anthony (2003) found that women, African-Americans, teachers with master's degrees, teachers who score higher on standardized tests, and teachers who are young are more likely to apply for NBC. Further, these researchers found that African-American and male teachers are less likely to be successful in becoming certified. Additionally, they found teachers who score higher on standardized tests are more likely to become certified.

Even with these challenges, National Board Certification is growing in popularity among teachers each year. Gordon (2002) reports there are three reasons for increasing interest in seeking NBC. Some teachers seek certification for both the challenge and enhanced prestige. Others are interested in the financial incentives such as salary bonuses. Still others may hope to use NBC as a springboard to leadership positions. However, for most teachers, it is probably a combination of the three which draws them to National Board Certification. Buday and Kelly (1996) point out that by setting and meeting high and rigorous standards, the teaching profession gains support and respect from the public. As a result of the National Board Certification process, NBC teachers are more involved in professional development and leadership activities (Waller & Klotz, 2001). Further, NBC teachers have reported feeling new enthusiasm toward their work (Dethlefs, Trent, Boody, Lutz, Robinson, and Waack, 2001). Most important, these teachers suggest the National Board Certification experience deepens their content knowledge and helps them reflect on new approaches to their work with students (Darling-Hammond, 1998a).

The benefit of National Board Certification on increased content knowledge was reported by Lustick and Sykes (2006). This research examined 120 candidates seeking NBC in Adolescent and Young Adult Science and consequently found that NBC had significant impact upon the candidates understanding of knowledge associated with teaching science. Using both quantitative and qualitative evidence, results of this study found significant pre-intervention and post-intervention changes to individual and group means due to the learning outcomes from the National Board Certification process. The results of this study support the claim that NBPTS has designed an effective professional learning model.

Furthermore the assessment process has been validated and tested for reliability (Kearney, 2000). NBPTS has supported an extensive research program to identify and correct flaws that might threaten the validity, reliability, or fairness of the certification process by establishing and funding an independent Technical Analysis Group to study these matters. In addition, the general contractor for the assessments, the Educational Testing Service, has assumed responsibility for the NBPTS's research agenda (Kearney, 2000). Together, these point toward NBC being an important measure of teacher quality.

Overall, Cohen and Rice (2005) found the design and process of the National Board Certification professional development model aligns with attributes of effective professional development described in the literature. For example, candidates analyze their teaching practices against high quality teaching standards. Further, the portfolio process integrates content and teaching knowledge, allowing candidates to learn from what takes place in their classroom daily. Additionally, teachers increase their content knowledge in preparation for the assessment center exercises. Taken together, these examples give evidence that the NBC professional development

model is closely aligned to what is known about effective professional development (Cohen & Rice).

In summary, teachers find the National Board Certification process a powerful professional development experience (Bohen, 2001). John Goodlad (1984), in his study of teaching conditions in hundreds of schools, described how school culture and class schedules make discussion, joint planning, and classroom visits difficult. However, teachers frequently set standards for their classroom practice based on their interactions with other teachers (McLaughlin & Talbert, 1993). To that point, the process of attaining NBC seeks to counteract the current isolationist culture trend by creating communities of professional learning and sharing. Specifically, teachers examine their own classroom practice and reflect on how they can improve lessons and student learning. Further, NBC encourages teacher collaboration and sharing of expertise. As a result, teachers reported the NBC process sharpens their focus on student outcomes and results in more purposeful planning. As well, others report it helps them eliminate what is unimportant to their lessons. In fact, both NBC teachers and assessors say the certification experience is an overwhelmingly positive one (NBPTS, 2001b; Dethlefs, Trent, Boody, Lutz, Robinson, and Waack, 2001).

Teacher Leadership

Any discussion of organizational power must examine the influencers of the organization who seek to control decisions and actions. Thus, it is necessary to understand which influencers are present and how they respond to the needs of the organization. In general, a skill or body of knowledge which is essential to the organization is the basis of the influencer's power. But having that skill or knowledge is not enough. The individual only becomes an influencer when he or she acts or uses this basis of power (Mintzberg, 1983). It follows that leadership is based on

action. Therefore, the actions of leadership and those who choose to take those actions will guide the following discussion of leadership.

Traditional Leadership Perspectives

Elmore (2000) defines leadership as "the guidance and direction of instructional improvement" (p. 13). For this study, leadership was signaled by participation in school leadership activities, a sense of responsibility to the profession, influence in school-wide policy development, and commitment to stay in the teaching profession. This deliberately deromanticized definition served well to operationalize the term leadership for the purposes of this study. Interestingly, leadership is often romanticized because people tend to subscribe heavily to trait theories of success. Indeed, reading the literature reveals unrealistic numbers of traits and skills needed by principals to successfully lead schools (Elmore, 2000).

Historically, public education in the United States has taken the form of a locally centralized school bureaucracy. As such, schools are governed by elected school boards. The teachers are relatively isolated from each other and under the supervision of the principal. Over time, districts and schools have grown larger and serve more diverse populations. Consequently, the bureaucracy has grown more elaborate and rigid (Elmore, 2000).

Over the years, this institutional structure has evolved to a model called loose coupling (Weick, 1976). Simply stated, loose coupling conveys the image that while coupled events are responsive, each preserves its own identity. For education, the loose coupling model is characterized by decisions about instruction being made in the isolation of individual classrooms, with the administrative structure of the organization serving to buffer the teachers from outside interference (Weick, 1976). The loose coupling model gives insight into the existing structure of

public schools. In essence, it is very difficult to bring innovation to classrooms which are highly autonomous and only loosely connected to the school itself.

For more than 20 years, leadership has been a key feature of research on effective schools. There is no shortage of literature on school leadership. However, there is a great divergence of opinion on the constructs of effective leadership. Until recently, studies have focused on a single leader, top-down model of school leadership, virtually ignoring distributed or dispersed leadership models (West, Jackson, Harris, & Hopkins, 2000). Moreover, the school as an organization is founded on the authority principle, with power delegated from the school board to the superintendent to the principal (Bolin, 1989). Indeed, during most of the 20th century a top-down, heroic leadership model prevailed in school leadership (Hart, 1995).

In the heroic leader paradigm, the charismatic leader is the center of attention, and all others are left out of the leadership equation. For instance, the heroic leader is the champion who charges out in front and valiantly leads his followers to victory by meeting the organizational goals. This leader is the visionary, the superhero. Central to this model is the mission statement, which serves as the banner of the superhero (Marion, 2002).

Heroic leadership has been the topic of many books and studies on leadership in the past 20 years. However, heroic leaders may not have all the skills needed to lead an organization or school. In fact, the overwhelming call for higher and higher standards within shorter and shorter timeframes is exhausting our school leaders (Hargreaves & Fink, 2006). The National Association of Secondary School Principals (NASSP, 2001) reports increasing job stress, inadequate school funding, balancing management and instructional tasks, new curriculum standards, discipline problems, and facing possible termination if schools do not show instant results has led to the inability to attract quality leaders. Along those lines, a study of teachers in

six secondary schools in Ontario found that 85% of the teachers would be hesitant to move into leadership positions because of government reforms (Hargreaves, 2003). Similarly, Gilman and Lanman-Givens (2001) report that teachers are not interested in going into school administration for many reasons, such as too little pay, too many pressures, too many hats to wear, and too little authority.

Clearly, new leadership models are needed to attract and guide future leaders. School leadership is needed from both formal and informal sources to position schools for ongoing improvement. These efforts will require capacity building to enhance the collective efficacy (Fullan, 2006).

Teacher Empowerment

A new wave of educational reform in the late 1980s raised interest in giving teachers greater responsibility for school leadership (Elmore, 1990). For example, teacher opportunities included career ladder, teacher mentor programs, and site-based management. Moreover, these activities were intended to give teachers a greater voice in the life of the school. Bolin (1989) argues teacher empowerment requires giving teachers the freedom to participate in decisions about school goals and policies and the freedom to use their professional judgment in matters of curriculum and instruction. It is important to note, this argument is based on the assumption that teaching is a moral activity. Hence, teachers are moral agents in that they are responsible for their actions and must be free to act according to their best judgment. As such, teachers need to have the ability to help shape the school in which they teach (Bolin).

Nevertheless, the efforts to empower teachers have met limited success. Interestingly, one of the primary barriers is the leadership for change provided by administrators (Little, 1988). In fact, school administrators have been educated and socialized in the power centered leadership

models, making it difficult for them to embrace more dispersed leadership (Hart & Murphy, 1994). For example, administrators may feel the principal's strength is dependent on the teachers' weakness, or the principal's status is dependent on the teachers' lack of status (Bolin, 1989). In another example, the principals may hesitate to relinquish power to teachers because they feel responsible to the school board that has vested them with the responsibility for the outcomes of the school. However, accountability for school outcomes increases rather than diminishes when teachers have an interest in the whole school rather than only their classroom (Bolin, 1989).

The standards movement and the demands of ever increasing accountability create expectations for teachers to implement the visions and strategies of experts far removed from the schools. In fact, bureaucratic structures have become more influential than professional skill in determining what happens in the classroom. Furthermore, the traditional leadership structure requires teachers to leave the classroom to become administrators in order to have influence on school policy. Teachers become disempowered as a result of these trends (Bolin, 1989). Consequently, as teachers become more removed from the decision making processes of the school, they become less likely to participate in ongoing professional development opportunities and are more likely to leave the profession.

Interestingly, principals and teachers have very different perceptions of teacher empowerment. A recent study by Keiser and Shen (2000) examined these differences. Using data extracted from the Schools and Staffing Survey 1993-94, a national survey conducted by the U.S. Bureau of Census, the investigators found that principals perceived that teachers were more empowered than the teachers perceived themselves to be. As might be expected, there was

greater disparity in the areas of school-wide policies than in classroom and instructional matters (Keiser & Shen, 2000).

Ann Lieberman, Senior Scholar at the Carnegie Foundation for the Advancement of Teaching, described how principals might initiate greater teacher leadership within their schools (Sparks, 1999). First, she suggested getting the teachers to talk with other teachers and administrators about what the school does well and what it needs to improve. Subsequently, this leads to an agenda for the change process. Next, the school may take one area where there is agreement that improvement is needed and possible. From there, the members of the school organization gain confidence and may take on larger problems and work with increasing sophistication (Sparks).

One strategy to redesign the workplace, roles, and responsibilities of teachers is found in professional development schools (Darling-Hammond, Bullmaster, & Cobb, 1995). These schools are the result of collaborative efforts of schools and universities. Moreover, they are created to support the learning of preservice and experienced teachers, while restructuring the schools and the schools of education. Further, the professional development schools offer opportunities to "learn by engaging in restructuring, and learn by collaborating" (Darling-Hammond, Bullmaster, and Cobb, p. 91).

Professional development schools are especially appropriate for examining teacher empowerment because they are structured to facilitate collaboration and professional learning. As such, Darling-Hammond, Bullmaster, and Cobb (1995) conducted a study of teacher leadership through extensive interviews, observations, surveys, and reviewing documents in seven professional development schools. The partnerships between these schools and the universities were relatively longstanding. Moreover, professional development schools are aimed

at creation of learner-centered practice, while working in partnership with universities to train preservice teachers. In fact, these schools are often considered communities of learners. Thus, these schools foster cultures favorable for teacher empowerment. Accordingly, the investigators found leadership in these schools was very different from the schools with the traditional bureaucratic, top-down model discussed previously. Rather, in the professional development schools, leadership was widely dispersed and teachers' expertise and interests were matched to the needs of the school. Further, the professional development schools offered an alternative to the traditional vertical system of advancement. Instead, these schools allowed leadership to develop intrinsically in response to the functions of the school (Darling-Hammond, Bullmaster, and Cobb, 1995).

Another approach to research on how to initiate greater teacher leadership within schools can be found in a study by Silva, Gimbert, and Nolan (2000). This research conducted a case study of three teacher leaders to define the components of teacher leadership and to identify the barriers and facilitators teacher leaders face. As a result, the investigators identified three recent waves of teacher leadership. First, teacher leadership consisted of roles such as department head, head teacher, master teacher, and other such positions. It is important to note, these roles were created to maintain the school rather than change it. In the second wave identified by Silva et al., teacher leadership roles acknowledged teachers as instructional leaders. Thus, leadership roles were created that capitalized on the instructional expertise of the teachers resulting in positions such as team leader, curriculum director, and professional development providers. However, these roles were separate from the daily work of the teacher. In fact, many of these teacher leaders became the expert from above providing the classroom teacher with prepackaged curriculum. The third wave of teacher leadership resulted from a need to change the culture of

the schools. Subsequently, teacher leaders worked with colleagues collaboratively to improve professional practices. Thus, the emphasis shifted to opportunities for leadership as a part of the teachers' actual work in the classroom (Silva et al.).

Consequently, Silva, Gimbert, and Nolan (2000) employed a descriptive case study methodology to examine three teacher leaders. Overall, the interviews explored biographical descriptions of the teacher, descriptions of the teachers' experiences as a leader, and comments about teacher leadership within their school district. As a result, the study identified five components of leadership. First, the teacher leaders must navigate the structures of their schools. For example, the teacher must recognize the existing structures such as culture and politics and be able to push forward their positions in system-appropriate ways. Second, teacher leaders recognize the importance of building relationships in order to facilitate change. Third, teacher leaders must model professional growth. Fourth, the teacher leader helps others with change. To this end, the teachers must demonstrate their willingness to change and support change in others. Finally, teacher leaders challenge the status quo on behalf of their students. Ultimately, teacher leadership was founded upon doing what is right for the children. These findings led the investigators to conclude there is a need to instruct our teachers how to work in both the world of the children and the world of the schools as organizations. As well, the principals need the tools to create the environment and climate necessary for teacher leadership. Overall, the study recognized a need to change the culture of the schools to support teacher leadership (Silva et al.).

As teachers take on a greater variety of formal and informal leadership roles, new skills will be needed. Whitsett and Riley (2003) studied 18 teachers enrolled in a teacher leadership graduate program. In this investigation, the teachers were queried twice regarding their definition of leadership, first at the beginning of the program and again one year later. In between, the

teachers participated in classes on leadership, mentoring, professional standards, legal and fiscal management, public and community relations, and parent involvement. Interestingly, at the beginning of the program all 18 teachers defined leadership in language depicting a strong manager who got others to follow. However, after participating in the leadership program, half of the teachers adopted a more collaborative definition of leadership (Whitsett & Riley).

The ACCLAIM Leadership Institute conducted a year long study on a program designed to develop leadership skills in 37 mathematics teachers from four states (McGatha, Bush, & Thorn, 2005). Local and national experts worked with the teachers in mathematics education, leadership, and professional development in a three week summer workshop and three meetings over the following year. The mathematics teacher leaders were assigned local mentors to assist them in developing and implementing professional development opportunities. The investigators used questionnaires to assess the teachers' professional development experiences, awareness, beliefs, and attitudes. The results revealed the greatest increase on constructs of confidence as leaders in conducting professional development and influencing teachers' knowledge and student achievement. The investigators also reported the assistance of a mentor seemed to be the most important factor in changing beliefs and attitudes. Overall, the study revealed that the teachers' concerns about taking leadership roles diminished over the course of the study (McGatha et al.).

Moreover, research shows teacher empowerment increases job satisfaction. Rinehart and Short (1994) identified six dimensions of teacher empowerment: decision-making, professional growth, status, self-efficacy, autonomy, and impact. Using these constructs in a questionnaire, the investigators asked 38 Reading Recovery Leaders, 192 Reading Recovery Teachers, and 88 classroom teachers about their perceptions of teacher empowerment and job satisfaction. Prior to the study, only the Reading Recovery Leaders participated in one year of professional learning in

preparation for implementing the program in their schools. Additionally, these leaders were given a voice in scheduling their school day and other examples of increased decision making opportunities that were not available to the other participants. The study found the Reading Recovery Leaders reported greater levels of empowerment and job satisfaction (Rinehart & Short).

In a similar study, Bogler and Somech (2004) surveyed 983 teachers in 52 middle and high schools in Israel. Questionnaires were employed to measure teachers' perceptions of empowerment and professional commitment. Consequently, investigators found the more the teachers perceived themselves as empowered, the more they expressed commitment to the school. Further, using multiple regression analysis, three empowerment variables were clear predictors of professional commitment: professional growth, status, and self-efficacy (Bogler & Somech, 2004).

Based on the research previously discussed, there is a need to tap into new models of leadership, as well as new resources for leadership. Teachers are one piece of the school leadership puzzle. Further, because teachers contribute to the leadership models of the future, it is important to identify professional development models that contribute to teacher leadership skills.

National Board Certification Studies

Research on the impact of the National Board Certification professional development model is relatively new. Although the first NBC teachers were certified in 1994, there were limited numbers of teachers certified each year for the first five years as shown in Table 3 (NBPTS, 2006d). Perhaps this is due to the gradual addition of certification areas. More likely, it took time for the NBC credential to gain first credibility, and eventually prestige.

Table 3

Number of National Board Certification Teachers by Year

Year	Number of Certified Teachers	Total
1994	177	177
1995	199	376
1996	219	595
1997	318	913
1998	924	1,837
1999	2,969	4,806
2000	4,727	9,533
2001	6,507	16,040
2002	7,895	23,935
2003	8,210	32,145
2004	8,068	40,213
2005	7,300	47,513
2006	7,799	55,312

Early Research Findings

Early research on the impact of NBC did not focus on student achievement. For example, a study by Williams and Bearer (2001) examined whether NBC would impact school districts' educational processes. Based on the perceptions of administrators, the researchers found that NBC teachers focused on best practices, showed renewed commitment to teaching, and used research to improve practice. Moreover, the administrators reported positive impact on student learning.

76

Another early study on the impact of NBC was a study commissioned by NBPTS to examine whether students taught by NBC teachers would produce higher quality work than students of teachers who had unsuccessfully attempted NBC; the behaviors of both groups of teachers through classroom observations; and the professional involvement of each group. The study included 65 teachers, 31 of them NBC. The results of this study showed a clear difference between the two groups favoring the NBC teachers. NBC teachers scored significantly higher on 11 of 13 dimensions of teaching excellence. The researchers concluded that the NBC teachers possessed a considerably greater degree of the identified attributes of expert teaching than the non-NBC teachers (Bond, Smith, Baker, & Hattie, 2000).

Critics of NBC

Soon after the release of this investigation (Bond, Smith, Baker, & Hattie, 2000), Podgursky (2001) published his criticism of the study, together with harsh criticism of NBPTS. Podgursky disputed the research findings saying the study did not address student test scores and was not random in the selection of the teacher participants. He further questioned the amount of money invested in the NBC process.

Stone (2002) conducted a study of 16 Tennessee NBC teachers using the Tennessee value-added reports for teachers in grades three-eight. The study examined teacher-effect scores and used 115% of one year's academic growth in the local school system as a benchmark for exceptional teaching. The study found that none of the 16 teachers met the benchmark. However, the Education Commission of the States (2002) and other groups criticized Stone's work for lack of sample information, the appropriateness of the use of the Tennessee Value-Added model, the instrumentation, and procedures (NBPTS, 2002). The reviewers were unanimous in their conclusion that Stone's findings were not supported by empirical data.

Another recent critic, Thirunarayanan (2004), has referred to NBC as "a billion dollar hoax" saying the standards are representative of entry-level standards for teachers. Thirunarayanan claims each of the five core propositions only describe what is expected of all teachers. His views have been widely disputed. Thirunarayanan provided no evidence to support his beliefs and reviewers questioned whether he knew anything about the process or NBC teachers (Vandervort, Amrein-Beardsley, & Berliner, 2004).

The most convincing criticism of NBC was released in 2005. In a study sponsored by the U.S. Department of Education and NBPTS, Sanders, Ashton, and Wright (2005) found that students of NBC teachers did not have significantly better achievement gains than the students of non-NBC teachers. This study examined four years of mathematics and reading test scores for fourth and eighth grade students in North Carolina. Over 260,000 student records were analyzed. The study used a hierarchical model to account for the fact that students were nested or clustered within teachers. This was done to address the "unit of analysis" problem. In non-hierarchal models, the unit for comparison is the teacher, not the student. Sanders et al. have challenged the findings of previous NBC research based on this premise. NBPTS released a statement saying three independent peer reviews of the study raised questions about the methodology, findings, and its generalizability (Aguerrebere, 2006).

Goldhaber and Hansen (2007) were interested in how obtaining National Board Certification impacts teachers' career paths. They were particularly interested in how long the teachers stayed in the profession and where they accepted teaching assignments. Using data from administrative records of teachers and students maintained by the North Carolina Education Research Center at Duke University, the data included more than 70,000 teachers per year during the 1997-2000 timeframe. These data were matched to the U.S. Department of Education's

Common Core of Data for school characteristics. Goldhaber and Hansen found that the NBC teachers exhibit greater employment movement than non-NBC teachers and that when they move, they are likely to move to a school with fewer minority students. Moreover, the research revealed that the NBC teachers were more likely to leave the North Carolina public school system than non-NBC teachers.

Support for NBC

There is a body of research that provides evidence that NBC teachers do positively impact student outcomes, although there is a need for additional evidence and the methodology has been called into question,. Recent studies have focused on student achievement. The first large scale quantitative study (Goldhaber & Anthony, 2004), using a value-added methodology, indicates that the NBC process does in fact identify more effective teachers who produce greater student achievement. However the study does not clearly show whether the process causes a more effective teacher or if the teacher was already more effective prior to certification. This study does give evidence that having NBC teachers teach low-income students in earlier grades has the most impact on student achievement.

Cavalluzzo (2004) found evidence that NBC is an effective indicator of teacher quality in a study of ninth and tenth grade math achievement in a large urban school district. The findings indicate that students of NBC teachers made greater academic gains than their peers in the classes of teachers who had attempted, but not attained NBC. Cavalluzzo's work suggested that pay increases may be appropriate for NBC teachers. Another recent study, conducted by Smith, Gordon, Colby, and Wang (2005), examined the impact of NBC on student achievement (depth of learning) compared to student achievement of teachers who had attempted, but not succeeded NBC. The findings of the study give evidence that the differences in student learning outcomes

in six of the seven student outcomes measured were highly significant in favor of the NBC teachers. Further, in the comparative teaching practices dimension of the study, the researchers found that NBC teachers demonstrated deeper understanding in their instructional design and lessons.

These studies are confirmed by the work of Vandervort et al. (2004) who found students of NBC teachers made greater gains than students of non-NBC teachers in a study of three years of test data from elementary schools in 14 Arizona school districts. This study found that on the average, students of NBC teachers made over 1.3 months greater gain per year in reading and 1.4 months greater gain per year in mathematics than students of non-NBC teachers. Vandervort et al. concluded, "The preponderance of the evidence suggests that the students of NBCTs achieve more" (p. 36).

NBC Teacher Leadership Research Findings

The first study to examine the relationship between teacher leadership and National Board Certification was conducted by Yankelovich Partners on behalf of NBPTS (2001). Altogether, 2,196 NBC teachers responded to a survey investigating their leadership activities and perceptions. Specifically, the investigators wanted to know if NBC teachers were moving into positions of leadership, to what extent NBC helped them achieve leadership positions, and how leadership roles contributed to career satisfaction. As a result, the survey revealed 99.6% of NBC teachers were involved in leadership activities, with most being involved in multiple leadership roles. Moreover, these teachers used their NBC credential to leverage their influence on decision making processes. Finally, the survey revealed leadership activities increase the desire to continue teaching. Taken together, these findings demonstrate that NBC teachers are fulfilling the NBPTS vision of having teachers provide leadership in the schools.

More recently, Sykes et al. (2006) compared National Board Certification teachers to a general sample of teachers to assess their perceptions of leadership activities. The study employed surveys, interviews, and observations to collect data about elementary level NBC teachers in two states. On the whole, the investigation documented that National Board Certification teachers were significantly more likely to report they had moderate to great influence over such important school issues as school-wide policy, professional development, and curriculum. Further, they reported a greater commitment to teaching. As might be expected, the number of district and state level leadership activities increased with the number of years a teacher was certified. Although there is a need for further investigation, most evidence points to the benefits of National Board Certification in relationship to teacher leadership capacity (Sykes et al.). It is important to note that the Sykes et al. study focused on NBC teachers in elementary schools. Again, this suggests the need for additional investigation.

Taken together, the preponderance of evidence is overwhelmingly positive for the benefits of National Board Certification. As previously discussed, as a professional development model, NBC is aligned with best practices of professional learning. It appears teachers benefit through participation in leadership activities that contribute to job satisfaction. Especially important, research shows students benefit from having a NBC teacher.

Distributed Leadership Theory

Surowiecki's *The Wisdom of Crowds* (2004) claims that many are smarter than few. Further, he claims that chasing the expert is a costly mistake. Hence, Surowiecki purports the need to unleash and develop the power of the people. To that point, interest in school leadership has shifted to how leadership roles are dispersed among the formal and informal leaders of the school. The constructs of leadership, whether by principal or teacher, are basically the same.

These constructs include the exercise of influence over beliefs, actions, and values of others (Hart, 1995). However, how leadership is exercised and to what end may greatly differ for informal and formal leaders (Leithwood & Jantzi, 2000). Distributed leadership theory offers an alternative to theories that equate leadership to the acts of superheroes. The distributed leadership perspective is about accounting for the leadership activities of all the leaders in the school and the interactions of the leaders, followers and situations to develop a more comprehensive understanding of leadership.

The basic tenets of distributed leadership are relatively uncomplicated. Put simply, people within an organization have unique experiences and expertise and vary in competency levels. For example, some teachers are better at doing things than others are based on their experience and expertise. Therefore, multiple sources of leadership, based on the expertise of the teachers and administrators, are responsible for the work of the school. It is important to note, it is the common goal or task that keeps distributed leadership from becoming another loose coupling model (Elmore, 2000).

As previously discussed, traditional definitions of school leadership are problematic. In the traditional perspective only the evidence or effectiveness of leadership is acknowledged as implying success. Typically, leadership is defined as a relationship of social influences (Spillane, 2006). Further, the traditional view of leadership is based on the assumption that the teacher lacks power and vision (Senge, 1990). However, to investigate leadership, there is a need to separate leadership from the questions of effectiveness and influence. The tendency to compartmentalize leadership may give an unrealistic portrayal of leadership because it does not account for interrelationships between teacher leadership and administrative leadership (Spillane). Interestingly, most studies on leadership equate leadership practice to the acts or

actions of the individual leaders (Spillane). Certainly, new models of leadership will require that responsibilities that were once considered exclusive to the principal be spread across multiple leaders.

In searching for better leadership structures, distributed leadership models began to emerge in the 1990's when the conceptual models began to focus on patterns of leadership in which leadership activities are dispersed across multiple roles and players (Heller and Firestone, 1995). Along those lines, Spillane (2006) offers a different perspective on leadership from the superhero model, in which the school leadership is typically equated with the school principals and their valiant actions. The distributed leadership theory goes beyond the principal to include all potential leaders. Spillane emphasizes that distributed leadership means more than shared leadership and the idea that multiple individuals take part in the leadership of the school. In the distributed leadership paradigm, it is the collective interactions of leaders, followers, and situations which are the key. In Spillane's book *Distributed Leadership* (2006) he explains:

A distributed perspective is first and foremost about leadership practice. This practice is framed in a very particular way, as a product of the joint interactions of school *leaders*, *followers*, and aspects of their *situation* such as tools and routines. This distributed view of leadership shifts the focus from school principals… and other formal and informal leaders to the web of leaders, followers, and their situations that gives form to leadership practice. (p. 3)

To that point, Spillane, Halverson, and Diamond (2001) report it is necessary to examine how school leadership works. This examination must include more than just knowledge of what leaders do. Instead, researchers need to develop a deep understanding of how and why leaders do

what they do. To this end, observations need to be done within the framework of distributed

leadership. Spillane (2006) states:

> Distributed leadership is frequently talked about as a cure-all for schools, a way that
>
> leadership ought to be carried out. But a distributed perspective should be first just that—
>
> a perspective or lens for thinking about leadership before rushing to normative action. (p.
>
> 9)

Distributed leadership is a powerful analytical conceptual framework for studying

leadership (Spillane, 2006). The distributed leadership perspective considers expertise rather than

authority as the primary source of leadership. Importantly, in the distributed leadership

framework, leadership is not located in the individual, but rather found between and among the

teachers and administrators of the school. Thus, the distributed leadership model was appropriate

for framing this study of the National Board Certification professional development model and

NBC teachers as the influencers of the school organization.

Leadership is almost certainly a learned skill (West, Jackson, Harris, and Hopkins, 2000).

However, West et al. point out the importance of unlearning old allegiances, historical customs,

rituals, and practices in order to fully embrace shared leadership and the addition of fluid

leadership patterns. In fact, Sergiovanni (1994) suggests new skills of followership are needed

for dispersed leadership in which teachers and principals are cast together into new roles. Such

skills may include teachers learning to collaborate about instruction and school routines in an

effort to build a professional community (Spillane, 2006).

Therefore, Spillane, Halverson, and Diamond (2001) argue for examining the leadership

practice of a school as a unit, rather than an individual leader. Consequently, the distributed

leadership perspective is grounded in activity rather than position. To this end, Spillane (2006)

recommends studying leadership as lived, in contrast to leadership as designed. Leadership as lived should be investigated through actual observations rather than depending on what leaders report happens (Spillane). While the survey research methodology used in this study did not involve actual observations, it was expected that the survey respondents, both National Board Certification teachers and non-NBC teachers, would provide a glimpse of the leadership activities as lived in their schools.

Spillane (2006) argues what a leader does not only influences others, but the leader is also influenced by other leaders. Similarly, the followers are influenced by the leader, but also influence the leader. These are interactions that make up leadership practice. Thus, the system of interactions become more than the sum of the individual leaders.

Spillane (2006) identifies two aspects of particular interest in studying leadership practice in the distributed framework: leader plus and practice. The leader plus model acknowledges that multiple individuals have leadership roles and do the work of leading the school. Further, it acknowledges that people in both formal and informal leadership roles are responsible for leadership activities. In fact, leadership is stretched over those who have a variety of leadership roles, both formal and informal.

However, distributed leadership takes the leader plus construct, in which multiple individuals do the work of leading the school, to the next level. In a distributed leadership perspective, leadership practice is the central concern (Spillane, 2006). Specifically, the leadership practice is found in the interactions of leaders, followers, and their situation. The distributed leadership model examines the roles and positions of the leaders and delves into the interactions of multiple leaders. The interest is in how leadership is distributed, not simply whether it is distributed.

Bennett, Wise, Woods, and Harvey (2003) found that it was possible to identify elements that are distinctive to the constructs of distributed leadership. Specifically, distributed leadership is an emergent property of a group or organization. Overall, there is an openness of the boundaries of leadership, widening the net of leaders. Distributed leadership recognizes the variety of expertise dispersed across many rather than few. Additionally, Bennett, et al. found evidence that distributed leadership theory can be applied to both the top down and the bottom up structures within organizations.

It is important to note that the distributed leadership model respects the role of the principal and the hierarchical models of leadership. In fact, the distributed perspective on leadership can easily work in concert with the top-down and hierarchical leadership approaches. Equally important, while informal leadership roles are often found within the school, this does not mean that everyone in the school has a leadership role (Spillane, 2006). Indeed, it is the job of the administration to guide and direct the organization. Additionally, the administration is charged with enhancing the skills and knowledge of the teachers (Elmore, 2000). Further, Fullan (2006) points out leaders need to continuously groom others to take on leadership roles in a culture of distributed leadership.

To clear up another common misunderstanding, collaborative leadership, shared leadership, co-leadership, democratic leadership, and situational leadership are often used interchangeably with distributed leadership. While each of these may be considered distributed, in that leadership is assigned or shared among multiple individuals, distributed leadership goes beyond the constructs of each, primarily in its focus on the interactions of leaders, followers, and situations. In other words, while collaborative leadership is distributed, distributed leadership is not always collaborative. Spillane (2006) explains:

Indeed, a distributive perspective allows for leadership that can be more collaborative or less collaborative, depending on the situation…a distributed perspective on leadership allows for democratic leadership or autocratic leadership. From a distributed perspective, leadership can be stretched over leaders in a school but not necessarily democratically. (p.23)

In all probability, it is too much to expect one person to lead today's school. Therefore, it is important to examine how leadership is distributed. Although leadership has been synonymous with principal in the past, others are considered key players in the distributed leadership model. Spillane (2006) argues this can happen by design or default. For instance, formal leadership may contribute to the distribution of leadership responsibilities by enabling teachers to take on responsibilities. Sometimes the leadership role is assigned, while at other times, teachers may take on responsibility where they see the need. For the most part, the distribution of responsibilities usually happens over time as the individuals become familiar with one another's skills and weaknesses. Additionally, crisis may lead to changes in the distribution of leadership (Spillane). Therefore, teachers may step up and take responsibility when there are gaps in leadership (Hargreaves & Fink, 2006).

Nevertheless, it is awkward trying to separate school leadership by creating separate compartments for principal and teacher leadership roles. Overall, this ignores the fact that the interactions of the two greatly influence each other. In fact, that is what makes up the leadership practice. The traditional bureaucratic approach denies the expertise of teachers and fails to capitalize on them as an important resource (Grubb & Flessa, 2006). In contrast, a distributed perspective instead looks at the leadership of the school as a unit, including both administrators and teachers.

Recent studies give clear evidence of distributed responsibilities in the schools. For example, West, Jackson, Harris, and Hopkins (2000) spent ten years studying school improvement in schools in the United Kingdom. Their research focused on a small selection of successful schools and the leadership within those schools. They found schools committed to continuous improvement feel restricted by hierarchical leadership and are successfully moving beyond this model to a more dynamic and decentralized approach to leadership. At the most basic level, this means that the principal gives others real authority. Consequently, the principal empowers others to use their knowledge and skills to bring about change.

In a large scale study of distributed leadership, Camburn, Rowan, and Taylor (2003) investigated the distribution of leadership in the context of elementary schools' adoption of comprehensive school reform. The investigators postulated schools implementing comprehensive school reform offer fruitful territory for studying distributed leadership because these schools are required to create new leadership positions such as academic coaches. The study involved more than 100 elementary schools in the United States. The study was intentionally limited to formal leadership positions. Using survey data, the investigators found that leadership in elementary schools is usually provided by teams of individuals, rather than by a single person. Further, they found leadership was typically stretched over three to seven formally designated leadership positions. As might be expected, they found that the larger the school, the greater the number of formal leaders. Interestingly, principals clearly stood out, even though they were considered members of the team (Camburn et al., 2003).

Similarly, Spillane and Camburn (2006) analyzed data from the school staff questionnaire in a mid-sized urban school district to determine how responsibility for leadership was distributed. They found 30% of the respondents reported holding a formally designated

leadership position. These positions included principal, assistant principal, mentor teacher, teacher consultant, and others. Moreover, the schools in the study had an average of 12 formally designated leaders serving either full or part-time leadership roles. Overall, the study found approximately 12% of the school staff served as full time leaders. Next, Spillane and Camburn investigated the organization as lived by giving each principal in the study a beeper. The principals were asked to report their activity when beeped. Interestingly, when beeped at random intervals, the principals in these schools reported they were not leading 31% of the activities in which they were participating at the time of the beep. In fact, the study found more than 25% of the activities in which the principals were involved were led by teachers with no formal leadership designation. Hence, even from the view of the principal, there are multiple leaders in the school. Overall, the study revealed the actual work of the school involved multiple formal and informal leaders, with classroom teachers figuring prominently in the leadership of the school.

In a study of what school leaders do to effectively lead schools, investigators interviewed principals, assistant principals, teachers, and others from 21 public and private schools in four states (Portin, Schneider, DeArmond, & Gundlach, 2003). An interesting finding in this study was that although principals are responsible for ensuring the leadership of the school happens, they do not necessarily have to provide it. Instead, the results of the study suggest a variety of leaders may fill the complex and varied leadership roles for the school. The researchers specifically identified these leadership roles in seven critical areas: instructional, cultural, managerial, human resources, strategic, external development, and micropolitical. Their findings recommend that policy makers and district leaders need to consider the variety of leaders working within the schools (Portin, Schneider, DeArmond, & Gundlach).

Importantly, the distributed leadership perspective differs from other leadership models in that leadership is not something that is done to the followers, because the followers have influence as well. Indeed, what sets distributed leadership apart from other leadership models is the focus on the improvement of instructional practice and performance by all leaders in the organization. As previously stated, the focus of leadership in the loose-coupling model is to buffer teachers from outside interference. In another example, managerial models of leadership emphasize the custodial role of the leaders. Importantly, distributed leadership is the only model of educational leadership in which there is a direct relationship between the work of the leaders and the core functions of the organization (Elmore, 2000).

Gronn (2002) points out yet another difference when he describes distributed leadership theory. He explains distributive leadership as numerical in which distributed leadership is greater than the sum of the parts. Gronn argues distributed leadership is an effective approach for dealing with the complex responsibilities of organizations. Further, in the face recruitment difficulties, Gronn points out it is important to consider the organization's overall capacity for leadership, rather than the traditional power of one.

Summary

This review of literature provides a solid background upon which the present study investigated the National Board Certification professional development model and school leadership in Louisiana. In particular, examining the NBC process gives evidence of the organization's commitment to setting high standards that identify what teachers should know and be able to do, and identifying the teachers who meet those standards. Indeed, the process of the NBC professional development model mirrors what current research identifies as best practices in professional development based on adult learning theory (NBPTS, 2002). Further, teachers

value the process and feel it makes them better teachers (NBPTS, 2001b). In fact, studies show

that the NBC process is certifying more effective teachers (Cavalluzzo, 2004; Goldhaber &

Anthony, 2004; Smith, Gordon, Colby, & Wang, 2005; Sykes et al., 2006; Vandervort, Amrein-

Beardsley, & Berliner, 2004).

Today's school leaders need access to reliable data in order to identify effective

professional development models for their teachers. To develop effective future school leaders,

the challenge is to implement professional learning that will change practices which lead to

improved student outcomes and greater teacher leadership. Further, in order to be successful,

these models must fit adult learning and constructivist learning theories.

This close look at what is known about National Board Certification, adult learning

theories, professional development, teacher empowerment, and school leadership models points

to the intricate links found among each of these variables. For example, the NBPTS Standards

reflect characteristics of teacher leaders. Also, many of the descriptors of effective professional

development and adult learning theories were found in the National Board Certification

professional development model. Likewise, teacher empowerment research fits well with recent

distributed leadership models. Consequently, what began as a search for empirical evidence on

the impact of each of these variables on school leadership has become a tapestry of the inter-

relatedness of each.

Research on National Board Certification contributes to our understanding of this

professional development model. In fact, recent studies are beginning to document the benefits

of this certification. To date, National Board Certification, adult learning theory, and professional

development have been studied, but rarely linked to school leadership. While the study of each

contributes to our understanding, the review of literature demonstrated a need for more empirical

evidence on the relationship between NBC and school leadership. Therefore, the present study

augments the findings of recent research efforts and adds to our understanding of the NBC

professional development model. Further, using the distributed leadership perspective as a lens

for examining the results of this study reveals that the effects of National Board Certification

reach beyond the classroom through the leadership roles of the NBC teachers. In fact, the

benefits of National Board Certification may be far greater than previously discussed.

Chapter Three: Methodology

Introduction

This chapter describes the methodology and procedures that were used to examine the contributions of the National Board Certification (NBC) professional development model to school leadership in Louisiana. Following a brief introduction to the methodology, the research design is described. A description of the participants and the instrumentation is provided. Further, an overview of the data analysis describes how the data collected were analyzed. The research procedures are explained. Finally, a discussion of the limitations and delimitations of the study are presented.

Quantitative data are numeric in nature. Thus, quantitative research methods utilize quantitative data in order to study and compare sources of variation and to make decisions and draw inferences from empirical observations. Moreover, statistics have two purposes. First, descriptive statistics are used to describe the data. Second, inferential statistics are used to draw inferences from the data (Leedy & Ormrod, 2005). More specifically, descriptive statistics are used to describe the data findings in a study, providing simple summaries about the sample and measures. For example, by using descriptive statistics, 1,000 responses to a survey may be represented by a single number (Gay & Airasian, 2003). In contrast, inferential statistics are used to make decisions about the data. In fact, inferential statistics may be used to determine if the differences between two groups are large enough to be attributed to the independent variable (Leedy & Ormrod).

Often, the focus of quantitative methods is on average or group effects (Rudestam & Newton, 2001). The independent sample *t*-test is a common statistical technique employed to

compare the means of two independent samples in a quantitative study. Chi square tests will further evaluate the statistical significance of the results by examining the frequencies and proportions from the sample. Additionally, factor analysis examines the correlations among a number of variables and may identify groups of interrelated variables that may give insight into underlying themes within the data. Finally, regression analysis is appropriate for examining variables as possible predictors of the dependent variable. These statistical analysis techniques were appropriate for this comparison of the school leadership activities of Louisiana NBC teachers to the school leadership activities of similar non-NBC teachers.

Research Design

Applied educational research is conducted to gain greater understanding about current educational questions, issues, or topics (Gay & Airasian, 2003). The educational question of interest for this study is: Does the National Board Certification professional development model contribute to school leadership in Louisiana?

The present study requested the participation of all Louisiana National Board Certification teachers in a self-administered leadership survey. The survey revealed the types of leadership activities in which NBC teachers were involved and gave insight into their perceptions about leadership activities. Also, the survey examined whether the influence of the NBC teacher goes beyond the classroom. Because this research was framed according to distributed leadership theory which examines leadership as a collective practice rather than as an individual, it seemed important to further investigate the contributions of NBC. Therefore, the comparison of the leadership activities of the NBC and non-NBC teachers gave a clearer picture of what impact the National Board Certification professional development model has on school leadership.

Survey research describes the way things are (Gay & Airasian, 2003). Further, it may compare how subgroups such as NBC teachers and non-NBC teachers view issues. In quantitative studies, using a survey research design allows the researcher to predetermine what variables will be examined. The cross-sectional, online survey method was selected for this study because it allowed a rapid collection of data from a large number of teachers. The online questionnaire designed for this study allowed the participants to respond to questions with assurance that their responses were anonymous. Thus, participants may have been more truthful than they might have been in a personal interview (Rudestam & Newton, 2001). Consequently, the *School Leadership Survey* (see Appendix B; adapted from Sykes et al., 2006) used in this study gave a realistic perspective of the level of participation, types of activities, and perceptions of leadership of the teacher participants.

Quantitative methods were employed to analyze teacher participation in school leadership activities from the treatment group of NBC teachers and the control group of non-NBC teachers. The study followed a causal-comparative model in an attempt to identify a relationship between the independent variable, National Board Certification, and the dependent variable, school leadership. The *School Leadership Survey* instrument (adapted from Sykes et al., 2006) examined and compared the NBC and non-NBC teachers' leadership behaviors and perceptions.

In this study, the relationship between the variables could only be linked, not established, because the researcher could not control or manipulate the independent variable (Gay, Mills, & Airasian, 2006; Leedy & Ormrod, 2005). In a true experimental design, the sample of observations is obtained randomly, or conversely, any experimental treatments are randomly assigned to the experimental unit. Thus, the research design for this study was quasi-experimental because the treatment is not randomly assigned. A quasi-experimental design is

employed when random sampling or assignment of treatments was not possible. In the present study, the treatment, National Board Certification, was administered prior to the study. As is the case in quasi-experimental studies, all confounding variables could not be controlled, so there was no way to completely rule out alternative explanations.

Many experimental or quasi-experimental designs are treatment/control group designs which allow for causal relationships to be explored. A causal comparative model provides a way of comparing a treatment group to a control group thereby examining a relationship between groups or determining a causal effect of a treatment. Further, the design of this study may be described as ex post facto. The researcher could not manipulate the independent variable or treatment. Thus, the study took place after the presumed cause or treatment, National Board Certification in this case, had occurred.

Approximately 1,000 National Board Certification teachers in Louisiana were asked to complete an online survey which examined their school leadership activities and perceptions (see Appendix D). The Louisiana Department of Education sent an email request to all Louisiana NBC teachers. Additionally approximately 3,000 non-NBC teachers were asked to participate in the same survey. The non-NBC teachers included all non-NBC teachers from two school districts in Louisiana. They were sent an email request using the email address lists of the districts. As is typical, in a simple ex post facto design the treatment occurred long before the study began, so the researcher did not administer it. Therefore, this study focused on the differences between two groups, only one of which had the treatment (Leedy & Ormrod, 2005). This is illustrated in the Table 4.

Table 4

Differences Between Groups

	Treatment (prior to study)	Observation (Survey)
NBC (Treatment Group)	✓	✓
Non-NBC (Control Group)		✓

The following research hypotheses guided this study:

Hypothesis 1: Louisiana teachers who have completed the National Board Certification professional development model exhibit greater participation in leadership activities beyond the classroom than Louisiana non-National Board Certification teachers.

Hypothesis 2: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report a sense of leadership responsibility to their profession than Louisiana non-National Board Certification teachers.

Hypothesis 3: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model perceive that they have influence in school-wide policy development than Louisiana non-National Board Certification teachers.

Hypothesis 4: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report career satisfaction due to school leadership roles than Louisiana non-National Board Certification teachers.

Hypothesis 5: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report future commitment to stay in the teaching profession than Louisiana non-National Board Certification teachers.

Each of the operational constructs addressed in the hypotheses were addressed in multiple items in the survey. The operational constructs were: the number of leadership activities the teachers undertook; whether the teachers were involved in leadership beyond the school level; teacher perceptions of leadership, career satisfaction, influence over school policy, and current conditions of the teachers. The data collected were appropriate for comparing the National Board Certification teachers to non-NBC teachers in the areas of teacher leadership activities; perceptions of responsibility; perceptions of influence; career satisfaction; and commitment to stay in the teaching profession.

Participants

A population is the group of all individuals of interest to a particular research study (Gravetter & Wallnau, 2004). In most cases, the population is too large to include all individuals in the study. Therefore, a smaller sample group is selected to represent the population. For this study the population of interest consisted of approximately 1,000 Louisiana teachers who had successfully completed National Board Certification. The online survey design for this study allowed virtually all NBC teachers in Louisiana to be invited to participate. However, it was unlikely that all of the NBC teachers would respond. Therefore, the sample used for this study consisted of the NBC teachers who responded to the survey. The design of this study called for a control group to enable the comparisons needed to test the hypotheses. A single stage, convenience sampling design was used for the control group. This group was approximately 3,000 non-NBC teachers from Calcasieu and St. Mary parishes, two public school districts in south Louisiana. Because the majority of the NBC teachers in Louisiana were located in the southern area of the state, it made sense to pull the control group from the same area. The non-NBC teachers in the two parishes were closely matched in years of experience (see Table 5) and

98

education level (see Table 6). Therefore, it was presumed that the respondents from this sample

group would be representative of the non-NBC teachers of Louisiana.

Table 5

Years of Experience for Non-NBC Teachers in Louisiana, Calcasieu Parish, and St. Mary Parish

	0-10 Years	11-19 Years	20+ Years
Louisiana	46%	23%	31%
Calcasieu	46%	25%	29%
St. Mary	52%	22%	26%

Table 6

Education Levels for Non-NBC Teachers in Louisiana, Calcasieu Parish, and St. Mary Parish

	Bachelor's Degree	Master's Degree	Master's +30	Specialist	Doctorate
Louisiana	70%	20%	9%	.7%	.3%
Calcasieu	65%	22%	11%	1.8%	.2%
St. Mary	77.7%	14%	8%	.3%	-

These teachers were asked to complete the online *School Leadership Survey* about their

leadership activities and perceptions. As previously stated, there were approximately 1,000

Louisiana teachers who had successfully completed NBC (NBPTS, 2006d). To put this in

perspective, Louisiana employed approximately 50,000 teachers during the 2005-06 school year

(Louisiana Department of Education, 2007). While only about 2% of Louisiana's teachers had

achieved NBC, the state ranked 14th in the nation for total number of NBC teachers. These NBC

teachers were identified by the Louisiana Department of Education. The NBC teachers are dispersed throughout the state, although some districts have a much greater number of NBC teachers than others.

The rigor of the National Board Certification professional development model gives a clearer picture of the population of interest. Although the eligibility requirements for National Board Certification are not particularly strict, this professional development model is quite challenging. The eligibility requirements of NBPTS simply state that NBC teachers must have a Bachelor's degree, a minimum of three years of teaching experience, possess a valid state teaching license, and have taught in schools recognized and approved to operate by the state (NBPTS, 2006b). However, the requirements demanded of the candidates are rigorous. Candidates are required to submit four extensive portfolios utilizing lesson plans, student work samples, and video taped lessons to address the NBPTS Standards. It usually takes most of a school year to complete these portfolios. In fact, most candidates report this process takes approximately 200-400 hours (NBPTS, 2001a). Further, after the portfolios have been submitted, the candidate must take a six-part test in a secure assessment center to assess his or her content knowledge. In general, fewer than half of the applicants are successful in gaining National Board Certification on the first attempt. However, candidates are allowed to bank scores and redo entries the following year, with a limit of three attempts. Clearly, this professional development is meant for the experienced, knowledgeable teacher who seeks a challenge and is willing to take a risk. Moreover, many teachers are unwilling to risk their reputation on a process in which there is no guarantee of success.

Instrumentation

An online, self-administered questionnaire was used to examine the contributions of the National Board Certification professional development model to school leadership. The *School Leadership Survey*, originated for the current study, was adapted from a survey used in a three phase study conducted by Sykes et al. (2006). The *School Leadership Survey* provided insight into the school leadership activities and perceptions of NBC teachers in Louisiana. The survey included items to address each of the research hypotheses.

Survey research frequently uses questionnaires to learn about people's behaviors, characteristics, attitudes, and opinions (Leedy & Ormrod, 2005). Checklists and rating scales were used to facilitate the quantification of the behaviors and perceptions of interest. Checklists allow the participant to simply indicate whether each behavior or perception is present or true. A rating scale is appropriate when a behavior, attitude, or other phenomenon of interest to is to be evaluated on a continuum (Leedy & Ormrod).

The survey items for the *School Leadership Survey* used in this research were selected from a survey used in a larger NBPTS study (Sykes et al., 2006). Permission to use these items was obtained from Dr. Gary Sykes through personal communication (see Appendix C). Dr. Sykes is a professor of educational administration and teacher education at Michigan State University who specializes in educational policy relating to teaching and teacher education. The Sykes et al. study, funded by NBPTS, investigated how NBC teachers in Ohio and South Carolina functioned as agents of school leadership and professionalism. The study focused on three issues: policy and National Board Certification; teacher influence and NBC; and the school and NBC. The research was conducted in three phases. First, a survey was sent to all NBC teachers in the two states. Next, a school-level survey was administered to the full faculty in 47

elementary schools in the two states. Finally, four of the schools were selected for teacher interviews.

The *School Leadership Survey* which was administered to Louisiana NBC and non-NBC teachers in this study contained 32 items from the *State Level Survey* used in the Sykes et al. study and included 17 likert scale and 15 checklist items. The *State Level Survey* used in Sykes, et al. (2006) consisted of 53 items which included 30 likert scale, 15 checklist, and eight open-ended items. The items were selected because each specifically addressed school leadership and the research hypotheses. While the study by Sykes and colleagues did not directly address the intrument's reliability and validity, through personal communication, Dr. Sykes reported that the survey used in the larger study included many items from the 1999-2000 *Schools and Staffing Survey* (*SASS*). The National Center for Education Statistics developed *SASS* in the mid-1980's to collect data on teacher demand and shortage, teacher and administrator characteristics, school programs, and general conditions in schools. The Sykes et al. study used *SASS* data to compare the NBC teachers to other teachers in each state. Dr. Sykes reported that the survey was piloted locally prior to its use.

The reliability and validity of the *School Leadership Survey* used in this study was examined through the use of an expert panel, factor analysis, and the Cronbach alpha statistic. The *School Leadership Survey* was administered to an expert panel prior to being administered to the NBC and non-NBC teachers in Louisiana to check the clarity of the questionnaire, the amount of time it took to complete, and to solicit comments on the instrument. The panel was selected by the researcher based on recommendations by district central office personnel. Specifically, the expert panel included four NBC teachers and four non-NBC teachers who were representative of the teachers of interest for this study. Two of the NBC teachers have been

certified for seven years, one has been certified for three years, and one has just achieved NBC. Furthermore, two of the NBC teachers have served as mentors for NBC candidates. All of the teachers on the expert panel have at least ten years experience in the classroom. The members of the panel were asked to complete the online survey. Additionally, the panel was asked to comment on the clarity of the items and the length of the survey. On the whole, the panel found that the survey was easy to understand and reasonable in length.

While the Sykes, et al. (2006) published study does not discuss reliability issues, through personal communication Dr. Sykes explained he had conducted a pilot study to establish reliability (no specific statistics were given in this communication). Dr. Sykes further explained in this communication that the items were selected from the SASS questionnaire. Together, using the items in the Sykes et al. study which were based on items from the SASS questionnaire, Dr. Sykes' pilot study, the use of the survey in a large published study, the expert panel, factor analysis procedures, and use of the Cronbach alpha statistic point to the validity and reliability of the *School Leadership Survey*.

The *School Leadership Survey* included 32 checklist and Likert scale items. It began with a checklist of four basic demographics such as the number of years in teaching and highest degree earned. The participants were asked to identify on a checklist their professional roles and activities at the school, district, state, and national level. Additionally, the teachers were asked to rate their influence over school wide policy in areas such as curriculum and professional development on a Likert scale. Finally, the NBC participants were asked to indicate their level of agreement with statements about current conditions in their schools or districts concerning NBC and leadership on a Likert scale. Frequency distributions were used to analyze the results of the *School Leadership Survey*. Together these items gave insight into the leadership capacity and

103

perceptions of NBC teachers. Each of the five hypotheses was tested using data collected from

the *School Leadership Survey*. A typical item used to test each hypothesis is given in Table 7. It

is important to note, while only one example is given for each hypothesis, each hypothesis was

addressed by multiple items in the *School Leadership Survey*.

Table 7

Sample Questionnaire Items

Hypothesis	Example of Item on Questionnaire
1. Louisiana teachers who have completed the NBC professional development model exhibit greater participation in school leadership activities than Louisiana non-NBC teachers.	Item 7: Please identify any professional roles or professional activities in which you have participated in the past five years. The checklist includes examples such as: Select curriculum materials. The checklist allows the respondent to identify the level on which they participated (i.e. school, district, state, national).
2. A greater percentage of Louisiana teachers who have completed the NBC professional development model report a sense of responsibility to participate in school leadership roles than Louisiana non-NBC teachers.	Item 6a: Please indicate your level of agreement with each statement about the current conditions in your school. The list includes statements such as: Teachers have a responsibility to help prepare new teachers. The checklist allows the respondent to rate each statement on a rating scale (i.e. strongly disagrees, disagree, agree, strongly agree).
3. A greater percentage of Louisiana teachers who have completed the NBC professional development model perceive that they have influence in school-wide policy development than Louisiana non-NBC teachers.	Item 8: Please indicate your influence over school wide policy in your school in the following areas. The areas include examples such as: Determining the content of inservice professional development programs. The checklist allows the respondent to rate each example on a rating scale (i.e. no influence, limited influence, moderate influence, a great deal of influence).
4. A greater percentage of Louisiana teachers who have completed the NBC professional development model report career satisfaction due to school leadership roles than Louisiana non-NBC teachers.	Item 6b: Please indicate your level of agreement with each statement about the current conditions in your school. The list includes statements such as: My involvement in leadership activities enhances my career satisfaction. The checklist allows the respondent to rate each statement on a rating scale (i.e. strongly disagrees, disagree, agree, strongly agree).
5. A greater percentage of Louisiana teachers who have completed the NBC professional development model report future commitment to stay in the teaching profession than Louisiana non-NBC teachers.	Item 9: How long do you plan to continue teaching? The checklist allows the respondent to choose an answer (i.e. as long as I am able, until I am eligible for retirement, continue unless something better comes along, leave teaching as soon as I can, undecided at this time).

Data Analysis

Descriptive and inferential statistics were used to analyze and discuss the findings of this study outlining the contributions of the National Board Certification professional development model to school leadership in Louisiana. SurveyMonkey.com online software was utilized to administer the *School Leadership Survey* and collect the results. SurveyMonkey.com is survey software which enables researchers to create professional online surveys quickly and easily. The service offers more than a dozen types of questions. After designing the survey, the researcher may post a link in an email invitation to the participants. The results are collected and the service generates charts and graphs to share results. Additionally, the raw data may be downloaded into Excel for further analysis (SurveyMonkey.com, 2007).

The statistical software package *Statistical Package for the Social Sciences (SPSS)* was used to code and analyze the data collected. School leadership is the dependent variable. National Board Certification is the independent variable to be examined. As previously discussed, the ex post facto research design does not involve direct manipulation of the independent variable. Therefore, no proven cause and effect conclusions can result from this study (Leedy & Ormrod, 2005). However, the findings suggest important links between the dependent variable, school leadership, and the independent variable, National Board Certification.

Univariate analysis of the data involves examination of one variable at a time. In particular, the present study examined the frequency distribution of the survey responses. Frequency distribution is a summary of the frequency of individual responses for a particular variable (Web Center for Social Research Methods, 2006). The results of the *School Leadership Survey* were reported using the frequency distributions of the responses to each item. In addition,

multiple statistical procedures compared the teacher leadership activities and perceptions of the NBC and non-NBC teachers in order to prevent a Type I error. Most respondents answered all questions on the survey. However, if they skipped a question *SPSS* used a case by case analysis. In other words, the missing answers were not included in the data analysis.

The common statistical data analysis techniques employed to compare means with quantitative data is the *t*-test. The independent sample *t*-test compares the means of two independent samples. For this study, *t*-tests were calculated to analyze the school leadership activities. The *t*-test was chosen because it is appropriate for comparing two groups (NBC teachers and non-NBC teachers) by comparing the mean difference between the two groups when the independent variable is dichotomous, the teacher is either certified or not certified, and the dependent variable is continuous, number of leadership activities. The *t*-test evaluates the difference between the means of two samples, determining if the difference is greater than would be expected by chance (Gravetter & Wallnau, 2004).

To further examine the survey data, the chi square test for independence was appropriate for questions about proportions in the population. The goal of the chi square test is to compare the frequencies reported in the study to the null hypothesis. More specifically, the sample data are used to examine the proportions of a population distribution in the data to those which would be expected under the null hypothesis. If the discrepancy is large enough, the null hypothesis may be rejected. To that point, the chi square examines the data to determine how well the data fit the null hypothesis.

To better understand the variables in the study, multiple regression and factor analysis procedures were utilized. Regression analysis deals with the situation in which there is one measured dependent variable and one or more measured independent variables. The regression

procedure examined the independent variables as potential predictors of the dependent variable (Gravetter & Wallnau, 2004). Although only one independent variable was identified in this study, there may be extraneous variables that served as predictors, such as years of experience or degrees earned. For example, teachers with greater number of years of experience may have been more likely to be considering retirement. Therefore, the number of years of teaching experience might have been a greater predictor for the fifth hypothesis, commitment to the profession. These predictors, if deemed statistically significant, may provide an explanation of the variation on the dependent variable.

A common means of establishing reliability or internal consistency of questionnaire items is Cronbach's alpha. In order to establish the reliability of the instrument, the Cronbach alpha should be positive and greater than .70 (Morgan, Leech, Gloeckner, & Barrett, 2004). As such, the Cronbach alpha was used to address the reliability of the *School Leadership Survey.* Further, construct validity was analyzed statistically using factor analysis. This procedure examined the relationships between variables and identified clusters of related variables that may signal underlying themes or factors within the data (Kim, 1978).

Research Procedures

Permission for this study was obtained through the University of New Orleans (UNO) and the school districts involved in the study. The dissertation committee gave the initial permission for the study. This study required the review of the UNO Institutional Review Board (IRB). It was considered for expedited review because it meets Category B, section I of the Expedited Review Categories: I. Research on individual or group behavior or characteristics of individuals, such as studies of perception, cognition, game theory, or test development, where the research investigator does not manipulate subjects' behavior and the research will not involve

stress to subjects (UNO Office of Research and Sponsored Programs, n.d.). The required IRB

Human Participants Protection Education for Research Teams online course was completed. The

appropriate UNO IRB forms were submitted seeking approval for the study. Approval for the

study was granted by the UNO IRB.

Throughout the study, ethical concerns were considered. Participants were not put at risk.

No vulnerable populations, such as minors under the age of 19, were involved in the study. In

addition, any procedures conducted as part of the data collection process were granted approval

by all gatekeepers at the state and district level (Creswell, 2003). The Louisiana Department of

Education sent an email requesting all Louisiana NBC teachers to participate in the *School*

Leadership Survey. The email had an introductory letter to the study and a link to the online

questionnaire. Further, district officials in two school districts were asked to send the same email

to teachers in their districts.

Limitations of the Study

Research problems, such as in this study, usually come from a much larger context. It is

important to narrow the scope of the study in order to examine what is relevant to the problem

and avoid distractions. Limitations and delimitations serve the purpose of setting the parameters

that establish the boundaries, reservations, exceptions, and qualifications of the study. These

parameters expose conditions that may restrict the study and how those conditions may impact

the outcomes of the study (Creswell, 2003). Limitations refer to limiting conditions or restrictive

weaknesses that cannot be controlled by the researcher. There are times when all factors cannot

be controlled (Locke, Spirduso, & Silverman, 1987). Also important, delimitations are

restrictions imposed by the researcher to narrow the scope of the study. Delimitations are

controlled by the researcher and allow the study to focus on specific variables or phenomenon (Creswell, 2003; Rudestam & Newton, 2001).

This study purports to provide evidence about the contributions of the National Board Certification professional development model to school leadership in Louisiana. However, there are several limitations which may negatively affect the study. First, there are limitations related to the use of survey research. Survey data may or may not be appropriate for generalization because it captures a single moment in time. Additionally, self-reporting studies often have the disadvantage of poor participant response. In fact, those responding to the survey may feel differently or have motivations for responding that differ from the non-respondents (Leedy & Ormrod, 2005). In order to maximize response rate, a reminder email was sent one week after the first email. Additionally, a drawing for an IPOD Shuffle was offered as an incentive for participation.

Another limitation of this study is the causal-comparative research design. The treatment, National Board Certification, is not randomly assigned to the teachers. Seeking NBC is self determined and voluntary. As such, the groups may vary on other variables that have an effect on the dependent variable, school leadership. Therefore, the researcher used several statistical techniques to address the limitations of causal-comparative research. For example, multiple regression was used to analyze whether characteristics such as years of experience or degrees earned are possible predictors. Although the causal-comparative model attempts to describe a relationship, the relationship is more suggestive than proven because of the lack of control over the independent variable in an ex post facto study (Gravetter & Wallnau, 2004).

One important delimitation narrowed the focus of the study for greater clarity. That delimitation was that only teachers in Louisiana were included in the sample. Additionally, the

non-NBC teachers were from only two districts in Louisiana. In this case, access, manageability, and control for confounding variables were key factors in selecting this delimitation for the study. However, it is important to note that Louisiana is among the top 15 states for number of NBC teachers, making it an appropriate choice for this investigation. In the final analysis, this delimitation served to more tightly focus the investigation of the relationship between the dependent variable, school leadership, and the independent variable, National Board Certification.

Summary

The methodology described in this chapter allowed the researcher to investigate the leadership activities and perceptions of Louisiana NBC teachers. This study answers the question: Does the National Board Certification professional development model contribute to school leadership in Louisiana? The results of this study add to the growing evidence about the impact of National Board Certification on school leadership and contribute to our understanding of school leadership and professional development.

Chapter Four: Results

Introduction

The *School Leadership Survey* (adapted from Sykes et al., 2006) data analysis examined

the relationship between school leadership and National Board Certification (NBC) in Louisiana.

Statistical Package for Social Sciences (SPSS) software was used to calculate frequencies,

percentages, and means of the responses to the 32 items on the *School Leadership Survey.* The

means for the NBC teachers and non-NBC teachers were compared using *t*-tests to determine if

there were significant differences. Regression procedures were used to investigate other possible

predictors for school leadership. In some cases, the data were further analyzed using a

nonparametric chi square test to confirm the results. Finally, Cronbach's alpha (.809) was used to

establish internal consistency reliability and factor analysis was employed to reaffirm instrument

construct validity.

Chapter Four presents the results of the analyses in five sections. First, the introduction

outlines the organization of this chapter. The second section describes the sample. The findings

are examined in the third section. Current conditions for NBC teachers as reported in the survey

are analyzed in the next section. Finally, the chapter concludes with a summary.

Description of the Sample

A total of 3,923 Louisiana teachers were solicited to participate in an online *School*

Leadership Survey. The survey was available online for 10 days, and there were 1,360 responses.

Ninety- eight respondents, including 14 NBC and 85 non-NBC teachers, indicated they were full

time administrators and were eliminated in order to focus on the perspectives of professionals

who were not in administrative positions. An additional 25 non-NBC responses were considered

invalid the respondent listed a position such as secretary or para-professional. After making these adjustments, a total of 1236 responses (32%), including those from 435 NBC teachers and 801 non-NBC teachers, were analyzed.

The Louisiana Department of Education emailed an invitation to participate in the *School Leadership Survey* to 1,032 NBC teachers in Louisiana. Approximately 200 of the emails were returned due to outdated email addresses. During the 10-day span of the survey, 449 NBC teachers responded. A total of 87% of the NBC respondents were full time teachers, and 13% were in other positions. Descriptions of these other positions and frequency data are given in Table 7. Twenty-seven percent of the NBC teachers had ten years or less experience, 42% had 11-20 years of experience, and 31% had more than 20 years of experience.

At the request of the researcher, two school districts emailed requests to participate in the *School Leadership Survey* to their instructional staff. One district sent approximately 2,200 email requests and the second district sent approximately 700 email requests. Altogether, 911 non-NBC responses were received. Eighty-five administrators and 25 non-instructional personnel were eliminated. Eighty-eight percent of the non-NBC respondents reported they were full time teachers, and 12% reported other positions such as curriculum specialist or librarian. Descriptions of the other positions and frequency data are given in Table 8. Forty percent of the non-NBC respondents had ten years or less experience, 31% had 11-20 years of teaching experience, and 29% had more than twenty years of teaching experience.

Table 8

Description of Respondents Who Were Not Fulltime Classroom Teachers

Position	NBC teachers	Non-NBC teachers
Curriculum Specialist	34	21
Part-time Teacher	16	10
Librarian	12	14
Master Teacher	6	21
Counselor	4	28
Professional Development Coordinator	1	1
Grant Writer	1	-

Table 9 reports the highest level of education of the NBC and non-NBC teachers for each

group. A higher percentage of the NBC teachers held a degree higher than the Bachelor's degree.

Table 9

Highest Level of Education

Degree earned	NBC teachers	Non-NBC teachers
Bachelor's degree	42%	57%
Master's degree	31%	23%
Master's Plus 30	20%	17%
Educational Specialist	5%	2%
Doctorate	2%	1%

Hypotheses

Five research hypotheses guided this study:

Hypothesis 1: Louisiana teachers who have completed the National Board Certification professional development model exhibit greater participation in leadership activities beyond the classroom than Louisiana non-National Board Certification teachers.

Hypothesis 2: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report a sense of leadership responsibility to their profession than Louisiana non-National Board Certification teachers.

Hypothesis 3: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model perceive that they have influence in school-wide policy development than Louisiana non-National Board Certification teachers.

Hypothesis 4: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report career satisfaction due to school leadership roles than Louisiana non-National Board Certification teachers.

Hypothesis 5: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report future commitment to stay in the teaching profession than Louisiana non-National Board Certification teachers.

Hypothesis 1

The first hypothesis stated: Louisiana teachers who have completed the National Board Certification professional development model exhibit greater participation in leadership activities beyond the classroom than Louisiana non-National Board Certification teachers. For analyses, two outcomes were measured: total number of leadership activities and whether the activities

took place at the school, district, state, or national level. First, a t-test was performed to test whether the average number of NBC teacher leadership activities ($M = 7.09, SD = 4.8$) was significantly greater than the average number of non-NBC teacher leadership activities ($M = 3.99, SD = 3.55$). The t-test confirmed a significant difference, $t(df = 699.66) = 11.82, p < .001$.

Further t-tests were performed to test whether the NBC teachers were more involved in leadership activities at the school, district, state, and national level. At the school level, the NBC teachers participated in more leadership activities ($M = 3.65, SD = 2.59$) than the non-NBC teachers ($M = 2.77, SD = 2.42$). The difference in participation in school level leadership positions was significant, $t(df = 846.04) = 5.87, p < .001$. The greatest difference was at the district level, where the NBC teachers participated in more leadership activities ($M = 2.48, SD = 2.34$) than the non-NBC teachers ($M = 1.01, SD = 1.76$). The test confirmed a significant difference, $t(df = 708.93) = 11.40, p < .001$. Similarly, the NBC teachers participated in more leadership activities at the state level ($M = .94, SD = 1.60$) than the non-NBC teachers ($M = .20, SD = .74$). This was a significant difference, $t(df = 537.63) = 9.10, p < .001$. A very small number of teachers reported leadership activities at the national level. Even so, the NBC teachers participated in more leadership activities at the national level ($M = .16, SD = .55$) than the non-NBC teachers ($M = .03, SD = .33$). There was a significant difference, $t(df = 615.81) = 4.47, p < .001$. A summary of the t-test results is given in Table 10.

Table 10

Independent Samples t-*Test of Teacher Participation in Leadership at School, District, State, and National Level*

	NBC teachers		Non-NBC teachers			
	M	*SD*	*M*	*SD*	*df*	*t*
School	3.65	2.59	2.77	2.42	846.04	5.87***
District	2.48	2.34	1.01	1.76	708.93	11.40***
State	.94	1.60	.20	.74	537.63	9.10***
Nation	.16	.55	.03	.33	615.81	4.47***
Total activities	7.09	4.80	3.99	3.55	699.66	11.82***

***$p < .001$.

The findings suggest that National Board Certification is a significant predictor for participation in leadership activities. Multiple regression analysis was performed to determine if years of experience and education levels were predictors as well. The regression analysis showed years of experience, education levels, and NBC were all significant predictors of participation in leadership activities. However, National Board Certification was the strongest predictor of participation in these activities. Because the data was coded as zero for non-NBC teachers and 1 for NBC teachers, the regression coefficient 2.812 represents the amount of the dependent variable that is contributed by National Board Certification or the "NBC gap." The "NBC gap" is the difference between the NBC teachers and the non-NBC teachers. The results are given in Table 11.

Table 11

Summary of Regression Analysis for Variables Predicting Teacher Participation in Leadership Activities (N = 1221)

Variable	*B*	*SE B*	β
Constant/Intercept	1.545	.319	-
Years experience	.590	.149	.111***
Education level	.793	.129	.173***
National Board Certification	2.812	.236	.313***

***$p < .001$. $R^2 = .176$.

Hypothesis 2

The second hypothesis stated: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report a sense of responsibility to their profession than Louisiana non-National Board Certification teachers. Three items asked teachers about their sense of responsibility to the profession. The majority of teachers in both groups stated agreement with the responsibility statements. However, using the combined responses to these three items in a *t*-test, more NBC teachers (*M = 1.94, SD = .99*) agreed or strongly agreed with the responsibility statements than did non-NBC teachers (*M = 1.67, SD = .89*). This difference was significant, $t(df = 1221) = 4.9, p < .001$. The items and responses by percentage are given in Table 12.

Table 12

Sense of Responsibility to the Teaching Profession

		Strongly disagree	Disagree	Agree	Strongly agree
I am willing to put in extra time and effort to be a leader in my profession.	NBC	.2%	.2%	38%	61.5%
	non-NBC	2.5%	3.2%	43.3%	43.3%
Teachers have a responsibility to encourage people to enter the teaching profession.	NBC	1%	12%	50.1%	36.9%
	non-NBC	3.2%	24.7%	51.2%	20.8%
Teachers have a responsibility to help prepare new teachers.	NBC	.2%	1.9%	35.8%	62%
	non-NBC	2.5%	2.6%	42.9%	52.1%

To further analyze these findings, nonparametric chi square tests were performed on each item. These tests confirmed the findings that NBC teachers report a greater sense of responsibility to the profession, and the results were significant for each item. The results of these analyses are given in Table 13.

Table 13

Summary of Chi Square Test of Sense of Responsibility to the Teaching Profession

Survey item	NBC teachers	Non-NBC teachers	χ^2
I am willing to put in extra time and effort to be a leader in my profession.	($n = 413$)	($n = 772$)	4.67***
Strongly Disagree	1	19	
Disagree	1	25	
Agree	157	394	
Strongly Agree	254	334	
Teachers have a responsibility to encourage people to enter the teaching profession.	($n = 409$)	($n = 773$)	53.20***
Strongly Disagree	4	25	
Disagree	49	191	
Agree	205	396	
Strongly Agree	151	161	
Teachers have a responsibility to help prepare new teachers.	($n = 413$)	($n = 774$)	16.40**
Strongly Disagree	1	19	
Disagree	8	20	
Agree	148	332	
Strongly Agree	256	403	

**$p < .01$. ***$p < .001$.

Finally, multiple regression analysis was performed to determine if years of experience and education levels were predictors for perceptions of responsibility. The regression analysis showed that NBC is the first explanatory variable for sense of responsibility to the profession (p ≤ .001). The second explanatory variable was education level (p < .01). The years of experience variable was not a significant predictor. The regression coefficient for NBC, .709, can be interpreted as the "NBC gap." A summary of the regression results is given in Table 14.

Table 14

Summary of Regression Analysis for Variables Predicting Teacher Sense of Responsibility

Variable	*B*	*SE B*	β
Constant/Intercept	9.553	.131	-
Years experience	-.078	.061	-.039
Education level	.172	.053	.100**
National Board Certification	.709	.098	.208***

**$p < .01$. ***$p < .001$. $R^2 = .057$.

Hypothesis 3

Hypothesis 3 stated: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model perceive that they have influence in school-wide policy development than Louisiana non-National Board Certification teachers. Four survey items explored teacher perceptions about their influence on school-wide policy. The responses to these four items were combined to perform a *t*-test. Overall, the NBC teachers were more likely to report that they had influence in school-wide policy development (*M = 9.20, SD =*

3.15) than the non-NBC teachers (*M = 7.91, SD = 3.11*). The difference was significant, $t(df = 1102) = 6.57, p < .001$.

Again, multiple regression analysis was performed to determine if years of experience and education levels were also predictors for teacher perceptions about their influence on school-wide policy. The results found that years of experience, education levels, and NBC were all significant predictors (p ≤ .001) of teachers reporting feeling they had greater influence in school-wide policy. However, the regression analysis confirmed that NBC was the strongest predictor of teachers reporting feeling they had greater influence in school-wide policy, with the regression coefficient 1.072 representing the "NBC gap." A summary of the results of the regression analysis is given in Table 15.

Table 15

Summary of Regression Analysis for Variables Predicting Perceptions of Influence on School-wide Policy

Variable	*B*	*SE B*	β
Constant/Intercept	6.403	.264	
Years experience	.422	.123	.107***
Education level	.427	.106	.126***
National Board Certification	1.072	.196	.161***

***$p ≤ .001$. $R^2 = .074$.

Hypothesis 4

The fourth hypothesis stated: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report career

122

satisfaction due to school leadership roles than Louisiana non-National Board Certification teachers. Two survey items asked teachers about their perceptions of career satisfaction as a result of their participation in leadership activities. The responses to these two items were combined to perform a *t*-test. Overall, NBC teachers were more likely to report career satisfaction as a result of leadership activities (*M = 6.97, SD = 1.22*) than non-NBC teachers (*M = 6.41, SD = 1.42*). This difference was significant, $t(df = 1166) = 6.75$, $p < .001$. The items and responses by percentage are given in Table 16.

Table 16

Teacher Perceptions of Career Satisfaction as a Result of Leadership Activities

Survey item		Strongly disagree	Disagree	Agree	Strongly agree
My involvement in leadership activities makes me feel more significant in my profession.	NBC	1%	6.6 %	39%	53.4%
	non-NBC	2.9%	11.2%	50.1%	35.8%
My involvement in leadership activities enhances my career satisfaction.	NBC	.5%	5.1%	36%	58.4%
	non-NBC	3%	10.2%	49.5%	37.3%

Further analyses were performed using nonparametric chi square tests on each item. These tests confirmed the findings of the *t*-test run on the combined items. The results of the chi square tests showed that NBC teachers report a greater sense of career satisfaction as a result of participation in leadership activities than non-NBC teachers on each of the two items. The differences were significant (p < .001) for both items. The results for the chi square tests are given in Table 17.

Table 17

Summary of Chi Square Test of Teacher Perceptions of Career Satisfaction as a Result of Leadership Activities

		NBC teachers	Non-NBC teachers	χ^2
My involvement in leadership activities makes me feel more significant in my profession.		($n = 410$)	($n = 765$)	37.12***
	Strongly Disagree	4	22	
	Disagree	27	86	
	Agree	160	383	
	Strongly Agree	219	274	
My involvement in leadership activities enhances my career satisfaction.		($n = 411$)	($n = 766$)	53.53***
	Strongly Disagree	2	23	
	Disagree	21	78	
	Agree	148	379	
	Strongly Agree	240	286	

****p* < .001.

Finally, multiple regression analysis was performed to determine if years of experience and education levels were also predictors of teacher perceptions about career satisfaction as a result of participating in leadership activities. In this case, the regression analysis showed both level of education (p < .001) and NBC (p < .001) were significant predictors, with NBC being the strongest predictor. The regression coefficient for NBC, .514, represents the "NBC gap." A summary of the regression results is given in Table 18.

Table 18

Summary of Regression Analysis for Variables Predicting Perceptions of Career Satisfaction as a Result of Participation in Leadership Activities

Variable	B	SE B	β
Constant/Intercept	6.189	.112	-
Years experience	-.041	.052	-.024
Education level	.179	.045	.123***
National Board Certification	.514	.083	.178***

***$p < .001$. $R^2 = .051$.

Hypothesis 5

Hypothesis 5 stated: A greater percentage of Louisiana teachers who have completed the National Board Certification professional development model report future commitment to stay in the teaching profession than Louisiana non-National Board Certification teachers. Two items on the survey asked the teachers about their future commitment to the teaching profession. It was necessary to run separate analyses for each of these items, because the questions were not compatible for combining for using a total score.

The first item asked teachers how long they planned to stay in the teaching profession. Of the 402 NBC teachers who responded to this item, 58% reported they would stay in teaching as long as they are able, 27% reported they would stay in teaching until they are eligible for retirement, 4.5% reported they would stay in teaching unless something better comes along, less than 1% reported they would leave as soon as possible, and 10.5% reported they were undecided at the time of the survey. On the same item, of 754 non-NBC teachers who responded, 43.5%

reported they would stay in teaching as long as they are able, 29% reported they would stay in teaching until they are eligible for retirement, 6% reported they would stay in teaching unless something better comes along, 2.5% reported they would leave teaching as soon as possible, and 19% reported they were undecided at the time of the survey. A *t*-test revealed the NBC teachers reported greater commitment to staying in the teaching profession (*M = .9, SD = .306*) than the non-NBC teachers (*M = .81, SD = .391*). This difference was significant, $t(df = 1154) = 3.731$, *p* < .001. Table 19 gives the results of these analyses.

The second item asked teachers how seriously they had considered leaving the teaching profession in the past five years. Of the 405 NBC teachers responding to this item, 55% reported they had not considered leaving the teaching profession at all, 29% reported they had somewhat considered leaving the teaching profession, 9% reported they had moderately considered leaving the teaching profession, and 7% reported they had seriously considered leaving teaching. Of the 754 non-NBC teachers responding to this item, 40% reported they had not considered leaving the teaching profession at all, 32% reported they had somewhat considered leaving the teaching profession, 11.5% reported they had moderately considered leaving the teaching profession, and 16.5% reported they had seriously considered leaving teaching. A *t*-test found that NBC teachers were less likely to report that they had considered leaving the teaching profession in the past five years (*M = 1.69, SD = .915*) than the non-NBC teachers (*M = 2.05, SD = 1.086*). This difference was significant, $t(df = 1157) = -5.599$, *p* < .001. Table 19 gives the results of the *t*-tests for both items asking teachers about their commitment to the teaching profession.

Table 19

Independent Samples t-test of Teacher Commitment to Stay in the Teaching Profession

	NBC teachers		Non-NBC teachers			
	M	*SD*	*M*	*SD*	*df*	*t*
How long do you plan to continue teaching?	3.65	2.59	2.77	2.42	846.04	5.87***
In the past five years, how seriously have you considered leaving teaching?	2.48	2.34	1.01	1.76	708.93	11.40***

****p* < .001.

In order to determine if NBC was the best predictor for each of these items, multiple regression analyses were performed. The results confirmed the *t*-test finding that NBC was the best predictor for teachers reporting they planned to stay in the teaching profession. In fact, in this case, NBC was the only significant predictor (p < .001), with the absolute value of the regression coefficient, .174, showing the "NBC gap." The regression analysis results are shown in Table 20.

Table 20

Summary of Regression Analysis for Variables Predicting Teachers Reporting Plans to Stay in Teaching

Variable	B	SE B	β
Constant/Intercept	1.710	.065	-
Years experience	-.029	.030	-.033
Education level	-.033	.026	-.044
National Board Certification	-.174	.047	-.119***

Note. Responses that indicated the teacher was undecided have been filtered out
***$p < .001$. $R^2 = .021$.

Similarly, multiple regression analysis confirmed the finding that only NBC was a significant predictor ($p < .001$) for how seriously the teachers had considered leaving the profession, with .360 representing the "NBC gap." The results are given in Table 21.

Table 21

Summary of Regression Analysis for Variables Predicting Teachers Reporting Plans to Leave the Profession

Variable	B	SE B	β
Constant/Intercept	1.993	.086	-
Years experience	.023	.040	.018
Education level	.005	.035	.004
National Board Certification	-.360	.064	-.165***

***$p < .001$. $R^2 = .027$.

Cronbach's Alpha

As discussed in Chapter Three, the Cronbach's alpha statistic assesses the internal consistency reliability of the survey instrument. Cronbach's alpha splits all of the questions in an instrument every possible way and looks at the correlations between them. As with any type of correlation, the closer the value is to one, the higher the reliability estimate of the instrument (Morgan, Leech, Gloeckner, & Barrett, 2004). For the *School Leadership Survey,* Cronbach's alpha was .809 indicating a moderately strong reliability estimate.

Factor Analysis

Principal component factor analysis with varimax rotation was conducted to assess the underlying structure of nine items from the survey. Three factors were requested, based on the fact that the items were designed to assess three of the hypotheses about teachers' perceptions: sense of responsibility, career satisfaction, and influence over school-wide policy. After varimax rotation, the first factor accounted for 41.78% of the variance, the second factor accounted for 21.24% of the variance, and the third factor accounted for 7.89% of the variance, a total of 70.91% of the variance. Table 22 displays the items and factor loadings.

The survey items that grouped together were, in fact, the items relating to the concepts in the three hypotheses. Since factor analysis attempts to recognize patterns of correlation among variables, this particular grouping provided evidence of the validity of the questionnaire to measure these three concepts: influence over school-wide policy (factor 1), sense of responsibility (factor 2), and career satisfaction (factor 3). One of the survey items seemed to correlate with both factors two and three. This is not surprising since there was a significant Pearson correlation coefficient between the two hypotheses' items ($r = .653$, $p < .01$).

Table 22

Summary of Items and Factor Loadings for Varimax Three Factor Solution for School Leadership Survey (N = 1,089)

	Factor loading			
Item	1	2	3	Communality
Determining content of inservice professional development programs	**.82**	.18	.10	.72
Establishing school-wide or departmental curriculum	**.81**	.12	.13	.69
Allocating resources	**.78**	.10	.07	.62
Setting school-wide discipline policy	**.72**	.04	.02	.51
My involvement in leadership activities enhances my career satisfaction	.15	**.90**	.23	.89
My involvement in leadership activities makes me feel more significant in my profession	.14	**.90**	.22	.87
I am willing to put in extra time and effort to be a leader in my profession	.12	**.65***	**.42**	.61
Teachers have a responsibility to encourage people to enter the teaching profession.	.11	.23	**.84**	.77
Teachers have a responsibility to help prepare new teachers.	.05	.35	**.75**	.69

Note: Boldface indicates highest factor loadings. *This seems to correlate with both factors 2 and 3. Factor 1 = Hypothesis 3; Factor 2 = Hypothesis 4; Factor 3 = Hypothesis 2.

Current Conditions

The survey included eight additional items which asked the teachers who had achieved NBC about their perceptions of leadership as National Board Certification teachers. These items were designed to gain insight into the conditions that currently exist for NBC teachers. Overall,

the NBC teachers felt both school and central office administrators supported the pursuit of

National Board Certification. However, the responses to these items also revealed that fewer than

half of the NBC teachers felt school and central office administrators encouraged teachers who

had successfully attained National Board Certification to take more leadership roles than non-

NBC teachers. Additionally, the NBC teachers reported that NBC teachers set a high standard of

work, are more effective in working with other teachers, and take advantage of learning

opportunities. It is important to note that these items were only available if the respondent

indicated he or she was a NBC teacher. Respondents who indicated they were non-NBC never

saw these items. A summary of the NBC teachers' responses to these eight items is given in

Table 23.

Table 23

NBC Teacher Perceptions of Current Conditions in the School District

Survey item	Strongly disagree	Disagree	Agree	Strongly agree
My principal supports teachers pursuing NBC	3%	10%	45 %	42%
Central office administrators support teachers pursuing NBC.	4%	14%	50%	32%
The principal includes NBC teachers more than other teachers in school leadership activities.	14%	42%	36%	8%
The principal encourages NBC teachers more than other teachers to share ideas and innovations.	13%	49%	32%	6%
In this school district, NBC teachers hold more leadership positions than other teachers.	7%	46%	35%	12%
NBC teachers set a high standard of work for other teachers.	1%	7%	48%	44%
Compared to non-NBC teachers, NBC teachers are more effective in assisting other teachers with their instruction.	2%	26%	54%	18%
NBC teachers take advantage of opportunities to develop and enhance their teaching more than non-NBC teachers.	1%	19%	53%	27%

Summary

The data collected from the online *School Leadership Survey* were used to conduct a

variety of analyses to investigate the impact of the National Board Certification professional

development model on school leadership in Louisiana. Specifically, independent sample *t*-tests

were completed to examine the differences between the NBC teachers and the non-NBC

teachers. Findings were that NBC teachers were more likely to participate in leadership

activities, to report a sense of responsibility to their profession, to perceive influence over

school-wide policy development, to report career satisfaction roles, and to stay in the profession.

Chi square tests were used to confirm the findings of the *t*-tests for Hypothesis Two and

Hypothesis Four. The result of the chi square analyses found NBC teachers were more likely to

agree or strongly agree with statements about their sense of responsibility to the profession and

career satisfaction. Multiple regression analyses were employed to determine if other variables

such as years of experience and education were significant predictors for each of the hypotheses.

The result of the multiple regressions found that NBC was the strongest predictor for each of the

hypotheses variables. Additionally, factor analysis was used to assess the underlying structure for

nine items on the *School Leadership Survey*. The results of the factor analyses served to validate

the survey instrument. Further discussion of the findings is found in Chapter Five.

Chapter Five: Discussion

Introduction

This chapter will integrate the results of the study with existing theory and research. The research question of interest was: Does the National Board Certification (NBC) professional development model contribute to school leadership in Louisiana? To that point, the findings present a profile of the leadership activities and perceptions of leadership for Louisiana NBC and non-NBC teachers.

This chapter is organized into five sections. First, the introduction gives the purpose and organization of the chapter. The second section focuses on the findings of the present study. These findings are viewed in the context of the hypotheses, existing studies, and distributed leadership theory. In the third section, the limitations of the study are examined in light of the findings. Implications for practice and recommendations for future studies are in the fourth section. Finally, the chapter closes with a brief discussion of the conclusions of this study on National Board Certification and school leadership in Louisiana.

Findings

The purpose of the present study was to investigate whether a specific model of professional development, National Board Certification, can create sustained change aimed at improved school leadership. This research effort first examined the leadership activities of the teachers: Do NBC teachers participate in more leadership activities than their non-certified peers? Are NBC teachers more likely to be involved in leadership activities beyond the classroom? Second, the study investigated in the teachers' perceptions of leadership: Does participation in leadership activities predict greater career satisfaction? Do NBC teachers feel

they have greater influence over school-wide policy? Additionally, the research considered the current conditions of the NBC teachers, exploring the NBC teachers' perceptions of school and district level support of the NBC process and leadership opportunities extended to the teachers who are successful in achieving National Board Certification.

On a whole, all of the research hypotheses were supported by the study's findings. In fact, as predicted in the first research hypothesis, the results of the study suggest that the NBC professional development model does signal greater NBC teacher participation in leadership activities. Further, the data revealed the NBC teachers were significantly more likely to participate in leadership activities in the school, district, state, and national arenas. These findings are consistent with previous studies on teacher leadership (NBPTS, 2001b; Sykes et al., 2006).

The second hypothesis addressed the teachers' sense of responsibility to the teaching profession. The National Board Certification teachers reported a greater sense of responsibility to the profession. In fact, 98.5% of the NBC teachers reported their willingness to put in extra time and effort to be a leader in the profession. As might be expected based on the findings that NBC teachers participate in more leadership activities and report a greater sense of responsibility to the profession, the NBC teachers were more likely to report a sense of influence in school-wide policy, as predicted in the third research hypothesis. Again, these findings were consistent with previous research (Sykes et al., 2006).

The teacher leadership activities, as reported by the respondents, take many forms. The responses to the school level activities serve as a good overview. For example, 60% of the NBC teachers reported mentoring other teachers. Similarly, 61% of the NBC teachers reported serving as a team leader (e.g. grade level, subject area, consulting teacher, or program leader). More than

135

40% of the NBC teachers reported involvement in developing (43%) and selecting curriculum (44%). Further, 36% of the NBC teachers reported involvement in evaluating other teachers and 24% of the NBC teachers reported involvement in hiring other teachers. More than half of the NBC teachers (52%) indicated that they provide professional development for other teachers. In still another example, 29% of the NBC teachers worked with teacher preparation programs at universities. The survey data revealed that participation in leadership activities by NBC teachers was significantly greater than participation by non-NBC teachers in every example. Together, the findings of the first three hypotheses suggest that the NBC teachers are meeting the fifth core proposition of NBPTS which purports that NBC teachers are leaders and members of learning communities.

It is interesting that although the NBC teachers reported that the school and district administrators support seeking National Board Certification, the NBC teachers also reported that their administrators do not encourage the teachers who are successful in attaining NBC to take leadership positions more often than they do non-NBC teachers (see Table 23 in Chapter Four). Although this may indicate that school administrators value NBC and non-NBC teachers equally, it could also suggests that the lack of encouragement and untapped possibilities for shared leadership may be obstacles to reaching the full benefit of attaining NBC professional development for teachers in the schools. Even so, the prevalence of leadership participation by the NBC teachers in this study may suggest that these teachers seek leadership opportunities.

Career satisfaction, as a result of participation in leadership activities, was investigated in the fourth hypothesis. More than 90% of the NBC teachers reported that participation in leadership activities results in career satisfaction and makes them feel more significant in the teaching profession. While there are a significantly greater number of NBC teachers reporting

this perception of career satisfaction due to leadership activities than non-NBC teachers, it may be due to the fact that the teachers who have attained National Board Certification are far more likely to participate in the leadership activities. The fact that teachers report greater career satisfaction due to involvement in school leadership suggests an additional consideration for distributed leadership models. In fact, viewing the results of the survey through the distributed leadership perspective, it appears that empowering teachers to take on leadership roles enhances teachers' self- esteem and work satisfaction. Additionally, leadership roles may lead to greater levels of teacher performance due to higher motivation and may help retain high quality teachers (Katzenmeyer and Moller, 2001; Ovando, 1996).

As might be expected, National Board Certification teachers were significantly more likely to report a commitment to stay in the teaching profession than the non-NBC teachers. Given the investment of time in the certification process, it was not surprising that the NBC teachers were less likely to have seriously considered leaving the teaching profession in the past five years. These findings support the fifth research hypothesis that NBC teachers are more likely to report future commitment to stay in the teaching profession. In addition, the survey revealed that teachers who have attained National Board Certification were more likely to have an advanced degree than the non-NBC teachers. This is consistent with the research of Petty, O'Conner, and Dagenhart (2003) which found NBC teachers were significantly more likely to hold an advanced degree when compared to non-NBC teachers in a study of North Carolina high school mathematics teachers. Sykes et al. (2006) also found in a study of NBC and non-NBC teachers in Ohio and South Carolina that the NBC teachers were significantly more likely to have an advanced degree. Again, this investment of time and effort to seek graduate degrees suggests a deep sense of responsibility and commitment on the part of the NBC teachers.

Still another indication of the NBC teachers' commitment to the profession was found in the distribution of the NBC teachers. Although these respondents were eliminated in the results analyses, only 3% of the NBC teachers who responded to the survey had chosen to go into school administration positions. It has been suggested that the reason the National Board Certification teachers stay in the classroom is that they would lose the salary stipend if they went into administration (Sykes et al., 2006), but this is not the case in Louisiana. In a demonstration of the state's commitment to NBC teachers as school leaders, NBC teachers who become school administrators continue to receive the stipend in Louisiana (NBPTS, 2006f). Further, while 13% of the NBC teachers reported they were in positions other than classroom teacher, the vast majority of the positions were directly related to instruction. The results provide evidence that Louisiana NBC teachers are not using the National Board Certification credential as a stepping stone to other positions.

An interesting caveat to the commitment to teaching findings was revealed in the multiple regression analysis. In examining the effect that years of teaching experience would have on commitment to the profession, it might be anticipated that years of experience would be the greatest predictor for commitment to the profession. It stands to reason that late career teachers would report plans to retire and would have considered leaving the profession in the past five years. However, this was not the case. Only NBC was a significant predictor for commitment to the profession survey items. This commitment may be caused by the NBC teachers' involvement in leadership activities which would indicate distributed leadership practice, whether the distribution of leadership is formally recognized or not.

Although not directly related to school leadership, the deep sense of commitment to the teaching profession may be the most important finding of the present study. In fact, NBC

teachers were more likely to contribute to school leadership as found in the present study and previous research (NBPTS, 2001b; Sykes et al., 2006). Although not directly related to the present study's research question, other research suggests that NBC teachers are more likely to produce greater student outcomes (Cavalluzzo, 2004; Goldhaber & Anthony, 2004; Smith, Gordon, Colby, & Wang, 2005; Vandervort, Amrein-Beardsley, & Berliner, 2004). Taken together, the research points to the importance that these teachers plan to stay in the teaching profession

Overall, the findings of this study were consistent with previous studies of National Board Certification and school leadership. In an early study of NBC teacher leadership (NBPTS, 2001b), with approximately 2,200 NBC teacher responses, virtually all NBC teachers reported participating in leadership activities. In fact, the 2001 NBC teachers reported being involved in an average of 10 leadership activities. The National Board Certification teachers in the present study reported being involved in an average of seven leadership activities, with the range being from zero to 25 leadership activities. While this difference may seem important, it may be that the leadership activities of 2007 are more demanding than those of 2001 due to the increasing expectations and challenges of accountability (Lord & Miller, 2000). Consistent with the findings of the National Board for Professional Teaching Standards (2001) survey and Sykes et al. (2006), the NBC teachers reported that participation in leadership activities increases career satisfaction as well as their desire to stay in the teaching profession.

Limitations

A common limitation of survey research is limited participant response. However, the initial response to the survey used in the present study was substantial. In fact more than 32% of the Louisiana NBC teachers completed the survey in the first week. A reminder sent a few days

before the survey closed resulted in additional responses, with almost half of the NBC teachers in the state participating in the survey. This is especially noteworthy because approximately 20% of the NBC teacher email addresses were out of date. Additionally, approximately one third of the 2,900 non-NBC teachers in two districts responded to the survey. According to research done by PeoplePulse.com (PeoplePlus, 2007), an online survey and feedback service, the average response rate to an online survey with incentives and follow-up contact is 26%.

It is important to note that because the data were cross-sectional, only patterns could be established, not causal relationships. Therefore, this study does not present evidence that NBC causes teachers to become better leaders. However, the present study does suggest a pattern that NBC teachers are more likely to be involved in leadership activities than non-NBC teachers. Although the present study does not establish a causal relationship, the findings do answer the research question: Does the National Board Certification professional development model contribute to school leadership in Louisiana? The data analysis confirmed that successful attainment of National Board Certification signaled greater school leadership in Louisiana.

Implications

Based on the findings of previous studies, it appears the National Board Certification process leads to greater student achievement (Cavalluzzo, 2004; Goldhaber & Anthony, 2004; Smith, Gordon, Colby, & Wang, 2005; Vandervort, Amrein-Beardsley, & Berliner, 2004). Additionally, the present study and previous studies suggest NBC may lead to greater school leadership (NBPTS, 2001b; Sykes et al., 2006). Therefore the findings indicate that Louisiana may benefit from encouraging greater numbers of teachers to seek National Board Certification. Louisiana has been successful in increasing the number of NBC teachers using the current combination of support and incentives, but the funding for these is limited. It seems reasonable

to assume that future Louisiana teachers will be better prepared to participate in the NBC process based on the redesign of undergraduate and graduate teacher preparation programs as discussed in Chapter Two. Presently, a primary obstacle to encouraging greater numbers of teachers to seek NBC would appear to be funding for support and incentives. It also seems safe to suggest that teachers will likely not be able to afford or willing to invest in NBC professional development due to the low teacher salaries. By increasing the funding for these programs, more teachers would have the opportunity to seek National Board Certification.

Given the finding that NBC teacher participation in leadership activities leads to greater career satisfaction and a greater commitment to staying in the teaching profession, the findings imply that the school administrators need to be prepared to better distribute leadership responsibilities. As discussed in Chapter Two, many school administrators have been educated and socialized in power centered leadership models. This suggests it will be difficult for such administrators to embrace shared leadership. There are a number of possible avenues to making this happen. First, it is recommended that the distributed leadership model become a meaningful component of the principal certification and new principal internship programs in Louisiana. Additionally, it is recommended that publications such as principal association newsletters be used to create an awareness of distributed leadership and the potential benefit of having NBC teachers on the faculty. Leadership is only present when a leader chooses to take action. Further, the leader must pick and choose their actions. Thus, school administrators will have to encourage and support the NBC teachers in their leadership efforts (Mintzberg, 1983).

Finally, it is recommended that National Board Certification teachers be included in district and state policy and curriculum development opportunities. Louisiana has demonstrated commitment to the value of NBC teachers by appointing them to serve on the state's Blue

Ribbon Commission for Quality Teachers, the Professional Development Consortium, and other important leadership situations. This practice needs to continue and expand. Therefore, it is recommended that district leaders be made aware of the potential benefits of having National Board Certification teachers participate in leadership positions.

Recommendations for Further Research

The present study suggests that NBC teachers are more likely to be involved in leadership activities, find career satisfaction in participation in leadership activities, and report a greater commitment to staying in the teaching profession. However, it did not investigate the perceptions of the school administrators in the NBC teachers' schools. Because the leadership potential of the NBC teacher is greatly dependent on the school administrator's willingness to share leadership, it seems important to investigate the perceptions of school administrators (Mintzberg, 1983).

It has been suggested that NBC teachers were leaders prior to undertaking the NBC process, and that the certification process only identifies better teacher leaders rather than contributing to leadership skills (Burroughs, 2001; Bourroughs, Schwartz, & Hendricks-Lee, 2000; Goldhaber, Perry, & Anthony, 2003; Sykes, 2006). Therefore, longitudinal study of these phenomena is recommended.

Conclusions

The present study is one of the first to utilize a large sample of elementary, middle school, and high school teachers to present evidence on National Board Certification and school leadership. The findings suggest that success in attaining NBC seems to point to teachers who participate in leadership activities at the school, district, and state level to a significantly greater extent than do non-NBC teachers. Further, NBC teachers report that participation in leadership

activities gives them a sense of career satisfaction. Additionally, the findings of this study suggest the NBC teachers are more likely to stay in the teaching profession. Perhaps even more important, these teachers are likely to stay in the classroom rather than seek positions in school administration.

Overall, the findings support the theoretical tenets put forth in the introduction to the study. It appears that National Board Certification is a professional development model built on current adult learning theory and constructivist learning. It is anticipated that the humanistic and constructivist approaches to adult education used in this professional development model to better equip teachers for the classroom will transfer into the teaching practices of those teachers who have experienced it. It appears that using the distributed leadership model, this professional development may be leveraged beyond the classroom of the individual teacher. Under such a model, NBC teachers may be able to serve at their maximum potential. Consequently, based on the findings of the present study, the school leadership potential of the NBC teachers may lead to benefits of the National Board Certification professional development model that are far greater than previously described.

REFERENCES

American Association of Retired Persons (n.d.) *Tackling the Teacher Shortage.* Retrieved June 26, 2007, from http://www.aarp.org/about_aarp/nrta/nrta_programs/a2002-11-05-nrta_teacher_shortage.html

Ball, D., & Cohen, D. (1999) Developing practice, developing practitioner: Toward a practice-based theory of professional education. In G. Sykes & L. Darling-Hammond (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3-32). San Francisco: Jossey Bass.

Barnard, C. (1968), *Functions of the executive.* Cambridge, MA: Harvard University Press.

Battista, M. (1999). The mathematical miseducation of America's youth: Ignoring research and scientific study in education. *Phi Delta Kappan, 80*(6), 424+.

Bennett, N., Wise, C., Woods, P., & Harvey, J. (2003). *Distributed leadership: A desk study.* Retrieved January 14, 2007, from The National College for School Leadership Web site: www.ncsl.org.uk/literaturereviews

Billington, D. (1996). *Seven characteristics of highly effective adult learning programs.* Retrieved November 9, 2006, from New Horizons for Learning Web site: http://www.newhorizons.org/lifelong/workplace/billington.htm

Bogler, R., & Somech, A. (2004). Influence of teacher empowerment on teachers' organizational commitment, professional commitment and organizational citizenship behavior in schools. *Teaching and Teacher Education, 20,* 277-289.

Bohen, D. (2001). Strengthening teaching through national certification. *Educational Leadership, 58*(8), 50-53.

Bolin, F. (1989). Empowering leadership. *Teachers College Record, 91*(1), 81-95.

Bond, L., Smith, T., Baker, W., & Hattie, J. (2000). *The certification system of the National Board for Professional Teaching Standards: A construct and consequential validity study.* Retrieved July 20, 2006, from National Board for Professional Teaching Standards Web site: http://www.nbpts.org/resources/research?ID=79

Bransford, J., Brown, A., & Cocking, R. (Eds.). (1999). *How people learn: Brain, mind, experience, and school.* Washington, D.C.: National Academy Press.

Brockett, R., & Hiemstra, R. (1991). *Self-direction in adult learning: Perspectives on theory, research, and practice.* London and New York: Routledge. Retrieved July 17, 2006, from http://www-distance.syr.edu/sdlindex.html

Browning, R. (1987). Continuing interprofessional education. *Theory into Practice, 26*(2), 110-115.

Buday, M., & Kelly, J. (1996). National board certification and the teaching profession's commitment to quality assurance. *Phi Delta Kappan. 78*(3), 215+.

Burns, J. (1978). *Leadership.* N.Y.: Harper and Row.

Burns, R. (1995). *The adult learner at work.* Sydney: Business and Professional Publishing.

Burroughs, R. (2001). Composing standards and composing teachers. *Journal of Teacher Education, 52*(3), 223+.

Burroughs, R., Schwartz, T., & Hendricks-Lee, M. (2000). Communities of practice and discourse communities: Negotiating boundaries in NBPTS certification. *Teachers College Record, 102*(2), 344-374.

Camburn, E., Rowan, B., & Taylor, J. (2003). Distributed leadership in schools: The case of elementary schools adopting comprehensive school reform models. *Educational Evaluation and Policy Analysis, 25*(4), 347-373.

Carnegie Forum on Education and the Economy. (1986). *A nation prepared: Teachers for the 21st century* (1st ed.). Hyattsville, MD: Carnegie Forum on Education and the Economy.

Cavalluzzo, L. (2004). *Is National Board Certification an effective signal of teacher quality?* Retrieved March 20, 2005, from the CNA Corporation Web site: http://www.cna.org

Cohen, C., & Rice, J. (2005). *National Board Certification as professional development: Design and cost.* Retrieved November 4, 2006, from National Board for Professional Teaching Standards Web site: http://www.nbpts.org/resources/research/browse_studies?ID=147

Conner, M. (2005). *Andragogy and pedagogy*. Retrieved March 11, 2007 from Ageless Learner website: http://agelesslearner.com/intros/andragogy.html

Crawford, D. (2004). *The role of aging in adult learning: Implications for instructors in higher education.* Retrieved July 17, 2006, from New Horizons for Learning Web site: http://www.newhorizons.org/lifelong/higher_ed/crawford.htm

Creswell, J. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Darling-Hammond, L. (1998a). Standards for assessing teaching effectiveness are key: A response to Schalock, Schalock, and Myton. *Phi Delta Kappan*, *79*(6), 471+.

Darling-Hammond, L. (1998b). Teachers and teaching: Testing policy hypotheses from a national commission report. *Educational Researcher*, *27*(1), 5-15.

Darling-Hammond, L. (2004). Standards, accountability, and school reform. *Teachers College Record, 106*(6), 1047-1085.

Darling-Hammond, L., Ball, L., & Loewenberg, D. (1998). *Teaching for high standards: What policymakers need to know and be able to do.* (ERIC Document Reproduction Service No. ED426491)

Darling-Hammond, L., Bullmaster, M., & Cobb, V. (1995). Rethinking teacher leadership through professional development schools. *The Elementary School Journal, 96*(1), 87-106.

Dethlefs, T., Trent, V., Boody, R., Lutz, G., Robinson, V., & Waack, W. (2001). *Impact study of the national board certification pilot project in Iowa.* (ERIC Document Reproduction Service No. ED481114)

Eisner, E. (2000). *The educational imagination: On the design and evaluation of school programs* (3rd ed.). Upper Saddle River, NJ: Prentice Hall.

Elmore, R. (1990). *Restructuring schools: The next generation of educational reform.* San Francisco: Jossey-Bass.

Elmore, R. (2000). *Building a new structure for school leadership.* Washington, D.C.: Albert Shanker Institute.

Elmore, R. (2004). *The hollow core of leadership practice in education.* Paper presented at 2nd International Summit for Leadership in Education: Integrity and Interdependence, Boston, MA.

Ferguson, R. (1991). Racial patterns in how school and teacher quality affect achievement and earnings. *Challenge, 2*(1), 1-35.

Ferraro, J. (2000). *Reflective practice and professional development*. (ERIC Document Reproduction Service No. ED449120).

Fox, R. (2001). Constructivism examined. *Oxford Review of Education*, *27*(1), 23-35.

Fullan, M. (2006). *Turnaround leadership.* San Francisco, CA: Jossey-Bass.

Fullan, M. & Hargreaves, A. (1996). *What's worth fighting for in your school?* New York: Teachers College Press.

Gay, L., & Airasian, P. (2003). *Educational research: Competencies for analysis and application* (6th ed.). Upper Saddle River, NJ: Prentice-Hall.

Gay, L., Mills, G., & Airasian, P. (2006). *Educational research: Competencies for analysis and application* (8th ed.). Upper Saddle River, NJ: Prentice-Hall.

Ghaye, T., & Lillyman, S. (n.d.). *Learning journals and critical incidents.* Retrieved July 18, 2006, from West Midlands' GP Trainers Web site: http://www.trainer.org.uk/members/theory/process/reflection.htm

Gilman, D., & Lanman-Givens, B. (2001). Where have all the principals gone? *Educational Leadership*, *58*(8), 72-74.

Glasserfield, E.V. (1995). *Radical constructivism: A way of knowing and learning.* London: Falmer Press.

Goldberg, M. (2000). An interview with John Goodlad- Leadership for change. *Phi Delta Kappan*, *82*(1), 82+.

Goldhaber, D. (2005). *Can teacher quality be effectively assessed?* Retrieved July 20, 2006, from National Board for Professional Teaching Standards Web site: http:www.nbpts.org/resources/research?ID+75

Goldhaber, D., & Anthony, E. (2004). *Can Teacher Quality Be Effectively Assessed?* Retrieved March 31, 2005, from Urban Institute Web site: http://www.urban.org/publications/410958.html

Goldhaber, D., Choi, H., & Cramer, L. (2004). *A descriptive analysis of the distribution of NBPTS certified teachers in north Carolina.* Retrieved December 5, 2005, from http://www.crpe.org/workingpapers/pdf/Goldhaber_NBPTS(6-3-04).pdf

Goldhaber, D., Perry, D., & Anthony, E. (2003). *NBPTS certification: Who applies and what factors are associated with success?* (ERIC Document Reproduction Service No. ED455841).

Gonzales, P., Guzman, J., Partelow, L., Pahlke, E., Jocelyn, L., Kastberg, D. et al. (2004). *Highlights from the Trends in International Mathematics and Science Study: TIMSS 2003.* Retrieved April 29, 2007, from http://nces.ed.gov/pubs2005/timss03/index.asp

Goodlad, J. (1984). *A place called school: Prospects for the future.* New York: McGraw-Hill.

Gordon, D. (2002). Teaching as a profession. *Harvard Education Letter Focus Series.* Cambridge, MA: Harvard University. (ERIC Document Reproduction Service No. ED474901).

Gordon, D. (Ed.). (2003) *A nation reformed? American education 20 years after a nation at risk.* Cambridge, MA: Harvard Education Press.

Gravetter, F., & Wallnau, L. (2004). *Statistics for the Behavioral Sciences* (6th ed.)*.* Belmont, CA: Thomsan Wadsworth.

Grissner, D. & Kirby, S. (1997). Teacher turnover and teacher quality. *Teacher College Record 99*(1). 45-56.

Gronn, P. (2002). Distributed leadership. In K. Leithwood, P. Hallinger, K. Seashore-Louis, G. Furman-Brown, P. Gronn, W. Mulford, & K. Riley (Eds.) *Second international handbook of educational leadership and administration.* Dordrecht: Kluwer.

Grubb, W., & Flessa, J. (2006). A job too big for one: Multiple principals and other nontraditional approaches to school leadership. *Educational Administration*, *42*(4), 518-550.

Guskey, T. (2003). Professional development that works: What makes professional development

    effective? *Phi Delta Kappan, 84*(10), 748+.

Hargreaves, A. (2003). *Teaching in the knowledge society: Education in the age of insecurity.*

    New York: Teachers College Press.

Harman, A. (2001). *National Board for Professional Teaching Standards' national teacher*

    certification. (ERIC Document Reproduction Service No. ED460126).

Hargreaves, A., & Fink, D. (2006). *Sustainable leadership.* San Francisco, CA: Jossey-Bass.

Hart, A. (1995). Reconceiving school leadership: Emergent views. *The Elementary School*

    Journal, 96(1), 9-28.

Hart, A., & Murphy, M. (1994). Preparing principals to lead in restructured schools. In P.

    Thurston & N. Prestine (Eds.), *Advances in educational administration* (Vol. 2, pp.151-

    174). Greenwich, CT: JAI Press.

Hase, S., & Kenyon, C. (2000). *From Andragogy to Heutogogy*. Retrieved June 29, 2006, from

    Ultibase Articles Web site: http://ultibase.rmit.edu.au/Articles/dec00/hase2.htm

Hassel, E. (1999). *Professional development: Learning from the best a toolkit for schools and*

    districts based on the national awards program for model professional development. Oak

    Brook, IL: North Central Regional Educational Laboratory. Retrieved February 2, 2007,

    from Learning Point Associates Web site: http://www.ncrel.org/pd/toolkit.htm

Heller, M., & Firestone, W. (1995). Who's in charge here? Sources of leadership for change in

    eight schools. *The Elementary School Journal, 96*(1), pp. 65-86.

Hetert, L. (1997). *Investing in teacher professional development. A look at 16 school districts.*

    Denver, CO.: Education Commission of the United States Distribution Center. (ERIC

    Document Reproduction Service No. ED416201).

Huitt, W. (2003). *Constructivism.* Retrieved July 16, 2006, from Valdosta State University

    Educational Psychology Interactive Web site:

    http://Chiron.valdosta.edu/whuitt/col/cogsys/construct.html

Huitt, W., & Hummel, J. (2003). *Piaget's theory of cognitive development.* Retrieved April 29,

    2007, from Valdosta State University Educational Psychology Interactive Web site:

    http://chiron.valdosta.edu/whuitt/col/cogsys/piaget.html

Humphrey, D., Loppich, J., & Houg, H. (2005). *The impact of National Board Certification*

    teachers on low-performing schools. Retrieved April 24, 2007, from

    http://www.nbpts.org/resources/research/browse_studies?ID=148

Johnson, S. (1998). *Reformed school.* Retrieved April 15, 2007, from

    http://www2.tulane.edu/article_news_details.cfm?ArticleID=

Katzenmeyer, M., & Moller, G. (2001). *Awakening the sleeping giant. Helping teachers develop*

    as leaders (2nd ed.). Thousand Oaks, CA: Corwin Press.

Kearney, C. (2000,). *National Board Certification: An underutilized resource for New York*

    state? Retrieved November 11, 2006, from

    http://www.albany.edu/edfin/symp2000/KearneyW3.pdf

Keiser, N., & Shen, J. (2000). Principals' and teachers' perceptions of teacher empowerment.

    Journal of Leadership Studies, 7(3), 115+.

Kennedy, M. (1998), *Form and substance in inservice teacher education.* (ERIC Document

    Reproduction Service No. ED472719).

Kilpatrick, J, Swafford, J., & Findell, B. (Eds.). (2001) *Adding it up: Helping children learn*

    mathematics. Washington, D.C.: National Academy Press.

Kim, J. (1978). *Introduction to factor analysis: What it is and how to do it.* Sage University Paper Series on Quantitative Applications in the Social Sciences, 07-013. Newbury Park, CA: Sage.

Kimble G., Hilgard, E., & Marquis, D. (1961). *Hilgard and Marquis' conditioning and learning* (2nd ed.)*.* New York: Appleton-Century-Crofts.

Knowles, M. (1970). *The modern practice of adult education: Andragogy versus pedagogy*. New York: Association Press.

Knowles, M. (1974). Human resources development in OD. *Public Administration Review, 34,* 115-123.

Knowles, M. (1984). *Andragogy in action .*San Francisco: Jossey-Bass.

Knowles, M. (1990a). *The adult learner: A neglected species.* (4th ed.). Houston, TX: Gulf Publishing Co.

Knowles, M. (1990b). *The modern practice of adult education: Andragogy versus pedagogy.* New York: Associated Press.

Leedy, P., & Ormrod, J. (2005). *Practical research planning and design* (8th ed.). Upper Saddle River, NJ: Pearson Merrill Prentice Hall.

Leithwood, K., & Jantzi, D. (2000). The effects of different sources of leadership on student engagement in school. In K. Riley (Ed.), *Leadership for change and school reform: International perspectives* (pp. 50-61). London: Routledge.

Lieberman, M. (1960). *The future of public education.* Chicago: University of Chicago Press.

Linquanti, R., & Peterson, J. (2001). *An enormous untapped potential: A study of the feasibility of using National Board for Professional Teaching Standards Certification to improve low-performing schools.* (ERIC Document Reproduction Service No. ED462385).

Little, J. (1988). Assessing the prospects for teacher leadership. In A. Lieberman (Ed.), *Building a professional culture in schools.* (pp. 78-108). New York: Teachers College Press.

Locke, F., Spirduso, W., & Silverman, S. (1987). *Proposals that work. A guide for planning dissertations and grant proposals.* Newbury Park, CA: Sage Publications.

Lord, B., & Miller, B. (2000). *Teacher leadership: An appealing and inescapable force in school reform?* Retrieved June 2, 2007, from http://www.ed.gov/inits/Math/glenn/LordMiller.doc

Louisiana Board of Regents. (2001) *Minutes Board of Regents March 22, 2001.* Retrieved April 15, 2007, from http://www.regents.state.la.us/board/Minutes/2001/mi032201

Louisiana Board of Regents. (2005). *Regents grant program helps Louisiana university improve student achievement by improving teacher quality.* Retrieved April 29, 2007, from http://www.regents.state.la.us/pdfs/PubAff/2005/teachquality03-18-05.pdf

Louisiana Department of Education. (n.d.). *Division of Standards, Assessment, and Accountability.* Retrieved November 8, 2006, from Louisiana Department of Education Web site: http://www.doe.state.la.us/lde/saa/2272.html

Louisiana Department of Education. (2006). *Louisiana plan for highly qualified teachers: Revised July 2006.* Retrieved March 10, 2007 from http://www.ed.gov/programs/teacherqual/hqtplans/la.doc

Louisiana Department of Education. (2007). *Louisiana ranks 10th in number of National Board Certified teachers.* Retrieved January 20, 2007, from Louisiana Department of Education Web site: http://www.doe.state.la.us/lde/comm/pressrelease.aspx?PR=821

Louisiana Legislative Fiscal Office. (2005). *Louisiana Legislative Fiscal Office Fiscal Highlights: Fiscal year 2005/2006.* Retrieved April 28, 2007, from http://lfo.louisiana.gov/publications

Louisiana State Legislature. (n.d.). *Bill search.* Retrieved June 25, 2007, from http://www.legis.state.la.us/

Lussier, R., & Achua, C. (2004). *Leadership theory, application, skill development* (2nd ed.). Dayton, OH: Thomson South-western.

Lustick, D. (2002). *National board certification as professional development: A study that identifies a framework and findings of teachers learning to manage complexity, uncertainty, and community.* (ERIC Document Reproduction Service No. ED465727).

Lustick, D., & Sykes, G. (2006). *National Board Certification as professional development: What are teachers learning?* Retrieved February 7, 2007, from National Board for Professional Teaching Standards Web site: http://www.nbpts.org/resources/research/browse_studies?ID=176

Marion, R. (2002). *Leadership in education: Organizational theory for the practitioner.* Long Grove, IL: Waveland Press.

McGatha, M., Bush, W., & Thorn, D. (2005). *Becoming a leader in mathematics: A study of leaders' professional development experiences, awareness, beliefs, and attitudes.* (Working Paper No. 26). Athens, OH: Ohio University, Appalachian Collaborative Center for Learning, Assessment, and Instruction in Mathematics. Retrieved February 2, 2007, from http://www.acclaim-math.org/docs/Leader.doc

McLaughlin, M., & Talbert, J. (1993). *Contexts that matter for teaching and learning: Strategic opportunities for meeting the nation's educational goals.* (ERIC Document Reproduction Service No. ED357023).

Mintzberg, H. (1983). The power game and the players. In J. Shafritz, J. Ott, & Y. Jang (Eds.), *Classics of organization theory* (pp. 334-343). Belmont, CA: Thomson Wadsworth.

Montes, L., & Gonzales, C. (2000). Been there, done that: Reaching teachers through distance education. *Journal of Technology and Teacher Education, 8*(4), 351+.

Morgan, G., Leech, N., Gloeckner, G., & Barrett, K. (2004) *SPSS for introductory statistics: Use and interpretation* (2nd Ed.). Mahway, NJ: Lawrence Erlbaum Associates.

National Association of Secondary School Principals (2001). *The principals' shortage.* Reston, VA: Author.

National Board for Professional Teaching Standards. (2001a). *The Charlotte Collaborative: Working together…to recognize accomplished teaching.* Arlington, VA: Author. (ERIC Document Reproduction Service NO. ED 468737).

National Board for Professional Teaching Standards. (2001b). *Leading from the classroom.* (Report). Arlington, VA: Author. (ERIC Document Reproduction Service No. ED475767).

National Board for Professional Teaching Standards. (2002). *Raising the standard: A 15 year retrospective, 1987-2002.* (Report). Arlington, VA: Author. (ERIC Document Reproduction Service No. ED472664).

National Board for Professional Teaching Standards. (2006a). *2006 guide to National Board Certification.* Retrieved February 2, 2007, from National Board for Professional

Teaching Standards Web site:

http://www.nbpts.org/for_candidates/certificate_areas?ID=17&x=49&y=7

National Board for Professional Teaching Standards. (2006b). *Eligibility and policies.* Retrieved

July 18, 2006, from National Board for Professional Teaching Standards Web site:

http://www.nbpts.org/become_a_candidate/eligibility_policies

National Board for Professional Teaching Standards. (2006c). *Middle childhood generalist*

portfolio instructions. Retrieved February 5, 2007, from National Board for Professional

Teaching Standards Web site:

http://www.nbpts.org/for_candidates/certificate_areas?ID=17&x=49&y=7

National Board for Professional Teaching Standards. (2006d). *NBCT directory*. Retrieved

January 11, 2007, from National Board for Professional Teaching Standards Web site:

http://www.nbpts.org/resources/nbct_directory

National Board for Professional Teaching Standards. (2006e). *Research.* Retrieved November

12, 2006, from National Board for Professional Teaching Standards Web site:

http://www.nbpts.org/resources/state_local_information

National Board for Professional Teaching Standards. (2006f). *State and local information.*

Retrieved July 18, 2006, from National Board for Professional Teaching Standards Web

site: http://nbpts.org/resources/state_local_information

National Board for Professional Teaching Standards. (2006g). *The five core propositions.*

Retrieved July 18, 2006, from National Board for Professional Teaching Standards Web

site: http://www.nbpts.org/the_standards/the_five_core_propositio

National Board for Professional Teaching Standards. (2006h). *The Standards.* Retrieved July 18,

    2006, from National Board for Professional Teaching Standards Web site:

    http://www.nbpts.org/the_standards

National Board for Professional Teaching Standards. (2007). *Making the commitment to*

    accomplished teaching: Q & a for 2007 National Board Certification. Retrieved

    February 23, 2007, from National Board for Professional Teaching Standards Web site:

    http://www.nbpts.org/about_us/news_media/press_kit

National Commission on Excellence in Education. (1984). *A nation at risk: The full account* (4th

    ed.). Portland, OR: USA Research, Inc.

National Commission on Teaching and America's Future. (1996). *What matters most: Teaching*

    for America's future. Retrieved March 2, 2006, from

    http://www.nctaf.org/article/?c=4&sc=42

National Research Council. (1989). *Everybody counts: A report to the nation of future of*

    mathematics education. Washington, DC: National Academy Press.

Ovando, M. (1996). Teacher leadership: Opportunities and challenges. *Planning and Changing*

    27(1/2), 30-44.

Pedagogy. (n.d.) *Dictionary.com Unaabridged (v.1.1).* Retrieved May 1, 2007 from

    http://dictionary.reference.com/browse/pedagogy

PeoplePlus. (2007). *Survey response rates: Tips on how to increase response rates.* Retrieved

    July 15, 2007 from http://www.peoplepulse.com.au/Survey-Response-Rates.htm

Petty, T., O'Conner, K., & Dagenhart, D. (2003). *Identifying the wants and needs of North*

    Carolina teachers. Retrieved May 27, 2007, from National Board for Professional

Teaching Standards Web site:

http://www.nbpts.org/resources/research/browse_studies?ID=27

Piaget, J. (1971). *Genetic epistemology.* New York: Columbia University Press.

Perkins, D. (1992). *Smart schools.* New York: Free Press.

Portin, B., Schneider, P., DeArmond, M., & Gundlach, L. (2003). *Making sense of leading*

schools: A study of the school principalship. Seattle: Center for Reinventing Public

Education, University of Washington. Retrieved February 2, 2007, from

http://www.crpe.org/pubs/pdf/MakingSense_PortinWeb.pdf

Public Affairs Research Council of Louisiana. (1999). *Education accountability and the role of*

school choice. Retrieved March 10, 2007, from http://www.heartland.org/pdf/2184eq.pdf

Quality counts 2004: *Count me in: Special education in an era of standards.* (2004, January 8).

Education Week 23(17), 136.

Riegler, A. (2006). *Ernst von Glasersfeld.* Retrieved April 29, 2007, from

http://www.vonglasersfeld.com/

Rinehart, J., & Short, P. (2002). Job satisfaction and empowerment among teacher leaders,

reading recovery teachers and regular classroom teachers. *Education 114,* 570+.

Rogers, C. (1967). *The interpersonal relationship in the facilitation of learning*. Washington,

D.C.:Association for Supervision and Curriculum Development.

Rogers, C. (1993). *Freedom to Learn* (3rd ed.). New York: Merrill

Rudestam, K., & Newton, R. (2001). *Surviving your dissertation: A comprehensive guide to*

content and process (2nd ed.). Thousand Oaks, CA: Sage.

Senge, P. (1990). *The fifth discipline.* New York: Doubleday.

Sergiovanni, T. (1994). *Building community in schools.* San Francisco: Jossey-Bass.

Showers, B., Joyce, B., & Bennett, B. (1987). Synthesis of research on staff development: A framework for future study and a state-of-the-art analysis. *Educational Leadership*, *45*(3), 77-87.

Siegrist, G. (1999). Educational leadership must move beyond management training to visionary and moral transformational leaders. *Education 120*(2), 297+.

Silva, D., Gimbert, B., & Nolan, J. (2000). Sliding the doors: Locking and unlocking possibilities for teacher leadership. *Teachers College Record, 102,* 779-804.

Smith, M. (1997). Eduard C. Lindeman and the meaning of adult education. *The Encyclopedia of Informal Education.* Retrieved July 17, 2006, from http://www.infed.org/thinkers/et-lind.htm

Smith, M. (1999). Andragogy. *The Encyclopedia of Informal Education.* Retrieved March 10, 2007, from http://www.infed.org/lifelonglearning/b-andra.htm

Smith, M. (2007). Carl Rogers, core conditions and education. *The Encyclopedia of Informal Education.* Retrieved May 1, 2007, from http://www.infed.org/thinkers/et-rogers.htm

Smylie, M. (1989). Teachers' views of the effectiveness of sources of learning to teach. *The Elementary School Journal, 89*(5), 543-558.

Sparks, D. (1999). Real-life view: An interview with Ann Lieberman. *Journal of Staff Development, 20*(4), 53-57.

Spillane, J. (2006). *Distributed Leadership.* San Francisco, CA: Jossey Bass.

Spillane, J., & Camburn, E. (2006, April). *The practice of leading and mangaging: the definition of responsibility for leadership and management in the school house.* Draft paper prepared for presentation at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Spillane, J., Halverson, R., & Diamond, J. (2001). Investigating school leadership practice: A

distributed perspective. *Educational Researcher, 30*(3), 23-28.

Spillane, J., Halverson, R., & Diamond, J. (2004). Toward a theory of leadership practice: A

distributed perspective. *Journal of Curriculum Studies, 36*(1), 3-34.

State of Louisiana. (2007). *Governor Blanco unveils education budget: Makes K-12 and higher*

education a priority. Retrieved April 27, 2007, from

http://www.gov.state.la.us/index.cfm?md=newsroom&tmp=detail&catID=4&articleID=2

711

Surowiecki, J. (2004). *The Wisdom of Crowds.* New York: Doubleday.

SurveyMonkey.com. (2006) *Welcome to a revolutionary tool.* Retrieved January 20, 2007 from

http://www.surveymonkey.com/

Sykes, G., Anagnostopoulos, D., Cannata, M., Chard, L., Frank, K., McCrory, R., et al. (2006).

National Board Certified Teachers as organizational resource: Final report to the

National Board for Professional Teaching Standards. Retrieved January 22, 2007, from

National Board for Professional Teaching Standards Web site:

http://www.nbpts.org/UserFiles/File/NBPTS_final_report_D_-_Sykes_-

_Michigan_State.pdf

Takona, J. (2003). *Portfolio development for teacher candidates.* (ERIC Document Reproduction

Service No. ED481816).

Teacher Retirement System of Louisiana. (2007). *Teacher Retirement System of Louisiana*

general info. Retrieved April 22, 2007, from

http://www.trsl.org/general/index.php?page=archive

Thompson, J. (1967). *Functions of the executive.* Cambridge, MA: Harvard University Press.

Timperley, H. (2005). Distributed leadership: Developing theory from practice. *Journal of Curriculum Studies, 37*(4), 395-420.

Tough, A. (1967) *Learning without a teacher: A study of tasks and assistance during adult self-teaching projects.* The Ontario Institute for Studies in Education. Retrieved May 1, 2007, from http://allentough.com

United States Department of Education. (2002a). *No child left behind.* Retrieved July 21, 2006, from http://www.ed.gov/nclb/landing.jhtml#

United States Department of Education. (2007). *The nation's report card.* Retrieved June 25, 2007, from http://nces.ed.gov/nationsreportcard/

United States Census Bureau. (2006). *Public education finances, 2004.* Retrieved April 27, 2007, from http://ftp2.census.gov/govs/school/04f33pub.pdf

United States Department of Education. (2002b). *No child left behind: A desktop reference 2002.*

United States Department of Education. (2003a). *Meeting the highly qualified teachers challenge: The Secretary's second annual report on teacher quality.* Jessup, MD: Editorial Publications Center.

United States Department of Education. (2003b). *No child left behind: A toolkit for teachers.* Jessup, MD: ED Pubs.

United States Department of Education. (2004). *No child left behind: A toolkit for teachers.* Jessup, MD: ED Pubs.

University of New Orleans Office of Research and Sponsored Programs. (n.d.). *Institutional review board human subjects exempt research.* Retrieved July 9, 2006, from http://www.humansubjects.uno.edu/ExemptResearch.htm

USA Research, Inc. (1984). *A nation at risk: The full account.* Portland: Author.

Vandervoort, L., Amrein-Beardsley, A., & Berliner, D. (2004). National Board Certified teachers and their students achievement. *Education Policy Analysis Archives, 12*(46). Retrieved March 30, 2005, from http://epaa.asu.edu/epaa/v12n46/

Wagner, T. (2001). Leadership for learning: An action theory of school change. *Phi Delta Kappan*, *82*(5): 378+.

Waller, E., & Klotz, J. (2001). *The identification of teacher leaders through National Board Certification process in Mississippi public schools.* (ERIC Document Reproduction Service No. ED463244).

Wang, M., Haertel, G., & Walberg, H. (1993). Toward a knowledge base for school learning. *Review of Educational Research*, *63*(3): 249-294.

Web Center for Social Research Methods. (2006). *Research methods knowledge base: Descriptive statistics.* Retrieved January 20, 2007, from http://www.socialresearchmethods.net/kb/statdesc.php

Weick, K. (1976). Educational organizations as loosely coupled systems. *Administrative Science Quarterly, 21*(1), 1-19.

West, M., Jackson, D., Harris, A., & Hopkins, D. (2000). Learning through leadership, leadership through learning: Leadership for sustained school improvement. In K. Louis & K Riley (Eds.), *Leadership for change and school reform: International perspectives* (pp. 30-47). London: Routledge.

Whitsett, G., & Riley, J. (2003). *Defining and applying leadership: Perceptions of teacher leader candidates.* Paper presented at the Annual Meeting of the Mid-South Educational Research Association, Biloxi, MS.

Wilcox, D. (1999). The national board for professional teaching standards: Can it live up to its

   promise? In M. Kanstroon & C. Finn, Jr. (Eds.), *Better Teachers, Better Schools.*

   Washington, D.C.: The Thomas Fordham Foundation. (ERIC Document Reproduction

   Service No. ED434124).

Wilson, S., & Berne, J. (1999). Teacher learning and the acquisition of professional knowledge:

   An examination of research on contemporary professional development. *Review of*

   Research in Education, 24, 173-209.

APPENDICES

APPENDIX A

IRB Approval Letter

University Committee for the Protection
of Human Subjects in Research
University of New Orleans

_____

Campus Correspondence

Tammie Causey, PI
Kathleen Severns, Co-I
ED 174

2/14/07

RE: National board certification and school leadership in Louisiana

IRB: 04feb07

The IRB has deemed that the research and procedures are compliant with the University of New Orleans and federal guidelines.

Please remember that approval is only valid for one year from the approval date. Any changes to the procedures or protocols must be reviewed and approved by the IRB prior to implementation.

If an adverse, unforeseen event occurs (e.g., physical, social, or emotional harm), you are required to inform the IRB as soon as possible after the event.

Best of luck with your project!
Sincerely,

Laura Scaramella, Ph.D.

APPENDIX B

Permission to Use Items From the Sykes, et al. Study

Re: Survey
Gary Sykes [garys@msu.edu]

To: severns, cathy

Cathy: so sorry to here of Katrina-related difficulties; this must be very hard for all. Certainly you can site larger study. But in analyzing your data take particular care re causal inferences. With cross sectional data all you can do is indicate what is associated with what, not what causes or explains or influences what. This limits possibilities of interpretation but is just a problem with data that doesn't include longitudinal repeated measures....   All the best, Gary

----- Original Message -----
From: severns, cathy
To: Gary Sykes
Sent: Thursday, January 11, 2007 3:45 PM
Subject: Survey

Dr. Sykes-

Thank you so much for sharing your survey with me. I am attaching the survey I hope to use for my dissertation on the contributions of NBC to school leadership and student achievement in Louisiana. It is based on the survey you sent me last month. This survey will be included in the appendix of my dissertation. Any publication of the study would include the survey results, but not the survey itself. I would like to make the following (or similar) statement in my methods chapter:

The survey items used for this research were selected, and in some instances slightly modified, from a larger NBPTS study (Sykes, 2006).

I wanted to check with you on this to be sure it is okay with you.

Also- one of the professors on my committee, Dr. Claire Thoreson, said she knows Dorothea Anagnostopoulos. Small world!

I want to tell you how much I appreciate your help. The challenges of trying to complete a Ph.D. at UNO post-Hurricane Katrina are huge. They have lost many of their professors and students. I live in Lake Charles and we were hit by Hurricane Rita only weeks later. So it has been challenging, but I hope to finish in May.

You can contact me by email: cathy.severns@cpsb.org or by phone 337-802-1676.

Cathy

APPENDIX C

School Leadership Survey

School Leadership Survey
Exit this survey >>
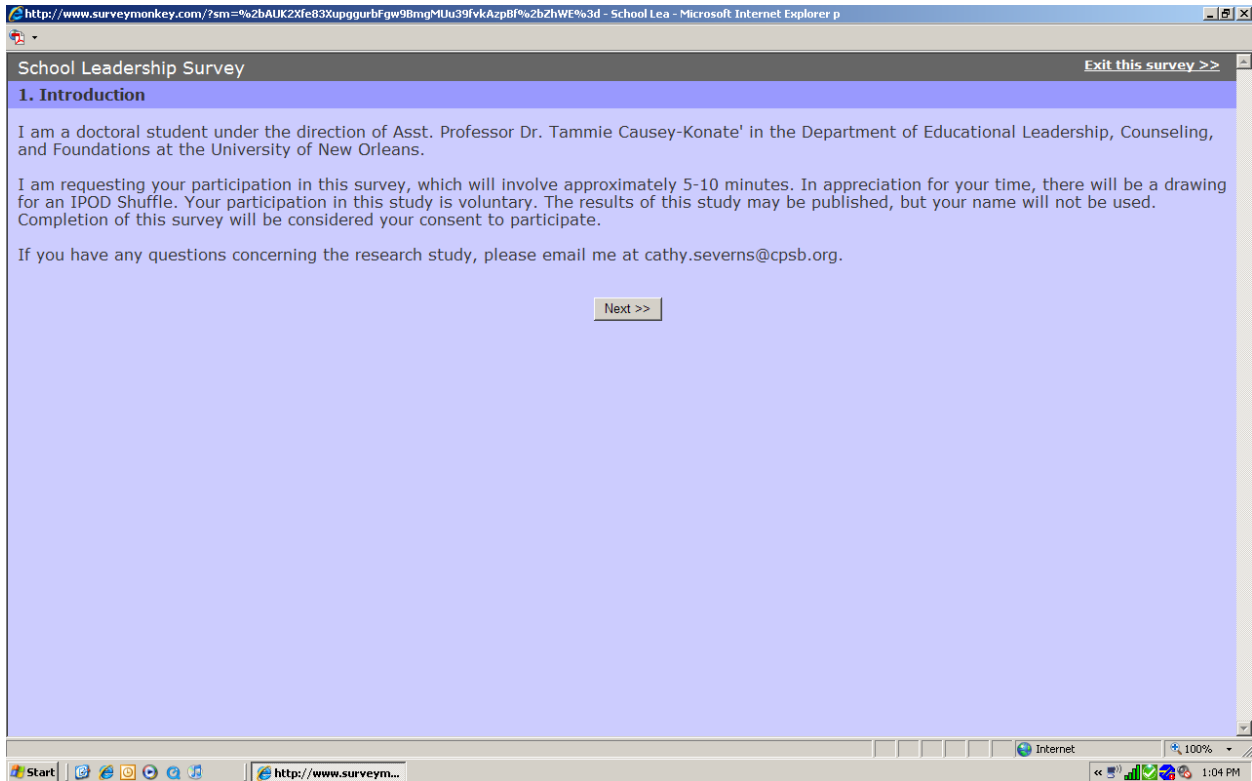
1. Introduction

I am a doctoral student under the direction of Asst. Professor Dr. Tammie Causey-Konate' in the Department of Educational Leadership, Counseling, and Foundations at the University of New Orleans.

I am requesting your participation in this survey, which will involve approximately 5-10 minutes. In appreciation for your time, there will be a drawing for an IPOD Shuffle. Your participation in this study is voluntary. The results of this study may be published, but your name will not be used. Completion of this survey will be considered your consent to participate.

If you have any questions concerning the research study, please email me at cathy.severns@cpsb.org.

Next >>

School Leadership Survey

2. Demographics

1. What is your current position?

☐ I am a full-time teacher

☐ I am a part-time teacher

☐ I am a full-time administrator

☐ I am a part-time administrator

☐ Other (please specify)

☐

2. Total years in education (including this year)

☐ 0-10 years

☐ 11-20 years

☐ 20 or more years

3. What is your highest level of education completed?

☐ Bachelor's degree

☐ Master's degree

☐ Master's Plus 30

☐ Educational Specialist Degree

☐ Doctorate

4. Are you a National Board Certification Teacher?

☐ Yes

☐ No

Done | Internet | 100%

Start | » | http://www.surveym... | 1:06 PM

http://www.surveymonkey.com/?sm=%2bAUK2Xfe83XupggurbFgw9BmgMUu39fvkAzpBf%2bZhWE%3d - School Lea - Microsoft Internet Explorer p

School Leadership Survey

3. National Board Certification Teachers

5. Please indicate your level of agreement with each statement about the current conditions in your school or district.

	Strongly disagree	Disagree	Agree	Strongly agree
The principal includes NBCTs more than other teachers in school leadership activities.	☐	☐	☐	☐
The principal encourages NBCTs more than other teachers to share ideas and innovations.	☐	☐	☐	☐
Central office administrators support teachers pursuing National Board Certification.	☐	☐	☐	☐
My principal supports teachers pursuing National Board Certification.	☐	☐	☐	☐
NBCTs set a high standard of work for other teachers.	☐	☐	☐	☐
In this school district, NBCTs hold more leadership positions than other teachers.	☐	☐	☐	☐
Compared to non-National Board Certification teachers, NBCTs are more effective in assisting other teachers with their instruction.	☐	☐	☐	☐
NBCTs take advantage of opportunities to develop and enhance their teaching more than non-NBC teachers.	☐	☐	☐	☐

[<< Prev] [Next >>]

Done   Internet   100%

Start   http://www.surveym...   1:07 PM

http://www.surveymonkey.com/?sm=%2bAUK2Xfe83XupggurbFgw9BmgMUu39fvkAzpBf%2bZhWE%3d - School Lea - Microsoft Internet Explorer p

School Leadership Survey

4. Current Conditions

6. Please indicate your level of agreement with each statement about the current conditions in your school or district.

	Strongly disagree	Disagree	Agree	Strongly Agree
I am willing to put in extra time and effort to be a leader in my profession.	☐	☐	☐	☐
Teachers have a responsibility to encourage people to enter the teaching profession.	☐	☐	☐	☐
Teachers have a responsibility to help prepare new teachers.	☐	☐	☐	☐
My involvement in leadership activities makes me feel more significant in my profession.	☐	☐	☐	☐
My involvement in leadership activities enhances my career satisfaction.	☐	☐	☐	☐

<< Prev   Next >>

Internet   100%

Start   http://www.surveym...   1:10 PM

http://www.surveymonkey.com/?sm=%2bAUK2Xfe83XupggurbFgw9BmgMUu39fvkAzpBf%2bZhWE%3d - School Lea - Microsoft Internet Explorer p

School Leadership Survey

5. Professional Roles and Activities

7. Please identify any professional roles or professional activities in which you have participated in the past five years.

	School Level	District Level	State Level	National Level
Mentor other teachers	☐	☐	☐	☐
Serve as a team leader (e.g., grade level, subject area, consulting teacher, or program leader)	☐	☐	☐	☐
Develop curriculum materials	☐	☐	☐	☐
Select curriculum materials	☐	☐	☐	☐
Evaluate other teachers	☐	☐	☐	☐
Serve on teacher hiring committee	☐	☐	☐	☐
Provide professional development	☐	☐	☐	☐
Work with teacher preparation program at college or university	☐	☐	☐	☐
Advise on policy or policy development (e.g., serve on a committee, work for the U.S. or Louisiana Department of Education, consult as a policy expert on issues of teaching and learning)	☐	☐	☐	☐

[<< Prev] [Next >>]

Done

Internet

100%

Start » http://www.surveym... 1:12 PM

http://www.surveymonkey.com/?sm=%2bAUK2Xfe83XupggurbFgw9BmgMUu39fvkAzpBf%2bZhWE%3d - School Lea - Microsoft Internet Explorer p

School Leadership Survey

Exit this survey >>

6. School Wide Influence

8. Please indicate your influence over SCHOOL WIDE policy in your school in the following areas.

	No influence	Limited influence	Moderate influence	A great deal of influence
Establishing school-wide or departmental curriculum	☐	☐	☐	☐
Determining the content of in-service professional development programs	☐	☐	☐	☐
Setting school-wide discipline policy	☐	☐	☐	☐
Allocating resources (e.g., curricular materials, computers, textbooks)	☐	☐	☐	☐

[<< Prev] [Next >>]

Done

Internet

100%

Start

http://www.surveym...

1:13 PM

http://www.surveymonkey.com/?sm=%2bAUK2Xfe83XupggurbFgw9BmgMUu39fvkAzpBf%2bZhWE%3d - School Lea - Microsoft Internet Explorer p

School Leadership Survey

Exit this survey >>

7. Career Plans

9. How long do you plan to continue teaching/school administration?

☐ As long as I am able

☐ Until I am eligible for retirement

☐ Continue unless something better comes along

☐ Leave teaching/school administration as soon as I can

☐ Undecided at this time

10. In the past five years, how seriously have you considered leaving teaching?

☐ Not at all

☐ Somewhat

☐ Moderately

☐ Seriously considered

[<< Prev] [Next >>]

Internet

100%

Start | http://www.surveym... | 1:14 PM

http://www.surveymonkey.com/?sm=%2bAUK2Xfe83XupggurbFgw9BmgMUu39fvkAzpBf%2bZhWE%3d - School Lea - Microsoft Internet Explorer p

School Leadership Survey

8. Thank You!

11. Please enter your email address below if you wish receive the results of this survey. Your answers will be completely confidential. Your email address will only be used to send you the results of the survey.

12. Thank you for participating in this survey. Please enter your email address in the space below if you wish to be entered in the drawing for the IPOD Shuffle. Your answers will be completely confidential. Your email address will only be used to enter you in the drawing.
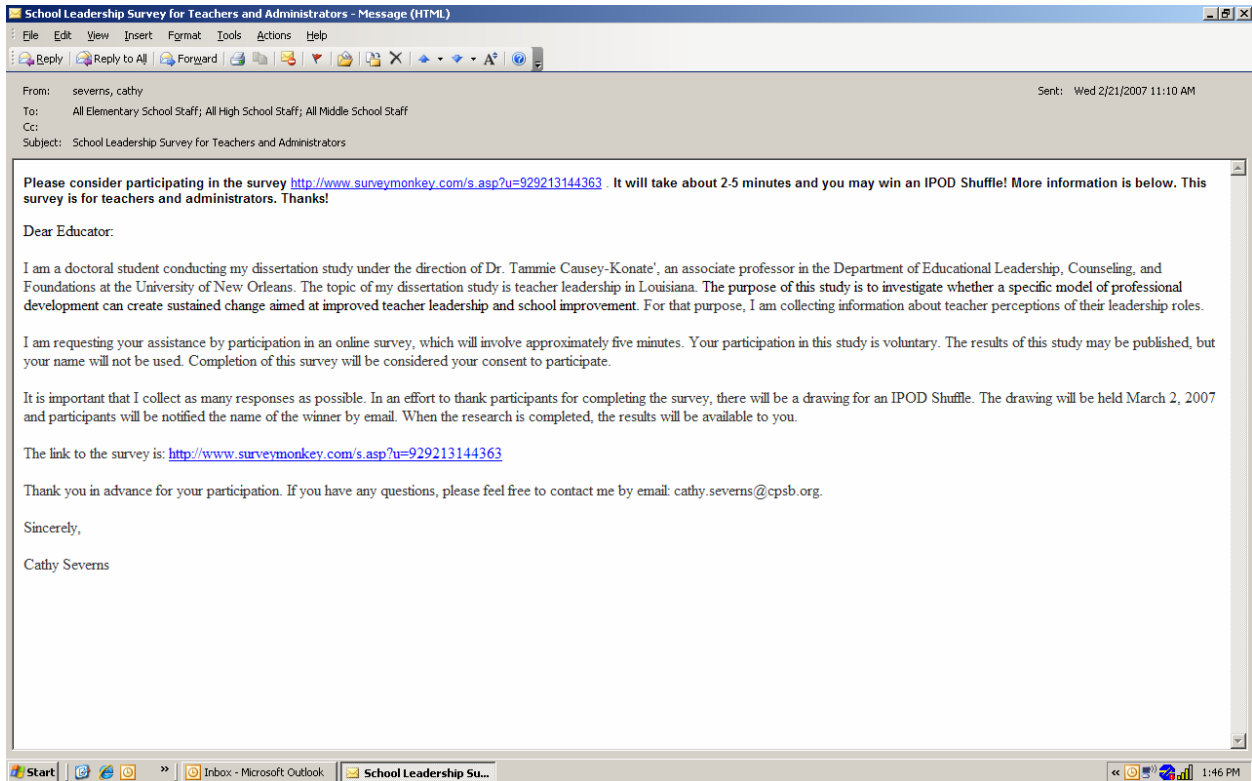
Thank you for your participation!

<< Prev   Done >>

Internet   100%

Start   http://www.surveym...   1:15 PM

APPENDIX D

Email Invitation to Teachers to Participate in the School Leadership Survey

VITA

Kathleen A. Severns was born in Waco, Texas on August 20, 1954 to William and Patricia Monroe. She attended public school in the Dallas-Fort Worth area. Mrs. Severns completed her Bachelor of Science and Masters Degrees in Elementary Education from Stephen F. Austin State University in Nacogdoches, Texas. After moving to Louisiana, Mrs. Severns completed her principal certification and took additional postgraduate courses at McNeese State University.

Mrs. Severns has served as teacher and administrator in elementary and middle schools in Texas and Louisiana for 27 years. During her career she has been recognized with the 1995 Presidential Award for Excellence in Mathematics Teaching; 1998 Louisiana Elementary Teacher of the Year; 1998 National Board Certification, Middle Childhood Generalist; 2004 and 2005 Who's Who of American Teachers; and the 2005 Louisiana Assistant Principal of the Year. Mrs. Severns currently serves as Assistant Principal of Maplewood Middle School in Sulphur, Louisiana.

Mrs. Severns has two daughters, Jennifer Severns and Megan Severns.