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A STUDY OF THE ATTITUDES OF VETERAN TEACHERS TOWARD PROFESSIONAL DEVELOPMENT

BY

JOHANNA SILANE RUBERTO

Dissertation Committee

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Submitted in partial fulfillment of the requirements of the Degree of Doctor of Education Seton Hall University 2003

ABSTRACT

A STUDY OF ATTITUDES OF VETERAN TEACHERS TOWARD PROFESSIONAL DEVELOPMENT

The study is based upon the premise that veteran teachers bring value to the school community by way of their expertise and experience. The primary focus of the study was to describe the attitudes of teachers toward professional development in schools within a selected county in New Jersey. Additionally, the study wants to determine if there were any significant differences among attitudes according to District Factor Groups, gender, total number of years of teaching experience, teaching level or assignment, and degree attainment. Subsidiary questions were focused on professional development activities as being necessary to maintaining a teacher's instructional skills and a problem-based instructional methodology.

The setting for the study identified the beginning of the current systemic reform movement as coinciding the publication of A Nation at Risk, 1983. In addition to the current systemic reform movement, the study also focused upon the shift in instructional methodologies as identified by the current research on professional development and its impact on student achievement and the Professional Standards for Teachers and Educational Services, New Jersey, 2000. Current research concerning the "career cycles" of teachers and veteran teachers was presented as a framework for the research.

Questionnaires were used to explore the teachers' attitudes toward professional development. The survey instrument also allowed for additional comments to identify any trends in attitude.

Analysis of the data identifies that the majority of the teachers have a positive attitude toward professional development in their school district. There were significant differences among District Factor Groups and experience. Gender, certification, and teaching level or assignment did not yield any statistically significant results. The qualitative information presents additional information concerning teachers' attitudes toward, professional development activities, the *Professional Standards for Teachers and Educational Services, New Jersey*, problem-based instruction, and the active classroom.

Additional research is necessary concerning the quality and type of professional development activities for the veteran teacher. The findings of the study also suggest that funding for professional development activities is an area for continued research.

Additionally, research concerning policy and practice as it relates to professional development is an area for continued research.

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To Ron, what can I say? Thank you for being my best friend. You have always shared my goals and offered me your love, patience and confidence. To Suzanne and Jaclyn, remember the "cream always rises". You are both my inspiration.

DEDICATION

To my parents, Mr. and Mrs. John Silane, my husband, Ron and daughters Suzanne and Jaclyn with love and gratitude for your confidence, support, and patience and to the effective, competent and caring teachers I have had the privilege to share my educational experiences, growth and development.

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CHAPTER I

Introduction

Public education continues to be scrutinized concerning student achievement. The 1983 release of *A Nation at Risk* by the National Commission on Excellence in Education (NCEE) promoted the current educational reform movement (Kentucky Education Association & Appalachia Educational Laboratory (AEL, 1993). This document is often cited as the origin of current reform efforts. The report stated its conclusions in brief terms:

If an unfriendly power had attempted to impose on American the mediocre educational performance that exists today, we might well have viewed it as an act of war. As it stands, we have allowed this to happen to ourselves. We have even squandered the gains in achievement made in the wake of the Sputnick challenge. Moreover, we have dismantled essential support systems, which helped make those gains possible. We have, in effect, been committing an act of unthinking unilateral educational disarmament. (p. 5)

This report brought the need and identified the value for the effectiveness of public education to the forefront. We began as a nation, to identify our commitment to public education and the need to reform the current system if we were to maintain global competition.

"The National Education Goals in 1990 and the March 1994 enactment of the Goals 2000: Educate America Act made the National Education Goals federal policy and the

guiding principles for a fundamental restructuring of the public education system."

(National Governors' Association, 1995, p. 5) Public education is a societal issue that requires a commitment on all levels of government and an emphasis on the value we as Americans place on public education. The right to an education is historically linked to the democratic principles of our country. The current systemic reform movement gained momentum. The National Commission on Teaching and America's Future (NCTAF), 1996, identified its goal... "by the year 2006, America will provide all students in the country with what should be their educational birthright; Access to competent, caring, and qualified teachers" (p. 10).

These initiatives affect public education on the state, local, and national levels. The "push" is on to reform public education. Systemic reform addresses a total school restructuring. One of the focuses of this restructuring is the continuous development of the teaching force. The NCTAF concluded that setting high standards for teachers working in all of America's school districts is part of the current systemic reform movement.

The demands on teachers expand as the changes are implemented. For many teachers these demands create pressure and tension. There are:

many demands on teachers, improving subject-matter knowledge and pedagogical skills; understanding cultural and psychological factors that affect student learning; and assuming greater and in some cases, new responsibilities for curriculum, assessment, outreach, governance, and interagency collaboration. For the veteran teacher, the current initiatives concerning reform present new demands. (Abdal-Haqq, 1996, p. 1)

The logical transition of these goals and changes has a direct effect on professional development. There is a renewed focus on professional development that educators use appropriate teaching skills to enable students to meet or exceed their potential (New Jersey Administrative Code, NJAC, 6:11-13). The psychological factors that affect student learning require that teachers change their instructional methodologies. "New assessment tools as identified by the state mandated assessment tests, require teachers to change their classroom practice, deepen their content knowledge and assume new roles and responsibilities." (Corcoran, 1995, p. 10) This situation can present special pressures for the veteran teacher.

Veteran teachers are considered the mainstay of a school and their experience and expertise bring value to the school community. The current demands that relate to the paradigm shift in instructional methodologies present new pressures for the veteran teacher. The teacher's response to the current reform movement may not be obvious, but rather subtle changes in attitude, viewpoint, and involvement in the total school community. The periods of transition within the teaching career may result in withdrawal or burnout.

The current reform movement emphasizes a shift in instructional methodologies that result in an increased amount of professional development activities. The instruction is neither linear nor textbook in approach. Veteran teachers received instruction that did not address the student-centered, problem-based classroom and attention to state, mandated assessment tests. The paradigm shift to student-centered problem-based classroom requires veteran teachers to alter their classroom methodologies. "A shift to student-centered teaching where greater emphasis is placed on thinking, analysis,

problem solving, and the integration and application of knowledge" (Corcoran, 1995, p. 13).

The current reform movement imposes many demands on the veteran teacher.

"Initiation and mentor programs provide support and guidance to the new teacher however the veteran teachers, an average of 14.5 years of experience are not the primary focus for support" (Abdahl-Haqq, 1996, p. 1). Educators identified as veteran teachers may not have many of the skills necessary to function effectively in restructured schools and the changes considered effective concerning instructional methodologies. Veteran teachers provide the profession with stability, experience, and knowledge. Yet, the need or drive to retool can leave many veteran teachers with feelings of inadequacy from and resentment to the reforms and required changes. Stress, pressure, and burnout are potential reactions.

The question is what are the attitudes of veteran teacher toward professional development? If the current reforms are to be successful, research concerning the attitude of veteran teachers toward professional development activities that focus on changes in instructional methodologies is relevant.

Statement of the Problem

Professional development is a key component of the current educational reform movement as is the emphasis on instructional methodologies. The primary purpose of the study was to identify the attitudes of veteran teachers in grades K-8 toward professional development activities within Somerset County, New Jersey and to identify any

differences between such attributes within District Factor Groups, gender, total number of years of teaching experience, teaching level or assignment, and degree attainment.

Significance of the Study

Systemic reform addresses changes in instructional methodologies affecting professional development. These methodologies encourage teachers to provide classroom instruction that is active, student-centered, problem-based and inclusive. The professional development activities can be challenging if the participants view them as relevant and timely. If the professional development activities are viewed by the teachers as irrelevant and time consuming, the impact can create or affect the teacher's self-worth and influence the school culture. It is important to include veteran teachers' attitudes toward this initiative. Relevant information concerning this topic might support the educational community in minimizing negative reflections and burnout of veteran teachers. Information concerning the manner and delivery of professional development might encourage the effectiveness of these programs.

Research Question

Are there significant differences between veteran teachers attitudes toward professional development in schools within District Factor Groups, according to gender, total number of years of teaching experience, teaching level or assignment, and degree attainment?

Subsidiary Questions

Subsidiary questions focus upon professional development and instructional methodologies. The subsidiary questions are:

- 1. Do teachers believe professional development activities are necessary to maintain a teacher's instructional skills?
- 2. Do teachers believe professional development activities encourage teachers to provide their students with problem-based instruction?

Definition of Terms

Attitude: The mental position with regard to a fact or state: a feeling or emotion toward a fact or state. (Encyclopedia Britannica Online, 2002)

District Factor Group (DFG): An indicator of the socioeconomic status of citizens in each school district across the state of New Jersey. This ranking was first developed in 1974 with revisions in 1984 and again in 1990. School districts in New Jersey are assigned one of the following DFG rankings: A, B, CD, DE, FG, GH, I, J. The DFG "J" represents districts with the highest socioeconomic status. The DFG in this study will reflect the 1990 revision. (Appendix F1).

Public School: A free tax-supported school controlled by a local governmental authority (Encyclopedia Britannica Online, 2002).

Professional/Staff Development: For the purpose of this research the definition of professional development refers to sustained professional learning. (Sparks, 2002, p. i)

Veteran Teacher: For the purpose of this study, a veteran teacher will be a teacher with 10 years or more of teaching experience in public education.

Delimitations and Limitations

This study will use the 1983 release of A Nation at Risk by the National Commission on Excellence in Education (NCEE) as a point of origin for the current reform movement. The study will not include mentor programs nor discuss any research concerning the new models of professional development for adult learners. Limitations include the public's response toward professional development and the students' reaction or attitudes toward instructional strategies. Research concerning the effectiveness of student-centered and problem-based instructional strategies and teacher-centered instructional strategies will not be presented.

Limitations of this study are directly related to the use of a survey instrument to collect data. According to Abrami, Cholmsky, and Gordon (2001), reliability concerning the use of the survey can be affected by five factors that may cause measurement error.

The factors include:

- The items that comprise the test do not measure the same underlying trait or measure it to varying degrees.
 - 2. Test administrators fail to administer the test consistently.
 - 3. Test scorers fail to use uniform scoring procedures.
 - 4. Testing conditions vary from person to person and time to time.
- Individual respondents are affected by personal factors extraneous to the test
 (e.g., mood, illness, anxiety, or boredom) (Abrami, Cholmsky, & Gordon, 2001, p. 43).

Data is limited to the 980 teachers in the school districts in which approval to conduct research was granted.

CHAPTER II

Review of the Related Literature

The literature review includes the following areas: the current educational reform movement, professional development and the changes in instructional strategies and methodologies, how these changes have become a component of the current systemic reform movement, the requirement of professional development in New Jersey and the veteran teachers life and career cycles as they influence the attitudes of veteran teachers toward professional development.

Current Educational Reform Movement

The current educational reform movement had its origin with the release of A Nation at Risk issued by The United States Department of Education's Commission on Excellence in Education (NCEE). The document is considered the origin of the current reform efforts in public education. Today, a 21 century standard for an educated citizenry is required. (National Commission on Time and Learning, NCTL, 1994, p. 3) This statement reveals the consensus concerning the reality and responsibility of the public education system. The National Commission on Teaching and America's Future (NCTAF) further emphasizes our current goal by announcing, "We propose an audacious goal...by the year 2006, America will provide all students in the country with what should be their educational birthright: access to competent, caring, and qualified teachers" (p. 9)

"The transformation requires a widespread conviction in our society that learning matters. Learning matters not because it leads to better jobs or produces national wealth, but because it enriches the spirit and advances social health" (NCTL, 1994, p. 4). The infrastructure of the system has to recognize the complexities concerning the implementation of these changes and the capacity of the system to implement these changes. A recent article by Michael Fullan confirms the reality that a "push" is on for educational reform:

...We have witnessed in the 1990's a growing intensity in the efforts of large-scale reform. We can now conclude that large-scale reform has returned. The global society in increasingly complex, requiring educated citizens whom can learn continuously, and who can work with diversity, locally, and internationally. (Fullan, 2000, p. 7)

The complexities associated with educational reform go beyond implementation.

Reforming the nation's schools must address the higher standards and expectations. The higher standards on the national level is evidence of the adoption of the National Education Goals in 1990 and the March 1994 enactment of Goals 2000: Educate

America Act. According to a report from the National Governors' Association meeting in 1995, a renewed commitment on the national level concerning education reform plans address,

The rethinking of curricula to address today's learner. The designing of new standards for what students should know. The designing of new systems for the transition from school to work. The ability to bring assessment techniques into

line with the new priorities for student learning. (National Governors' Association, 1995, p. 6)

Numerous individuals at all levels of government, as well as persons in professional educational associations, foundations, and other independent organizations advocate and support the change presented at the National Governors' Association Government Roundtable (Fuhrman & Massell, 1992, p. 1).

The transformation we seek requires a widespread conviction in our society that learning matters. Learning matters not simply because it leads to better jobs or produces national wealth, but because it enriches the spirit and advances social health (NCTL, 1994). Learning matters refers to society's viewpoint and belief. Historically it has been the state's responsibility to mandate and establish policy concerning public education and currently we are seeing a greater involvement concerning policy on the national level.

Systemic reform, total school reform, and large-scale reform are terms used interchangeably to refer to the comprehensive change that focuses on many aspects of the educational system (Fuhrmann & Massell, 1992). Since the inception of the term systemic reform there has been no agreed definition. Current research identifies systemic reform as either total school reform or large-scale reform. Most definitions assume that:

Systemic reform addresses all of the mutually reinforcing instructors, processes and activities within the educational system, recognizing that altering any one part of the system necessarily impacts on all other parts. Systemic reform requires system coherence through the integration of policy and practice. Systemic reform requires strategies that help mobilize the conceptions, skills, and motivation in the minds and hearts of scores of educators. Systemic reform

requires the development of routine mechanisms for bringing people together across roles, within and across organizations for developing and maintaining shared direction and understanding: and to maintain strong communication among all of the constituent parts of the system. Systemic reform in education addresses the preparation, continuing learning and working conditions of school based, district-based and higher education-based educators in all roles – teachers, principals, counselors, specialists, paraprofessionals, central office and higher education personnel. (Swanson, 1995, p. 3)

Systemic reform varies from state to state. The interpretation and application of the components in the systemic reform movement work interchangeably to impact student learning. According to current research, the core elements to systemic reform include:

- 1. The adoption of ambitious goals for student learning at the state and local level.
- The establishment of more challenging academic standards for all students and the development of more rigorous curricula reflecting those standards.
 - 3. The development of more coherent state and local policies.
- 4. A shift to student-centered teaching where greater emphasis is placed on thinking, analysis, problem solving, and the integration and application of knowledge.
- 5. The development of performance measures to assess students' understanding of essential content, their ability to apply it to solve problems, and their capacity to integrate knowledge across the disciplines.
- 6. Mechanisms such as school report cards, rewards, sanction, and school quality reviews to generate stronger incentives to improve performance.

- 7. Decentralization of decision-making.
- 8. Increased collaboration among the agencies, institutions, and interests that attend public schools and the children and families they serve. (Corcoran, 1995, p. 13)

Systemic reform can be narrowed to three "types" of large-scale reform:

- 1. Whole school-district reform involving all schools in a district.
- Whole-school reform in which hundreds of schools attempt to implement particular models of change.
- 3. State or national initiatives in which all or most of the schools in the state are involved. (Fullan, 2000, p. 9)

For the purpose of this research, the definition of systemic reform will refer to "State or national initiatives in which all or most of the school in the state are involved" (Fullan, 2000, p. 8).

In January of 2001, President George W. Bush announced his framework for bipartisan education reform with the *No Child Left Behind Act* (NCLB). The NCLB reauthorizes the Elementary and Secondary Education Act of 1965 (ESEA). According to President Bush's statement (2001): These reforms express my deep belief in our public schools and their mission to build the mind and character of every child, from every background, in every part of American United States Department of Education, (NCLB, 2002, p. 1).

The NCLB redefines the role of the federal government as it relates to public education. As mandated by the NCLB, each state must establish clear high standards for each grade level and implement a system of annual assessments to identify the progress of the students. Before the enactment of the NCLB, 47 states, as of 1993, had adopted

Appalachia Educational Laboratory, 1993, p. 5). The NCLB further identifies the alignment of the standards and assessments as they relate to student progress and the accountability of the public school system to address student learning.

Professional Development and Changes in Instructional Strategies and Methodologies

During the 1950s and the 1960s, an emphasis on the changes in instructional pedagogy became evident. The National Commission on Teaching and America's Future (NCTAF) (1996) published the systemic plan What Matters Most Teaching for America's Future to improve public education. The Commission identified three premises in the systemic plan:

- 1. What teachers know and can do is the most important influence on what students learn.
- Recruiting, preparing, and retaining good teachers is the central strategy for improving schools.
- School reform cannot succeed unless it focuses on creating the conditions in which teachers can teach, and teach well. (p. 10)

The first premise, What teachers know and can do is the most important influence on what students learn relates to a component of the systemic reform movement. The focus is on instruction and the changes in instructional methodologies. As identified in one of the core elements of the current systemic reform movement, is the emphasis on instructional methodologies as they address the student. "Teachers must develop insight into the perspectives of their learners, their interests, their learning preferences, their prior

experiences and how they might connect to the standards" (Darling-Hammond & Ball, 1997, p. 10). What teachers know and can do is the most important influence on what students learn. Although the reform movement addresses all parts of the public education system, changes in instruction which requires "a shift to student-centered teaching, where a greater emphasis is placed on thinking, analysis, problem solving, and the integration and application of knowledge" (Corcoran, 1995, p. 13) is a key element. Implementing the practices associated with effective instruction was more difficult then people realized. Restructuring the classroom requires a new vision. The classroom of today is marked by integrated units of study, instructional blocks, alternative methods of assessment and the integration of technology (Lieberman & Miller, 2001, p. 32).

The second premise recognizes teachers as highly skilled professionals. The premise further infers that teachers, at any given time, are at different stages in their teaching career. These periods can influence the reflection and application of information from professional development activities.

The third premise refers directly to professional development. Based upon the NCTAF's two-year study, the emphasis on professional development emerges in the identification of the "lack of professional development and rewards for knowledge and skill" (p. 11) as one of seven barriers to providing the students in America's schools with "a caring, competent, and qualified teacher" (p. 9). "This report clarifies the current focus on professional development as a link to student achievement. What teachers know and can do is the most important influence on what students learn" (p. 10).

The National Commission on Teaching and America's Future made recommendations concerning professional development:

- Organize teacher education and professional development programs around standards for students and teachers.
- Develop extended, graduate-level teacher preparation programs that provides yearlong internship in a professional development school.
- Create and fund mentoring programs for beginning teachers, along with evaluation of teaching skills.
- 4. Create stable, high-quality sources of professional development. (p. 11)
 Goal four of the Goals 2000: Educate America Act (1994) enacted by the One
 Hundred Third Congress of the United States of America, January 25, 1994 synthesizes
 the recommendations of the National Education Goals Panel (NEGP). Goal 4, Teacher
 Professional Development, acknowledges professional development as an "essential role
 in successful education reform. Professional development serves as a bridge between
 prospective and experienced educators are now and where they will need to be to meet
 the new challenges of guiding all students to achieving to higher standards of learning
 and development" (p. 1). "The mission of professional development is to prepare and
 support educators to help all students achieve at high standards of learning and
 development" (p. 1). The principles of Goal 4 are,
- Professional development focuses on teachers as central to student learning, yet includes all other members of the school community.
- Professional development focuses on individual, collegial and organizational improvement.
- Professional development respects and nurtures the intellectual and leadership capacity of teachers, learning, and leadership.

- Professional development reflects best available research and practice in teaching, learning, and leadership.
- Professional development enables teachers to develop further expertise in subject content, teaching strategies, uses of technologies, and other essential elements in teaching to high standards.
- Professional development promotes continuous inquiry and improvement embedded in the daily life of schools.
- Professional development is planned collaboratively by those who will participate in and facilitate that development.
 - 8. Professional development requires substantial time and other resources.
 - 9. Professional development is driven by a coherent long-term plan
- 10. Professional development is evaluated ultimately on the basis of its impact on teacher effectiveness and student learning; and its assessment guides subsequent professional development efforts. (p. 2)

Professional development that is individual and allows for the teacher to implement what they have learned into the classroom is an essential element of these goals. Professional development that creates enthusiasm in a collegial environment benefits the teacher and the students. As identified in the goals, it is professional development that allows for the continued growth and development of the teachers' skills and areas of expertise.

The three year longitudinal study conducted by the United States Department of Education, 2000, entitled *Does Professional Development Change Teacher Practice*? is a federal study of the Eisenhower Professional Development Program. It acknowledges

the importance concerning professional development and its impact on changes in instructional methodology. The study identified teachers' involvement in various activities and how professional development activities have a direct affect on the instructional process and a positive impact on student learning. A classroom where the emphasis is placed on thinking, analysis, problem solving, and the integration and application of knowledge an active classroom. The teacher's role is not to indoctrinate but to enable the student to think for himself or herself. (Lieberman & Miller, 2001, p. 19).

They [teachers] are also the primary factor influencing the relationship between staff development and improvement in student learning" (Guskey & Sparks, 1996, p. 1). Exploring the relationship between professional development and student achievement, a Texas study of 900 school districts conducted by Ronald Ferguson of Harvard University, "found that teacher expertise (as measured by teacher education, licensing examination scores, and experience) explains 40% percent of the difference in student achievement in reading and mathematics" (Sparks & Hirsch, 2000, p.2).

Since 1994, The National Staff Development Council (NSDC) standards for staff/professional development have been modified to reflect the current systemic reform movement guidelines. The new standards are driven by desired results for student learning. "This new vision requires that staff development be results-driven, standards based, and job-embedded. Student learning is the goal, 'Begin with the end in mind'" (Hirsh, 2001, p.12).

The incentives for educational reform must begin with the changes in instruction.

The classroom teacher must be encouraged to implement instructional methodologies that

address varied learning styles with an emphasis on the process of learning. "These reforms constitute a departure from canonical views of curriculum and from a textbook-centered or recitation style teaching" (Fullan, 1997, p. 138). According to James Caulfield (1989), "teaching is more than the transmitting of information. Teaching is a complex dynamic that through varied activities addresses the varied learning styles of the students" (p. 146).

The teacher in today's classroom must adapt to the needs of the students.

Classrooms are loaded with adaptive challenges, such as those posed by differences among students. What works for one child may not work for another. The changing demographics and current economy have created situations in the classroom where there is a mismatch between the instructional approaches used in the classroom and the acquisition of learning (Steffy, 2000, p. 5). Moreover, many children live with families who experience a good deal of stress. Many teachers and school officials regard the individual differences as, at best, a challenge, and at worst, a near impossible burden" (Joyce & Showers, 2002, p. 51). "The typical class of students in a typical school district has an average I.Q. of about 108 with 15% having I.Q.'s of 90 or below. Sixty percent have working mothers, 30% reside in nontraditional homes (50%) will be by 18, 20% are in remedial programs, 20% are able, 10% are handicapped and 10% are, at any given time, in crisis" (Caulfield, 1989, p. 146).

It is an adaptive challenge for teachers to figure out how to best support these children so that their potential is more closely realized" (Sparks, 2002, p. 3). Classrooms such as these require that the teacher be adaptive and reflective to meet the needs of the

students. The teacher must be involved in a continuing process of assessment concerning their instruction.

Professional development can address the adaptive classroom environment required of today's teachers. Heifitz in his interview with Dennis Sparks (2000) discusses the need for adaptive instruction for teachers. Professional development sustains the talents of the teacher and maintains the teachers skills. Professional development allows for professional growth. It is professional development that allows for teachers to maintain their teaching careers. Teachers must continually experience or initiate a process of reflection and renewal (Steffy, 2000, p. 5). The adaptive and reflective process associated with teaching must be maintained. This type of training builds upon the teacher as a professional. The approach is not bureaucratic, top-down forms of accountability, where teachers are viewed as "functionaries but rather well trained and highly skilled professionals" (Darling-Hammond, 1989, p. 63).

Effective professional development makes the connection between subject matter and pedagogy while addressing the varied learning styles of the child. The classroom organization and instructional process is changing, as are the students and the demands placed on public schools. If we accept the fact that when a teacher enters the classroom their goal is to instruct and illicit a change in the student, then we acknowledge that teaching is a process to enable the student to learn something new. This viewpoint is shared by Dr. Charles Achilles when he refers to teaching as "a conscious act of communicating for a purpose-often a predetermined purpose-where the purpose is instruction and learning" (Achilles, 1999, p. c 4). Although teaching is a process, how the teacher organizes the classroom and provides the students with instruction that

addresses this process is at the core. "At the very core of teaching is the task of helping students make connections between what they already understand and the new concepts, information, or skills" (Ellmore, 1995, p. 26).

An active classroom centered on problem-based instruction relevant to real life situations offers the students a panoramic view of the world. "The use of different strategies occurs in the context of 'active teaching' that is purposeful and diagnostic rather than random or laissez faire and that responds to students' needs as well as curriculum goals" (Darling-Hammond, 1999, p. 14). The emphasis on instruction and the complexity of changing the instructional process has raised the awareness of educators and policymakers on the local, state and federal levels of government. In essence, the message is that our schools need to teach learning processes that are more adaptive to the work force and the evolving world.

Professional development provides evidence to teachers that their changes in instructional practices are improving student learning" (Sparks, 2002 p. 9). Above all, this means the teaching skills and habits of the teacher will change to allow the students to interact and to apply problem-solving skills. Researchers agree that the changes in instructional methodologies are necessary. "The new paradigm of instruction results in a student-centered approach to teaching where greater emphasis is placed on thinking, analysis, problem solving, and the integration and application of knowledge" (Corcoran, 1995, p. 13). Researcher Judith Langer of the University of Albany, State University of New York, conducted a comparative study to compare student performance in 25 schools, some of which demonstrated high literacy achievement levels than demographically comparable schools. The results of the study cited "skill instruction: use

of multiple, well-orchestrated approaches for instruction, and practice targeted skills and knowledge as principles used by the most skilled practitioners" (American Educational Research Association, AERA, 2002, p. 1). Additional practices employed by skillful teachers includes, connections, connect texts, tests and life, resulting in more integrated experiences for students" (AERA, p.1). These items are the focus of professional development, national and state standards and improved student outcomes.

A follow-up study conducted by the National Center for Educational Statistics (NCES) reiterates the link between professional development and instructional practices. "A teacher's participation in professional development was associated with the various types of instructional practices that are currently being advocated as effective, such as cooperative learning, portfolios for assessment, and the use of technology in the classroom" (NCES, 1998, p. 2).

"Current research concerning how students learn advocates learning activities that engage students in experiencing, creating, and working with others" (Swanson, 1995, p. 1). The vision of practice that underlies the nation's reform agenda requires most teachers to rethink their own practice, to construct new classroom roles and expectations for student outcomes, and to teach in ways they have never taught before and never experienced as students (p. 1). A report published by the National Governors' Association (1995) supports this viewpoint:

Higher education standards presume a different approach to teaching. An approach that emphasizes the connections between subject areas; that places paramount importance on the ability to reason, solve problems, apply knowledge, and write and communicate effectively; that encourages students to learn from

independent inquiry rather than solely from lectures; that instills in every student enthusiasm for lifelong learning and continuous growth. (p. 6)

Professional development that encourages teachers to provide their students with active learning environments is one of the components of the current educational reform movement. "In some instances, teachers are being asked to teach in ways they have never taught before" (Corcoran, 1995, p. 16). "Teachers are being called upon, to change drastically the ways they do their work" (O'Day, Goertz, & Floden, 1995, p. 1).

"Quality teaching makes a difference in student learning" (Sparks, 2002, p. 1).

Professional development activities that are in aligned to student learning and effective instruction places a greater emphasis on the need for quality professional development activities and initiatives. In particular, participation in professional development activities is associated with having an impact on student learning. "To improve American education, there must be improved ongoing professional development for teachers and a national plan, for helping teachers, fulfill their untapped potential" (Sparks & Hirsch, 2000, p. 1).

Professional Development Standards for Teachers and Educational Services New Jersey

New Jersey adopted the New Jersey Core Curriculum Standards (NJCCS) in 1996

and implemented statewide assessment testing for students in grades four, eight and
twelve. The implementation of the NJCCS and the statewide assessment program has
developed into a highly organized systemic initiative on the state and local level of public
education in New Jersey. To support the NJCCS, the state of New Jersey also adopted
Professional Development Standards for Teachers and Educational Services in 2000. The

intent of the new standards is to formalize and identify the professional development activities and requirements as they address the current larger-scale reform movement in New Jersey and the impact on student learning and teacher accountability. A common goal identified in the broad definition of education reform and the core elements of education reform focuses on instructional strategies

The New Jersey Professional Teaching Standards Board (NJPTSB) developed the standards for professional development adopted in 2000. According to the preamble, the NJPTSB identifies professional development and states that the "educators must be dedicated to a continuous plan for professional development that begins with their preservice activities, that continues with their induction into the profession, and extends through the life of their professional career in education" (New Jersey Education Association, NJEA, 2000, p. 1). The vision for professional development extends to the classroom and the need for effective instructional methodologies, "these activities must focus on the conditions which affect student learning in order for teachers to develop the knowledge and expertise needed to enable students to function as independent thinkers and creative learners both in the school community and in the larger environment of society as a whole (NJEA, p. 1). The core of the New Jersey Professional Development Standards maintain the same emphasis on instructional methodologies as those identified in the Goals 2000: Educate America Act and the standards adopted by the National Commission on Staff Development.

The New Professional Development Standards for Teachers and Educational Services Personnel, adopted by the state of New Jersey Department of Education (NJDOE) in 2000, requires teachers to participate in professional development activities.

The standards identify the need for teachers to employ instructional strategies, which are student-centered and problem-based instruction.

Goal 2: Improves the understanding of the academic, social, emotional, and physical needs of each learner and ensures that educators utilize appropriate teaching skills to enable students to meet or exceed their potential (New Jersey Department of Education, NJDOE, 2000, Standards for Required Professional Development of Teachers, p. 1.)

The systemic initiatives in New jersey are in align with the current systemic reform movement addressed on the national level as it relaters to professional development.

The objectives of this goal further emphasize the current reform to change instructional methodologies and provide students with student-centered classroom activities. The goals represent an empowerment for the teachers to change, reflect and adapt instruction,

- 2.1 enables educators to adjust instructional strategies based on knowledge of how students learn and develop
- 2.2 enables educators to plan and design approaches and strategies to support the intellectual, social, and personal development of each learner
 - 2.3 assists educators to recognize students' strengths and potential
 - 2.4 enables educators to respect students' talents, abilities and perspectives
- 2.5 enables educators to plan and design instructional strategies for inclusive classrooms
- 2.6 encourages the establishment of a learning environment that enhances student learning and critical thinking

2.7 supports a philosophy of school and classroom-based management which maximizes student learning (NJDOE, 2000, Standards for Required Professional Development of Teachers, p. 1.)

Standards, assessments and professional development focus on the teachers' need to change their pedagogy. Accountability concerning the method of instruction and assessments concerning the students' proficiency in subject areas are addressed by the New Jersey Professional Development Standards for Teachers and Educational Services Personnel (2000).

Systemic improvement of America's education is multi-dimensional in focus. A draft of Teaching Standards adopted by the New Jersey State Professional Teaching Standards Board on October 11, 2002 identifies the standards for teachers in New Jersey. There are ten standards are as follows: (a) Content, (b) Instructional Strategies, (c) Learning Environment, (d) Assessment, (e) Human Growth and Development, (f) Partnerships, (g) Diverse learners, (h) Communication, (i) Instructional Planning, (j) Professional Community

The emphasis on the relationship between professional development and effective instructional methodologies that influence student learning is evident upon identification of specific indicators within the ten standards. Standard one, "Content," identifies Performance/Skills/Indicator 1.1 as "The teacher effectively uses multiple representations and explanations of disciplinary concepts that capture ideas and links them to students' prior understanding." Standard 1.3 states, "The teacher engages students in generating knowledge and testing hypotheses according to the method of inquiry and standards of evidence used in the discipline" (New Jersey Department of

Education, 2002, p. 1). Standard 1 emphasizes the shift in instructional methodologies to a more problem-based inquiry method. The goal of Standard 2, Instructional Strategies, states, "The teacher understands and employs a variety of developmentally appropriate strategies, promoting critical thinking, problem-solving and performance skills of all learners" (NJDOE, 2002, p. 2).

The connection to professional development, instruction and student learning is complete through the identification of Standard 10,

The teacher participates as an active, responsible member of the professional community, engaging in a wide range of reflective practices, pursuing opportunities to grow professionally, and establishing collegial relationships to enhance the teaching and learning process come full circle" (NJDOE, 2002, p. 2). Emphasis on the participation in continuous development is clarified in Indicators 10.1 and 10.6. Indicator 10.1 states, "The teacher understands that reflective teaching is an integral part of professional growth and development" (NJDOE, 2002, p. 2). Indicator 10.6 further acknowledges the necessity for continued professional development, "The

teacher understands that ongoing professional development is an important component of

professional growth. (NJDOE, 2002, p. 2).

The New Professional Development Requirements and the Teaching Standards identify for teachers in New Jersey, the New Jersey of Department of Education's systemic plan to improve education. These initiatives also confirm for teachers in New Jersey the link between professional development, changes in instructional methodologies and how these components have a direct impact on student learning and achievement.

Veteran Teachers

The systemic reforms of the 1990s represent a change in instructional methodologies. These changes can be rewarding and exciting. When we think of change as learning, we can readily remember the value, the excitement, the pride and fun. "Teachers are change agents" (Evan, 1996, p. 24) or teachers teach to promote a change in their students. Judith Warren Little identifies the manner in which policy makers and public leaders portray teachers' work:

as the work of reform-and more specifically, the reform of classroom teaching in ways that result in more uniformly high levels of student achievement.

Investments in teacher development are proposed and justified on the basis of their contributions to "teacher quality," defined as teachers who will be up to teaching to the academic standards defined by states and school districts.

(Lieberman & Miller, 2001, p. 41)

Teachers are the commodity responsible for reform in instruction. The veteran teacher is in the middle.

The change in focus from a teacher-centered classroom to a student-centered classroom is a paradigm shift in instructional methodologies. We are asking teachers to "learn new visions of practice and unlearn the practices and beliefs about students and instruction that have dominated their professional lives to date" (Swanson, 1995, p. 2). Technology education encourages this shift. Teachers are required to change. Evans further defines change as a "difference in the state or quality of something" (Evans, 1996, p. 21). Although support systems and professional development activities are in place, how each teacher perceives themselves in reference to these changes will affect their

effectiveness in the classroom. The push for accountability, total school reform, and the changes necessary for instruction must acknowledge and research the effect on the veteran teacher.

As the current systemic reform movement continues, the emphasis is on changing instruction. "Implementing this approach calls for pedagogical revolution for which few teachers are prepared. They are being asked to teach in ways that they have never seen or experienced" (Corcoran, 1995, p. 16). Reflective practice within the classroom requires each teacher to identify the students' needs and to provide varied instructional methodologies to address the current needs of the students and the development of more critical thinking skills. Lessons, which focus upon problem-based instruction and practical application, as identified by the research and the requirements of the NJCCS can present special challenges to the veteran teacher. "Studies suggest that the capacity to teach in different ways is connected to the views to self and to teachers' beliefs about their role in the classroom activity" (O'Day, Goertz, & Floden, 1995, p. 3).

The process of change concerning instructional pedagogy and focus is especially difficult for the veteran teacher. Veteran teachers provide stability from their experience; "in the best situations, [administrators] recognize the value of having expert teachers help other teachers" (Lieberman, 1988, p. 652). Research concerning the developmental stages of adulthood offers biological, psychological, and social conditions that allow the adult to evolve. Sheehy (1995) suggests adults have three periods of adult development "to be anticipated, prepared for, mapped out" (Sheehy, 1996, p. 9). She characterizes these periods as three separate lives rather than phases or stages; Provisional Adulthood (18-30), First Adulthood (30 -45) and Second Adulthood, (45-85+). The transition between

each period can be challenging and difficult. These life cycles correspond to the cycle associated career development and changes.

The models of career cycles of teachers in the 1970s viewed the teacher's career development as linear (Guskey & Huberman, 1995, p. 187). The teacher entered the profession and continued through a linear progression. This was not an accurate assessment concerning the career cycles of teachers. Steffy (2000) first associated the career cycles of teachers as influenced by their professional growth. Steffy's model differs in that it was the first career model to identify reflection and renewal as factors for professional growth. "Decisions teachers' make concerning their careers is partly responsible for the teacher's growth or withdrawal" (Steffy, 2000, p. 4) According to Steffy, "educators move from one phase to another through reflection, renewal, and growth" (Steffy, 2000, p. 5). If this cycle of renewal, reflection and growth is broken then withdrawal from the profession is the only alternative. Steffy identifies the career cycles model as having six basic phases. They are novice, apprentice, professional, expert, distinguished and retiree. Each phase has its own characteristics that initiate the transition to the next phase.

Michael Huberman in *The Professional Life Cycle of Teachers* (1989) refers to the professional life cycle as that of a "career." His model differs from Steffy's in that he views the cycles as a process. The teacher's positioning at any cycle can be influenced by organizational, personal, managerial, and environmental factors. He further states that, "career development is ...a process, not a series of events" (Huberman, 1989, p. 32). His research identifies the phases of teaching as: (a) Survival and Discovery, (b)

Stabilization, (c) Experimentation/Activism, (d) Taking Stock: Self Doubts, (e) Serenity, (f) Conservatism, (g) Disengagement (Huberman, 1989, p. 33)

The survival and discovery phase translates to the initial enthusiasm of having "one's own pupils; one's own classroom, materials, and yearly program; and have feeling oneself a colleague among peers" (Huberman, 1989, p. 33). This phase offers particular challenges for new teachers. During this phase, the new teacher reflects on themselves and their career choice. The research, support systems, and induction literature is abundant for new teachers.

The second phase, stabilization, this phase correlates with the typical middle adulthood or first adulthood phase of adult development. During this phase, it reflects to a commitment to the career choice. "Stabilization also means an affiliation to an occupational community, freedom from direct supervision, and greater instructional mastery and comfort" (Huberman, 1989, p. 33). According to his research, Huberman concludes that this stage occurs after approximately four years of teaching or the granting of tenure. An interesting comment from Huberman identifies the teacher's ability concerning their instructional repertoire; "one has worked up to a rudimentary instructional repertoire that fits most situations encountered in the initial three to four years of teaching, and one is now adding to it, refining it, molding it to fit one's own style of instruction" (Huberman, 1989, p. 33). Based upon this research, professional development for a teacher at this point in their career offers additional information. It is during this time that the teacher is aware of the repertoire of instructional methodologies and is willing to refine them.

The experimentation/activism stage identities three periods in development for a teacher. The first cycle phase is experimentation. Small experiments concerning the teachers instructional repertoire to increase their effectiveness is evident. At this point, the teacher is defining and crystallizing the link between what they do in the classroom and the impact on student learning. This type of experimentation, according to Huberman (1989) was not possible during the first two stages. There was not enough certainty concerning one's own ability to experiment. Since the teacher during this phase displays a greater desire to have an impact on their students, the institutional barriers to create these instructional barriers come into focus. Now the teacher, if motivated, will experiment with new ideas and methodologies. Professional development can result in changes in the classroom. The teacher in some instances may take a more obvious leadership role such as chairing a project or program. This shift can lead to the final cycle of the experimentation/activism stage; the teacher may be ready for a new challenge and/or ready to move on. The teacher looks at their older peers "and a newly emerging concern with growing stale in the profession can emerge" (Huberman, 1989, p. 34).

The next phase or cycle is identified as the "Taking Stock: Self-Doubt Stage."

According to Huberman, the research for this phase is not conclusive. This occurred somewhere between the twelfth and twentieth year. Some teachers think about career changes, others highlight feelings of disenchantment following reform attempts. There is no evidence that this period is a "mid-career crisis" (Huberman, 1989, p. 35). He does confirm two interesting notes however. According to his data and confirmed by relevant research there is a "moment of 'stock-taking." An additional conclusion from the

Huberman study is that, "men are more subject to radical self-assessment at this point in their [teaching career] than women, "who appear to be better able to revitalize the importance of their career in relation to other commitments in their lives" (Huberman, 1989, p. 35). It is interesting to note that in Huberman's study, 40% of his sample group did say, "at one or more points in their career, they seriously considered giving up the profession" (p. 35).

During the 'Taking Stock: Self-Doubts," phase we realize the first mention of a reaction to reform practice at the school or district level or the teacher reassessing their career choice. It is during this period that the teacher will make a choice concerning their active participation in the career and the development of their expertise and skill as a teacher. This period is after twelve to twenty years of teaching and during a critical period for teacher development. If we recognize this portion of the teaching force as an integral part of the school culture and profession, then we must recognize the need to further define how we develop teachers during this period.

Huberman's research is of vital importance because it relates specifically to the teaching profession but identifies each stage as having an option. "Teachers have different aims and different dilemmas at various moments in their professional cycle" (Guskey & Huberman, 1995, p. 193). Organizational and environmental factors can influence the movement of a teacher from one stage to another. An example would be the teacher whose husband dies as she is ready to retire. Based upon the organizational and personal factors, she may decide to rededicate herself to her profession, thus entering the stabilization phase. To view the teaching career as linear would be simplistic and not address the teacher's career as being parallel or influenced by other factors.

Professional development should have a positive impact on the teacher is delicate. This period of a teacher's career can have a direct impact on the development of the teacher and student learning. Asking teachers..."to change too many things too rapidly also may result in maintenance of the status quo" (Guskey & Sparks, 1996, p. 2). This current period of growth and renewal is also in alignment with changes of mid-life and mid-career goals for the experienced teacher. Research does confirm the question, How do these reform movements [professional development, changes in instructional methodologies] affect the experienced teacher? Professional development must address the individual and personal career cycles of the teacher.

Evans discusses mid-life changes and claims, "[mid-life changes] can diminish a teacher's appetite for change at work" (Evans, 1996, p. 111). "Meeting these demands (reforms) may be particularly stressful for America's aging teaching force, which averages 14.5 years (experience as a teacher)" (Abdal-Haqq, 1996, p. 1). Abdal-Haqq's statement affirms the concern and focus upon the twelve to twenty years of experience. "These teachers received training at a time when teaching did not routinely require many of the skills that are needed to function in restructured schools. Learning activities that engage students in experiencing, creating, and working with others on solving real problems" (Swanson, 1995, p. 1). Many veteran teachers have been institutionalized to the school environments of the past.

The presented research supports the changes in instructional strategies but the research does not address how these changes affect the veteran teacher. According to Huberman, "the enthusiasm is replaced by a greater sense of confidence, the veteran

teacher requires appropriate professional motivation and challenges in order to remain committed and engaged in teaching and ongoing learning" (Huberman, 1985, p. 35).

Huberman summarizes the research concerning the "Serenity" phase of a teacher's career. "The gist here is that a gradual loss of energy and enthusiasm is compensated for by a greater sense of confidence and self-acceptance" (p. 35). It is also evident that the students age-distance themselves from the teacher (45-55 years of age). The relationship between teacher and student shifts. It is a phase that departs from activism and moves toward a period of self-acceptance. The resulting behavior can be isolation from the staff and non-involvement in school related activities. The teacher does their job.

The life cycle of the teacher during the "conservatism" phase tends to correlate to the life cycle of adulthood. During this period of adulthood, the common indications are, greater prudence, greater resistance to innovation, greater nostalgia for the past, and more concern with holding on to what one has than with getting what one wants" (Huberman, 1989, p. 36). Huberman cautions the reader not to over simplify the results. He identifies that there are different points of reference but that the overall analysis of the respondents does indicate a period that is in alignment with the typical adulthood transitions.

Huberman cites the study by Peterson (1964), who identified that teachers during this period (45-55 years of age) exhibit a "gradual loss of energy and enthusiasm this is compensated by a greater sense of confidence and self-acceptance" (Huberman, 1989, p. 35). He restates the following, "They bemoan the new generation of pupils (less disciplined, less motivated, more decadent, the more negative public image of educators, the lax or opportunistic nature of school administrators, and the lack of commitment to the professional among younger colleagues" (Huberman, 1989, p. 36).

"Toward the end of a career, life cycle literature emphasizes a trend toward increasing withdrawal and internalization toward the end of the professional career (Huberman, 1989, p. 36)." A transition from the teacher's responsibilities to other interests is evident. The withdrawal can also be a result of the teacher's attitude that they are not valued; do not have a place in the current system or are being pushed out of the system. This does not coincide with a comment made in the first part of this chapter when according to Lieberman, "veteran teachers provide stability from their experience; in the best situations, [administrators] recognize the value of having expert teachers help other teachers (Lieberman, 1988, p. 652)." As the teacher ends their professional career, the attributes that at one time placed a premium on their experience and wisdom become detriment to their self-worth. Change is an integral part of this phase but how the teacher views themselves is also an integral part.

Research concerning the cycles of teachers directly affects the current systemic reform movement as it relates to professional development, which requires teachers to change their instructional methodologies. Although effective professional development should allow for collaboration and dialogue and be discussed in terms of local needs, the process is also individualistic in adaptation, reflection and application. Professional development activities must communicate a "view of teachers not only as classroom experts, but also as productive and responsible members of a broader professional community and as persons embarked on a career that may span 30 years or more" (Fullan, 1997, p. 145).

Professional development activities must have an impact on the teacher's reflective process in the classroom. The current systemic reform movement requires

most veteran teachers to make changes. This can be a difficult period for the veteran teacher. According to the "national reform agenda requiring most teachers to rethink their own practice, to construct new classroom roles and expectations for student outcomes and to teach in ways they have never taught before-and probably never experienced as students" (Swanson, 1991, p. 2). There is an abundance of research concerning the novice pre-service teacher but a gap in the research exists concerning the effect of educational reform concerning instructional strategies and the veteran teacher. The research concerning change in education is abundant. Additional research concerning effective professional development models, leadership during restructuring, and the adult learner is evident. Current research, and the identification of national and state standards identify change and the necessity for change. It also suggests that these changes must occur in a supportive, collegial and professional environment

Professional development must be provided as a means to assist teaches in coping with changes in the workplace and levels of expectations. Provisions of supportive relationships is a critical element...providing for teachers leads to better decisions about curricula, programs, school climate, and other anticipated changes (Steffy, 2000, p. 108).

School reform is social change. It is phrased in terms of growth and renewal, yet it is still change. Mandated professional development hours, teaching standards, increased state assessment tests and changes in the school culture are changes that all teachers must understand fully. Fullan commented, "they (reforms) represent on the whole, a substantial departure from a teacher's prior experiences, established beliefs, and present practices" (Fullan, 1997, p. 139) Through the process of change, the veteran teacher must feel confident in their understanding for the current reform movement. A

survey distributed to teachers by The National Center for Education Statistics (1999) asked teachers if they understood the concept of school reform and high standards. The results reported identified that 52% of those surveyed "somewhat well" understood the concept of school reform and high standards, 42% understood the concept "very well", and 5% of those surveyed did "not at all" understand the concept of school reform and high standards. Are the veteran teachers fully aware of the current school reform movement and strong enough to support the necessary changes?

A fundamental belief in this study is that the veteran teacher, teachers with experience, are education's greatest assets for improving public education. The veteran teacher maintains the stability of the school and is an asset to the novice teacher. The greatest potential for improving teaching is within the rich knowledge and experience of veteran teachers (Bureau, 1993, p. 2). The veteran teachers' experiences, knowledge, and expertise are the potential for success. The research also contends that "teaching and learning are complex endeavors embedded in a highly diverse context. "Staff development [professional] development efforts succeed to the degree that they can adapt to and capitalize on this variability..." in other words they must be shaped and integrated in ways that best suit regional, organizational and individual contexts" (Guskey & Sparks, 1996, p. 2). Professional development activities must illicit participation and recognize the developmental needs of the veteran teacher. This research was designed to elicit responses from teachers to identify their attitudes toward professional development. as it requires the teacher to change instructional methodologies with a particular emphasis on career cycles of the veteran teacher.

CHAPTER III

Methodology

The purpose of this study is to identify the significant differences between the veteran teachers attitudes toward professional development in schools within District Factor Groups (DFG), according to gender, total number of years of teaching experience, teaching level or assignment, and degree attainment. This will be a single group study of 980 K-8 teachers practicing in the public school system in Somerset County, New Jersey. Utilizing the District Factor Grouping (DFG) identified by the New Jersey Department of Education (NJDOE) Somerset County was selected for the study. (Appendix F1) The counties, which do not have, an Abbott School District are Cape May, Gloucester, Hunterdon, Morris, Ocean, Salem and Somerset Counties. Thirty school districts are identified as Abbott School Districts and identified with a DFG of "A." The thirty Abbott School Districts are identified by the New Jersey Department of Education (NJDOE) as school districts involved in whole-school reform as an approach to enable the students in the those school districts to reach the goals as identified by the New Jersey Core Curriculum Standards. Abbott School Districts were not included in the sample group. Of the counties in New Jersey only two, Somerset and Morris, do not have an "A" DFG designation. Somerset County, New Jersey was selected because all District Factor Groups from "C" to "J" are represented. The only other county with a similar DFG grouping is Morris County and county has a "B" designation.

Chapter III will describe the population, instrumentation, the pilot testing procedures, and the procedures for data collection and analysis.

Population

All K-8 teachers, in the research approved public school districts, practicing in Somerset County, New Jersey were asked to participate in this study and complete a Personal Date Sheet and a Professional Development Survey Instrument. The survey packet (Appendix A) which comprised of a Letter of Solicitation (Appendix A1), Personal Data Sheet (PDS) and the Professional Development Survey Instrument, was distributed to approximately one thousand teachers practicing in Somerset County, New Jersey.

Instrumentation

The term survey means, "to look or see over or beyond the casual glance or superficial observation" (Leedy, 1997, p. 190). Babbie (1999) states that "survey research is probably the best method available to the social scientist interested in collecting original data for describing a population too large to observe directly" (p. 234). Leedy (1997) agrees with the appropriate use of a survey as "a commonplace instrument for observing data beyond the physical reach of the observer" (p. 190). The researcher developed the survey instrument. Question 1 was the primary research question and was composed to identify the attitude of teachers toward professional development. The necessity of professional development to maintain the specialized skills of teaching was the focus of question 2. This question answers the subsidiary research question 2. Question 3 on the *Professional Development Survey Instrument* elicits information concerning the New Professional Development Standards for Teachers. Questions 4, 5, 6

relate directly to the current instructional methodologies which are the focus of the current systemic reform movement. The identified instructional methodologies appear to have an impact on student achievement and are the primary focus of the current professional development activities. The identified instructional methodologies are also identified in the New Professional Development Standards for Teachers adopted by the NJDOE in 2000. The final question, question 7, asks the teacher to identify if the new information concerning instruction is different from their under graduate course of study. This question ask the veteran teacher, to identify whether the current systemic reform movement is asking the veteran teacher to change from the training.

The Instructions for Completion of the Personal Data Sheet and Professional

Development Survey Instrument (Appendix A3), the Personal Data Sheet (Appendix A4)

and the Professional Development Survey Instrument (Appendix A5) were developed by

the researcher to gather information regarding the attributes of the respondents and the

teachers' attitudes toward professional development. The Personal Data Sheet was used

to identify the attributes of the respondent. The attributes included, gender, total number

of years of teaching experience, teaching level/subject, certifications, and degree

attainment. The survey instruments were color-coded based upon the District Factor

Group.

Participants were asked to respond to six questions on the *Personal Data Sheet* and seven questions on the *Professional Development Survey Instrument* concerning their attitudes toward professional development, the guidelines associated with the New Jersey Professional Development Standards for Teachers adopted by the NJDOE (2000) time for professional development, instructional changes due to professional development

activities, and their undergraduate course work. Each question offered a section for additional comments. The questions were developed using the guidelines presented in *The Basics of Social Research* (1999) and *Designing and Conducting Survey Research* (Rea & Parker, 1997). Likert ordinal response categories of *Strongly Agree* - 1, *Agree* - 2, *Disagree* - 3, and *Strongly Disagree* - 4 were used for the respondents to answer questions 1 -7 (Babbie, 1999).

Pilot Study

The Personal Data Sheet and the Professional Development Survey Instrument were piloted with teachers and administrators in one school in the Franklin Township School District in Somerset County. This school was not included in the study. One hundred and ten surveys were distributed to teachers and administrators who participated in the study as members of the pilot study. Ninety-three survey instruments were returned. A request to National Council for Professional Development, and three additional experts was distributed for advice and counsel concerning the clarity and purpose of the survey instrument. Based upon consultation with a specialist changes were made to questions, five, six, and seven. The changes made focused upon specific instructional methodologies in the current systemic movement and the focus of professional development as identified in Chapter II. A reliability analysis of the pilot data for survey questions 1 through 7 resulted in a reliability coefficient of .5639.

Data Collection Procedures

Upon approval from the Seton Hall University Internal Review Board (SHUIRB), a letter of solicitation (Appendix B1) was mailed to the Somerset County Superintendent of Schools to request permission to conduct the research in Somerset County. Sixteen school districts in Somerset County, New Jersey were mailed a letter of request and a research packet. (Appendix B2) The research packet was also hand-delivered to each superintendent at the Monthly Superintendents' Round-Table. The packet requesting approval included a letter of request, letter of solicitation/recruitment, the *Personal Data Sheet* and the *Professional Development Survey Instrument*.

Sixteen school districts were asked to participate in the research project. Charter and private schools, vocational schools and regional high schools were not included in the survey population. Approval to conduct research was received from eight school districts. Via telephone, each school within the approved school district was contacted to confirm all information and the approximate number of teachers within each school.

A letter of introduction (Appendix B3), confirmation letter (Appendix B4) and a complete packet of information was mailed to each principal in the approved school districts. Appropriate information concerning the timeline, procedures and contact information was included. During the week of December 16th, 2002, 980 teacher survey instruments were hand delivered to the participating schools by the primary researcher or an undergraduate student from Seton Hall University. Each survey instrument included a Letter of Solicitation (Appendix A1), Directions (Appendix A2), a Personal Data Sheet (Appendix A3), and a Professional Development Survey Instrument (Appendix 4). A "Drop Box" was located in an appropriate place in each school to allow for the collection of the survey instrument. All materials were collected from each school by the primary researcher or a Seton Hall University undergraduate student on December 20, 2002. Two school districts requested an extension to the timeline to the week of January 2, 2003.

The request was honored and the same procedures were implemented. One school mailed additional survey instruments to the researcher during the week of January 2-6, 2003. The distribution dates of the *Personal Data Sheet* and the *Professional Development Survey Instrument* was altered in one school due to inclement weather.

Only the primary researcher opened the contents of the "Drop Box" and had access to the surveys. All surveys were placed in a secure location.

Standards of Data

Each questionnaire was numbered and tallied as they were removed from the "Drop Box." The Statistical Package for Social Science (SPSS) was used to calculate the data for analysis. Each returned questionnaire was recorded on the SPSS spreadsheet.

Response Rate

Five hundred and fourteen surveys of a possible 980 were returned and considered for inclusion in the survey. Thirty-three respondents did not answer all the questions.

This represents a total response rate of 55.2 percent.

Analysis Procedures

There will be four sections of analysis. The first section will present the qualitative data for the respondents from all the school districts on the seven questions. Qualitative methodology was used to analyze the additional comments of the respondents to each question. Quantitative analysis utilizing the SPSS will be discussed in sections two, three, and four.

The second section will present the frequency analysis for the descriptive data for the respondents from participating school districts according to, the DFG groups, certification, gender, years of experience, teaching assignments, and degrees. This section will also include the descriptive data for each of the seven questions. Tables will be presented to identify the cumulative frequency distributions of the personal factors and attributes considered in the study.

The third section of analyses will present the results of the independent t-tests to compare the means for two groups: gender and experience and the One-way Analysis of Variance (ANOVA). The ANOVA will compare the means for two groups, gender and experience to identify any significant differences within the population for the means of two populations (Witte & Witte, 2001, p. 546). This analysis will determine the significance among groups based on reference to demographic and attribute questions as they relate to respondents attitude toward the questions.

A detailed analysis of the yielded data and corresponding findings are presented in Chapter IV.

CHAPTER IV

Analysis for Data

This chapter presents descriptions of the data retrieved from the survey research and an analysis of the results. The survey analysis results are presented in three sections: qualitative data for the respondents' additional comments for questions one to seven, the frequency analysis associated with the seven questions on the *Professional Survey Instrument* and the quantitative analysis concerning questions one through seven on the *Professional Development Survey Instrument*. The primary purpose of the study was to identify the attitudes of veteran teachers in grades K-8 in the approved districts in Somerset County, New Jersey and identify any differences within District Factor Groups (DFG), gender, total number of years of teaching experience, teaching level or assignment, and degree attainment.

Qualitative Data

There were 528 individual comments. Two hundred and eleven (211) or 41% of the 514 respondents included additional comments to the seven questions on the *Professional Development Survey Instrument*. Using the guidelines presented in Leedy (2001), all additional comments were reviewed by the researcher to identify any common themes for attitudes that would surface beyond the use of the Likert scale. The objective of the qualitative portion of the questionnaire was to identify any patterns, themes and/or

characteristics evident in the comments for each of the seven questions. The first phase of the review process identified the major themes or characteristics of the comments. After two additional screenings of the comments, a final list of seventeen comments was developed. Each comment was number coded. During the final review of the survey instrument, the researcher combined the comments regarding time and funding into one comment entitled "resources." Additional themes concerning the relevance, usefulness, specialization and appropriateness of professional development were combined since all comments offered a positive characteristic for professional development activities. The same was true for comments, which inferred a negative attitude toward professional development, such as "rarely used," "relevant," or "appropriate." All survey instruments were reviewed and the appropriate number was placed by each comment. Sixteen main ideas were identified from the comments (Appendix D1). The primary trends concerning the comments were, the relevancy of the professional development activities, the selection process, resources, necessity of participating in professional development activities and comments concerning undergraduate course work and professional responsibility.

All questionnaires with additional comments were entered on the Statistical Package for the Social Sciences (SPSS) program according to experience and District Factor Group (DFG) in addition to the coded comment number for each question as applicable. (Appendix D Table D2) A range of one to one hundred and one, 1:101, was the frequency for the additional comments (Appendix D, Table D3).

The first test of frequency analysis yields a distribution according to DFG. The largest DFG represented was the DFG "GH" 86 or 40.8% including addition comments.

The DFG "I" schools responded with 23.2% or 49 questionnaires with additional comments. The third largest group of respondents with additional comments was the DFG "J" school district. The DFG "J" school district had 32 or 15.2% of the questionnaires returned with additional comments. The "CD" DFG school district represented 10.4% of the questionnaires with 22 questionnaires returned with comments. The "DE" and "FG" District Factor Grouped school district represented 10% of the questionnaires returned with comments. Based upon the DFG's, the three school districts which are the highest DFG are 1 in "I" and 2school districts "J, these school district represent 38.4% of the questionnaires returned with comments. Table 1 displays the frequency according to District Factor Group.

Table 1
Frequency of District Factor Groups

		Frequency	Valid Percent
Valid	CD	22	10.4
	DE	15	7.1
	FG	7	3.3
	GH	86	40.8
	I	49	23.2
	1	32	15.2
Total		100	100

One hundred and twelve (53.1%) respondents who included additional comments had 10 or more years of experience. Ninety-nine respondents or 46.4% of the respondents had 1-9 years of experience. The frequency distribution according to experience is displayed on Table 2.

Table 2

Frequency of Questionnaires with Additional Comments According to Experience

Valid		Frequency	Percent
Valid	1 - 9 years	99	46.4
	10 or more years	112	99.5
Total		211	100

All seven questions on the *Professional Development Survey Instrument* had additional comments on at least one of the seven questions. The first statement, "I have a positive attitude toward professional development" had the most comments, 120 additional comments. Question umber 5, "My school district has provided me with the guidelines associated with the *New Professional Development Standards for Teachers* adopted by the NJDOE in 2000." The frequency distribution by question is displayed on Table 3.

Table 3

Frequency by Question

Quest	tion	Frequency	Valid Percent
1.	I have a positive attitude toward		
	professional development.	120	.23
2.	Professional development is necessary		
	to maintain instructional activities.	70	.13
3.	My school district has provided me with the guidelines associated with the New Professional Development Standards for		
	Teachers adopted by the NJDOE in 2000.	20	.04
4.	There is not enough time for professional development activities.	88	.17
5.	Professional development activities have encouraged me to provide my students in my classes with problem-based instruction.	53	.10
6.	Professional development activities have me forced to change my instruction to a classroom,		
	which is active and student centered.	93	.18
7.	The new information concerning instruction is very different from what I was taught in my		
	undergraduate course work	84	.16
Total		528	101

The first question asked the respondent to respond to the following statement, I have a positive attitude toward professional development. Two hundred and eleven or 56.9% of the additional comments were identified for question one. The common themes

for this question were focused upon the relevance or usefulness of professional development. Resources such as time and funds were mentioned 6.7% of the time. Sixty-five percent of the respondents to this question commented that, "If professional development is useful, relevant, specialized and related they have a positive attitude." If the professional development activities are rarely useful, relevant or appropriate, 15% commented to the question. Table 4 identifies the frequency of the identified comments to question 1.

Table 4

I Have a Positive Attitude Toward Professional Development Activities

Comment	Frequency	Valid Percent
If PD is useful, relevant, specialized and related.	78	6.5
Rarely useful, relevant or appropriate.	19	5.8
If I can choose pd.	6	5.0
If the PD is specialized.	1	.8
Resources-time, funds, release time. PD maintains my effectiveness and	8	6.7
enhances my instruction.	4	3.3
It is the teacher's responsibility to stay current.	3	2.5
Technology keeps me current.	1	.8
Total	120	100

Note. PD refers to professional development activities.

The results concerning additional comments for the second statement, Professional development is necessary to maintain instructional skills, yielded the following results. The largest response rate of 35.7%, maintains that professional development activities are necessary to maintain instructional skills. A second group, 27.1% responded that professional development is necessary if it is useful, relevant, specialized or related to what they teach. Equally measured at 7.1%, two groups displayed different attitudes. One group, 7.1% added comments that professional development activities are rarely useful, relevant, or appropriate. Another group, 7.1% took a more positive viewpoint by saying professional development activities help to modify my instruction. A different attitude is displayed concerning 8.6% of the respondents. This group believes it is the teacher's responsibility to stay current. The data identifies resources, time and funds represented by 5.7% of the respondents as an issue to professional development as a means to maintain instructional skills. The data from the sample identifies that 4.3% believes professional development is necessary to maintain instructional skills if they can choose their professional development activity. Another group of 4.3% maintain that they always do maintain their skills and do not need professional development. The data yielded from this frequency is displayed on table 5.

Table 5

Professional Development is Necessary to Maintain Instructional Skills

Comment	Frequency	Valid Percent
If PD is useful, relevant, specialized and related.	19	27.1
Rarely useful, relevant or appropriate.	5	7.1
If I can choose PD.	3	4.3
Resources-time, funds, release time.	4	5.7
PD maintains my effectiveness and enhances my instruction.	25	35.7
It is the teacher's responsibility to stay current.	6	8.6
The PD helps modify my instructional skills.	5	7.1
I always did this; I do not need professional development.	3	4.3
Total	70	100

Note. PD refers to professional development activities.

The third question asked respondents for additional comments to the statement, my school district has provided me with guidelines associated with the New Professional Development Standards for Teachers adopted by the NJDOE in 2000. Eighty-five percent of the respondents maintain that they received the information from another source, primarily the New Jersey Educational Association (NJEA). Three additional comments for a total of 15% did not directly apply to the statement. The frequencies are displayed on table 6.

Table 6

My School District has Provided Me with the Guidelines Associated with the New

Professional Development Standards for Teachers Adopted by the NJDOE in 2000

Comments	Frequency	Valid Percent
If PD is useful, relevant, specialized and related.	1	5.0
Rarely useful, relevant or appropriate.	1	5.0
Received from another source, NJEA	17	85.
Undergraduate studies were different then the current information.	1	5.0
Total	20	100

Note. PD refers to professional development.

There is not enough time for professional development activities was the statement for the fourth question on the *Professional Development Survey Instrument*. Eighty-eight respondents added comments. Eight-two of the comments, 93.2%, identified resources as a concern. Resources referred to funding, release time, summer work with compensation, and modified schedules. The associated frequencies for the additional comments to this statement are displayed on table 7.

Table 7

There is Not Enough Time for Professional Development Activities

Comments	Frequency	Valid Percent
If PD is useful, relevant, specialized and related.	1	1.1
Rarely useful, relevant or appropriate.	1	1.1
If I can choose PD.	1	1.1
Resources-time, funds, release time	82	93.2
Pd maintains my effectiveness and enhances my instruction.	2	2.3
Received from another source, NJEA.	1	1.1
Total	88	100

Note. PD refers to professional development activities

Question 5 focused on a specific methodology. Respondents were asked to offer additional comments to the statement, *Professional development activities have* encouraged me to provide my students in my classes with problem-based instruction. The comments were varied. The two primary themes for comments to this statement were comment 6, "professional development maintains my effectiveness and enhances my instruction" and comment 8, "professional development helps to modify my instruction." Eleven of the 53 comments, 20.8%, responded that professional development maintains their effectiveness and enhances their instruction. The largest group, 34%, affirmed that

professional development helps them modify their instruction. Table 8 shows the frequencies of the additional comments to question 5.

Table 8

Professional Development Activities have Encouraged Me to Provide My Students in My

Classes with Problem-Based Instruction

Comments	Frequency	Valid Percent
If PD is useful, relevant, specialized and related.	2	3.8
Rarely useful, relevant or appropriate.	2	3.8
If I can choose pd.	4	7.5
If the PD is specialized.	1	1.9
Resources-time, funds, release time.	1	1.9
Pd maintains my effectiveness and enhances my instruction.	11	20.8
It is the teacher's responsibility to stay current.	3	5.7
The PD helps to modify my instructional skills.	18	34.0
I always did this, I do not need PD.	8	15.1
Undergraduate did not prepare.	1	1.9

Not forced to change, just modify.	. 1	1.9
	,	_
Total	53	100

Note. PD refers to professional development.

"Professional development activities have made me feel forced to change my instruction to a classroom, which is active and student centered" is the statement for question 6 on the survey instrument. Forty-three percent of the respondents who offered additional comments maintained that they have not changed to a more active and student centered classroom. The next group took exception to the word "forced." These respondents believed that they [themselves] changed their instruction but were not forced to change their instruction. Another group, 1.9%, maintained that professional development activities helped to modify their instruction. Additional comments referred to professional development activities as maintaining their effectiveness with 3.3 percent. The frequencies for the comments are displayed on table 6.

The additional comments for question 7 on the Professional Development Survey Instrument asked respondents to offer additional comments to a statement concerning their undergraduate course work; "The new information concerning instruction is very different from what I was taught in my undergraduate course work." The largest group, 36.9%, maintain that their undergraduate work was no different then the current information concerning instruction. A majority of the comments in this group asserted that was the same information but had a different name. The second group takes the opposite position, they, 26.2%, maintain that their undergraduate studies were different

Table 9

Professional Development Activities have Made Me Feel Forced to Change My

Instruction to a Classroom, which is Active and Student Centered

Comments	Frequency	Valid Percent
Rarely useful, relevant or appropriate.	1	1.1
If I can choose PD.	1	1.1
Pd maintains my effectiveness and enhances my instruction.	7	7.5
The pd helps to modify my instructional skills.	4	4.3
Undergraduate study is just the foundation.	3	3.2
I always did this, I do not need pd.	40	43.0
Undergraduate studies were current, no difference, just a different name.	1	1.1
Technology keeps me current.	1	1.1
Not forced to just, just modify.	34	36.6
PD activities focuses upon the alignment of instruction		
to the NJCCS.	1	1.1
Total	93	100

Note. PD refers to professional development.

then the current information. A third group, 16.7%, communicated through their comment that "undergraduate work is just the foundation." While another group asserted, "I always did this, I do not need professional development" with 15.5 percent. Table 10 identifies the statistical frequencies concerning the comments for question 7.

Table 10

The New Information Concerning Instruction is Very Different from What I was Taught in My Undergraduate Course Work

Comments	Frequency	Valid
		Percent
Pd maintains my effectiveness and enhances my instruction.	1	1.2
It is the teacher's responsibility to stay current.	2	2.4
Undergraduate study is just the foundation.	14	16.7
Undergraduate studies were different then the current		
information.	22	26.2
I always did this, I do not need pd.	13	15.5
Undergraduate studies were current, no difference, just a		
different name.	31	36.9
Technology keeps me current.	1	1.2
Total	84	100

Demographic Information

Respondents were asked to provide demographic information in six areas: school district, certifications, gender, total number of teaching experience, teaching level assignment and/or subject; degree attainment (BA/BS plus, MA/MS plus, Doctorate).

The District Factor Group (DFG) was entered on the SPSS program by the researcher.

The first area, school district, showed a range of respondents between the school districts. Table 11 shows the frequency statistics.

Table 11
Frequency of School Districts

	DFG	Frequency	Valid Percent
Valid	CD	57	11.1
	DE	58	11.3
	FG	32	6.2
	GH	177	34.4
	I	23	23.9
	J	67	13.0
Total		514	100

The second area, District Factor Grouping (DFG), identified the ranking of school districts in New Jersey by their socio-economic status. The DFG was developed by the NJDOE for use in the reporting of test scores. The intent of this procedure was to reduce

variation in reported scores due to factors beyond the control of local educators (NJDOE District Factor Groups, DFG, for School District 2002, p. 1). The DFG is on a ranking scale of A, lowest, to J, highest. Somerset County does not have a designated Abbott School District nor an "A" school district. All DFG's "C" to "J" are represented in Somerset County (see Appendix F1). The frequencies of the District Factor Groups are displayed on table 12.

Table 12

Frequency of District Factor Groups

•	DFG	Frequency	Valid Percent
Valid	CD	57	11.1
	DE	58	11.3
	FG	32	6.2
	GH	177	34.4
	I	123	23.9
	1	67	13.0
Total		514	100

The third area, teacher certifications, showed the following information; of the 514 responses, 54.1% had an Elementary Certification, 12.3% possess a Secondary Education Certification and 19.8% yielded a Specialized Certification. Specialized Certification refers to a certification in art, music, a specific subject, reading, English as a Second Language (ESL), Bilingual Education, physical education, health, or a foreign

language. Teachers certified in Special Education represented 13% of the responses with an actual number of 71. Table 13 identifies the frequencies according to certification.

Table 14 displays the associated frequency statistics by gender.

Table 13

Frequency of Certifications

	·	Frequency	Valid Percent
Valid	Elementary Certification	278	54.1
	Secondary Certification	63	12.3
	Specialized Certification	102	19.8
	Special Education	71	13.8
Total		514	100

A relatively equal distribution between the two areas of experience was evident by the distribution between 1 - 9 years of experience and ten or more years of experience.

51.4% of the respondents indicated 1 - 9 years of experience and 48.6% of the respondents indicating ten or more years of experience. Table 15 presents that frequencies according to experience are identified.

Table 14

Frequency of Gender

		Frequency	Valid Percent
Valid	Female	438	85.2
	Male	76	14.8
Total		514	100

Table 15
Frequency of Experience

		Frequency	Valid Percent
Valid	1 - 9 years	264	51.4
	10 or more years	250	48.6
Total		514	100

The frequency statistics for Teaching Assignments identifies the largest groups as elementary, grades 1-6, with 232 respondents and a percentage of 45.2 percent. Specific subject assignments are those teachers who predominately teach a specific subject such as English/Language Arts, Science, Social Studies and/or Math. This group yielded 83 respondents or 16.2% of the respondents. Specialized teaching assignments refers to those teachers in grades 1-8 who teach in specialized areas such as art, music, English as

a Second Language (ESL), Bilingual Education, physical education, health, or a foreign language. Table 16 represents the frequency statistics.

Table 16

Frequency of Teaching Assignments

		Frequency	Valid Percent
Valid	Elementary	232	45.1
	Specific Subject	83	16.1
	Specialized Area*	123	23.9
	Special Education	75	13.8
Total		514	100

Note. *Special Education refers to inclusion classes, Resource Room, and the selfcontained classroom setting

Degree attainment is the final category on the Personal Data Sheet. Two respondents attained a doctoral status. The associated frequencies for degree attainment are displayed in Table 17.

Data gathered from these demographic areas will be used to determine the statistical significance of any relationship among the teachers attitudes toward professional development.

Table 17
Frequency of Degree Attainment

		Frequency	Valid Percent
Valid	BS/BA	144	28.1
	BS/BA Plus	130	25.3
	MA/MS	190	37.0
	MA/MS Plus	47	9.2
	Doctorate	2	.4
	Missing	1	.2
Total		514	100

Professional Development Survey Instrument - Frequency to Questions

The Professional Development Survey Instrument utilized Likert ordinal response categories of Strongly Agree - 1, Agree - 2, Disagree - 3, and Strongly Disagree - 4 for the respondents to answer questions 1 -7 (Babbie, 1999). Space was provided for additional comments for all questions on the Professional Development Survey Instrument.

The first question asked the respondents to respond to the following statement;
"I have a positive attitude toward professional development activities. The majority of the respondents indicated that they strongly agreed, 44.1%, with the statement or agreed with

the statement, 44.9 percent. The first two categories represent 89% of the respondents.

Table 18 displays the frequency statistics.

Table 18

I Have a Positive Attitude Toward Professional Development

		Frequency	Valid Percent
Valid	Strongly Agree	225	44.1
	Agree	229	44.9
	Disagree	48	9.4
	Strongly Disagree	8	1.6
	Total	510	99.2
Missing System			
Total		514	100

The same pattern with a majority of respondents strongly agreeing or agreeing was maintained in their response to the second statement; "Professional development is necessary to maintain instructional skills." The associated frequency statistics are displayed in Table 19.

The respondents maintained the pattern of response for statement three. "My school district has provided me with the guidelines associated with the new Professional Development Standards for Teachers adopted by the NJDOE in 2000." Two hundred and fourteen respondents or 42.1% of the survey population responded to the statement by

strongly agreeing, while 48.1% or two hundred and forty-seven respondents agreed with the statement. Table 20 displays the frequency statistics.

Table 19

Professional Development is Necessary to Maintain Instructional Skills

		Frequency	Valid Percent
Valid	Strongly Agree	257	50.0
	Agree	227	44.2
	Disagree	27	5.3
	Strongly Disagree	1	.2
	Total	512	99.6
Missing System		2	.4
Total		514	100

"There is not enough time for all the professional development activities," was the third statement on the Professional Survey Instrument. One hundred and fifteen, 22.4%, of the respondents strongly agreed with the statement while 234, 45.5% of the respondents agreed with the statement. Those respondents who disagreed with the statement represented 30.7% of the survey population. The associated frequency statistics are displayed in Table 21.

Table 20

My School District Has Provided Me with the Guidelines Associated with the New Professional Development Standards for Teachers Adopted by the NJDOE in 2000

		Frequency	Valid Percent
Valid	Strongly Agree	214	41.6
	Agree	247	48.1
	Disagree	36	7.0
	Strongly Disagree	11	2.1
	Total	508	98.8
Missing System		6	1.2
Total		514	100.0

Table 21

There is Not Enough Time for All the Professional Development Activities

		Frequency	Valid Percent
Valid	Strongly Agree	115	22.7
	Agree	234	45.5
	Disagree	140	27.2
	Strongly Disagree	18	3.5
	Total	507	98.6
Missing System		7	1.4
Total		514	100

Survey question five identified a specific instructional methodology.

Respondents were asked to respond to the statement focused upon problem-based instruction. Question five yielded seventy-nine respondents strongly agreeing with the statement and three-hundred and seven agreeing with the statement for a total of 386 respondents or 76.6%. One hundred and five respondents or 20.4% disagreed with the statement and thirteen or 2.5% strongly disagreed. The frequency analysis is displayed in Table 22.

Table 22

Professional Development Activities Have Encouraged Me to Provide the Students in My

Classes with Problem-Based Instruction

		Frequency	Valid Percent
Valid	Strongly Agree	79	15.4
	Agree	307	60.9
	Disagree	105	20.4
	Strongly Disagree	18	3.5
	Total	504	98.1
Missing System		10	1.9
Total		514	100

The sixth question of the survey instrument pertained to professional development and whether the teacher felt forced to change their instructional methodologies. Fifty-one per cent (51.6%) of the respondents disagree with this statement while 26.8% agreed with the statement. Table 23 displays the addition frequency statistics.

Table 23

Professional Development Activities Have Made Me Feel Forced to Change My

Instruction to a Classroom, Which is Active and Student Centered

	•	Frequency	Valid Percent
Valid	Strongly Agree	42	8.2
	Agree	138	26.8
	Disagree	265	51.6
	Strongly Disagree	63	12.3
	Total	508	98.8
Missing System		6	1.2
Total		514	100.0

Regarding the shift in instructional methodologies in the current phase of the systemic reform, the seventh question asked the respondents to respond to a statement associated with new and current information focused upon instruction. Table 24 represents the frequencies associated with the statement; "The new information concerning instruction is very different from what I was taught in my undergraduate course work."

Table 24

The New Information Concerning Instruction is Very Different From What I Was Taught in My Undergraduate Course Work

		Frequency	Valid Percent
Valid	Strongly Agree	59	11.5
	Agree	149	29.0
	Disagree	265	43.8
	Strongly Disagree	73	14.4
	Total	506	98.4
Missing System		8	1.6
Total		514	100

Comparison of Categories

After each questionnaire was numbered and entered on the Statistical Package for Social Science (SPSS) an additional reliability analysis was completed. As evident by the frequency distribution for questions, 3, 4, 6, and 7, reliability on those questions dropped below the acceptable range of .6 reliability (Appendix C1). The statistical inference gathered from those questions would be marginal. Questions 1, 2, and 5 maintained the reliability quotient and all statistically significant results will be reported.

Independent t-tests were used to compare the mean scores among questions 1, 2, and 5 on the *Professional Development Survey Instrument* and gender. There is no

statistical significance concerning difference among gender. The results are displayed on Table 25.

There is no statistical significance between questions 1 and 2 and experience. The data suggests that both groups have a positive attitude toward professional development activities.

At a .051 level of significance, the data suggests that teachers with 1-9 years of experience agree more strongly with question 5," professional development activities have encouraged them to provide their students with problem-based instruction," than teachers with 10 or more years of experience. Teachers with 1-9 years of experience have a mean of 2.0383 while teachers with 10 or more years of experience have a mean of 2.1770, with a mean difference of -.1386. Table 26 displays the results.

An Analysis of Variance (ANOVA) was used for District Factor Grouping (DFG) as opposed to an independent t-Test since the respondents were spread across six groups, CD, DE, FG, GH, I, and J for survey questions 1, 2, and 5. The DFG as discussed in Chapter 3 represents the economic status of the school district as identified by the New Jersey Department of Education. Table 27 display the total results for the DFG and questions 1, 2, and 5 on the Professional Survey Instrument. There is statistical significance between question one, "I have a positive attitude toward professional development," with a statistical significance of .003 and DFG and question two, "Professional Development is necessary to maintain instructional skills" and DFG with a statistical significance of .000. Table 27 displays the results.

Table 25

Independent Sample T-Test to Gender

	for I	Levene's Test for Equality of Variances					Std. Error	95% Cont of the	95% Confidence Interval of the Difference
	:		t-Tes	t-Test for Eq	Equality of Means	Means	Difference		
					Sig.	Mean			
	 দ	Sig	4	₽	(2- tailed)	Difference		Lower	Upper
Q1 Equal variances assumed	ces .190	.663	-1.537	208	.125	1356	8.823E-02	-3090	3.772E-02
Equal variances not assumed	sec		-1.400	94.591	.165	1356	9.687E-02	3280	5.670E-02
Q2 Equal variances assumed	ces 1.867	7. 172	-1.617	510	.107	1212	7.497E-02	2685	2.609E-02
Equal variances not assumed			-1.454	95.287	.149	1212	8.338E-02	2867	4.432E-02
Q5 Equal variances assumed	es 2.200	0 .139	-1.642	502	.101	.1396	8.502E-02	3066	2.746E-02
Equal variances not assumed		<u></u>	-1.601	101.334	.113	1396	8.720E-02	3125	3.340E-02

- I have a positive attitude toward professional development activities.
 Professional development is necessary to maintain instructional skills.
 Professional development activities have encouraged me to provide my
- Professional development activities have encouraged me to provide my students with problem-based instruction.

Table 26

Independent Sample T-Test to Experience

	Υ		T	·	·	I		<u> </u>	
uality s	Means 95% Confidence Interval	of the Difference	Upper	3.772E-02	5.670E-02	2.609E-02	4.432E-02	2.746E-02	3.340E-02
t-Test for Equality of Means) %56 I	of the	Lower	3090	3280	-2585	-2867	-3066	3125
t-Te		Std. Error Difference		9.823E-02	9.687E-02	7.497E-02	8.338E-02	8.502E-02	8.720E-02
		ans	Mean Difference	1356	1356	1212	1212	.1386	1386
		t-Test for Equality of Means	Sig. 2-tailed	.245	.246	.107	.149	.101	.113
		t-Test for E	JÞ	208	493.874	510	95.287	502	101.334
			1	-1.165	-1.161	1.617	1.454	-1.642	-1.601
	Levene's Test for Equality of	Variances	Sig.	.129		£89°		150.	
:	Levene for Equ	Vari	F	2.314		.167	:	3.826	
				Equal variances assumed	Equal variances not assumed	Equal variances assumed	Equal variances not assumed	Equal variances assumed	Equal variances
				<u>ئ</u>		62		65	

Note.

- I have a positive attitude toward professional development activities.
 Professional development is necessary to maintain instructional skills.
 Professional development activities.
- Professional development activities have encouraged me to provide my students with problem-based instruction.

Table 27

Analysis of Variance for District Factor Grouping

		Sum of Squares	df	Mean Square	F
I have a positive attitude toward	Between Groups	8.713	5	1.743	3.578
professional development.	Within Groups	245.461	504	.487	
	Total	254.175	509		
2. Professional development is	Between Groups	10.283	5	2.057	5.907
necessary to maintain	Within Groups	87.441	506	.348	
instructional skills.	Total	88.020	511		
5. Professional development	Between Groups	3.751	5	.750	1.613
activities have encouraged me to	Within Groups	231.675	498	.465	
_	Total	235.427	503		
N .					

Note. *The mean difference is significant at the .05 level.

A Tukey Post Hoc Test was used to determine where the difference within groups lies. There is a statistical significance in response to question 1; "I have a positive attitude toward professional development." Although the ANOVA indicated significant result between DFG for question 1, the Tukey Post Hoc yielded findings slightly above the .05 level of significance between DFG "CD" and DFG "GH" at a .057 level of significance and a mean difference of .2996. The teachers in District Factor Group "CD" had a slightly more positive attitude toward professional development activities then teachers in District Factor Group "GH." The statistically significant variance was between school

DFG "I" and "GH." This suggests that teachers in "I" DFG school districts have a slightly more positive attitude toward professional development activities than teachers in "GH" DFG school districts. Interestingly there was not a significant difference between the lowest DFG "CD" and the highest District Factor Group of "J." The results of the Tukey Post Hoc is displayed on Table 28.

Table 28

ANOVA Question 1 to District Factor Grouping

(1) DFG	(J) DFG	Mean	Sig.
		Difference	
CD	DE	.3239	.131
	FG	.1187	.974
	GH	.2996	.057
	I	6.499E-02	.993
	J	.3474	.068
DE	CD	3239	.131
	FG	2052	. 7 73
	GH	-2.4255E-02	1.000
	l I	2589	.183
	J	2.351E-02	1.000
FG	CD	1187	.974
	DE	.2052	<i>.77</i> 3
	GH	.1810	.767
	I	-5.3675E-02	.999
_	J	.2287	.661
GH	CD	2996	.057
	DE	2.425E-02	1.000
	FG	1810	.767
	I	.2346*	.049
	J	4.777E-02	.086
I	CD	-6.4988E-02	.993
	DE	.2589	.183
	FG	5.368E-02	.999
	GH	.2346*	.049
	J	.2824	.086

J	CD	3474	.068
	DE	-2.3511E-02	1.000
	FG	2287	.661
	GH	-4.7766E-02	.997
	I	.2824	.086

Note. * Statistically significant at .05.

There is a statistical significance in response to question 2 "Professional development is necessary to maintain instructional skills." The teachers in DFG "CD" agreed more with the necessity of professional development to maintain instructional skills than teachers in District Factor Group "GH," with a significance of .036 and a mean difference of .2662. The teachers in DFG "CD" agreed more with the necessity of professional development to maintain instructional skills than teachers in DFG "J," with a significance of .000 and a mean difference of .5033. The statistically significant variance between schools DFG "FG," and DFG "J," had a significance of .008 and a mean difference of .4410. This suggests that teachers in DFG "FG" agreed more strongly with the necessity of professional development to maintain instructional skills than teachers in DFG "J." The statistically significant variance is between school District Factor Groups "GH" and "J" is significant at .058 and a mean difference of .2370. This suggests that teachers in DFG "FG" have a slightly more positive attitude toward professional development activities than teachers in a "J" DFG. The statistically significant variance between school DFG "I" and "J" is significant at .000 and a mean difference of .3736. This suggests that teachers in the DFG "I" have a slightly more positive attitude toward professional development activities than teachers in a DFG "J." The results of the Tukey Post Hoc are displayed on Table 29.

Table 29

ANOVA Question 2 to District Factor Grouping

(1) DEC	(D DEC	Mann	G:-
(1) DFG	(J) DFG	Mean	Sig.
	22	Difference	
CD	DE	.2202	.342
	FG	6.225E-02	.997
	GH	.2662*	.036
	I	.1297	.744
	J	.5033*	.000
DE	CD	-,2202	.342
DL	FG	1580	.836
	GH	4.604E-02	.996
	I	-9.0552E-02	.990 .929
	J	I I	
•	,	.2831	.080
FG	CD	-6.2252E-02	.997
	DE	.1580	.836
	GH	.2040	.482
	I	6.740E-02	.993
	J	.4410*	.008
GH	CD	2662*	.036
	DE	-4.6042E-02	.996
	FG	2040	.482
	I	1366	.360
	J	.3735*	.058
Ī	CD	1297	.744
	DE	9.055E-02	.929
	FG	-6.7401E-02	.993
	GH	.1366	.360
	J	.3736*	.000
J	CD	5033*	.000
	DE	2831	.080
	FG	.4410*	.008
	GH	2370	.058
	I	3736*	.000
NT + 4 Ct +1 +1	11		

Note. * Statistically significant at .05.

An ANOVA was used for question 5, "Professional development activities have encouraged me to provide the students in my classes with problem-based instruction" and there were no statistically significant results (Appendix E1).

An ANOVA was to determine the variance between degree and certification and questions 1., "I have a positive attitude toward professional development activities", 2., "Professional development is necessary to maintain instructional skills" and question 5, "Professional development activities have encouraged me to provide the students in my classes with problem-based instruction," the ANOVA yielded no significant results (Appendix E Tables E1, E2, E3).

CHAPTER V

Conclusions and Recommendations

This chapter is divided into four sections. The first section presents a summary of the study, the second section discusses the findings and conclusions, the third section discusses the implications for policy and practice and the final section discusses recommendations for further research.

Summary of the Study

The primary purpose of the study was to identify the attitudes of veteran teachers in grades K-8 toward professional development within Somerset County, New Jersey and to identify any differences within the categories of, District Factor Groups, gender, total number of years of teaching experience, teaching level or assignment, and degree attainment.

The primary research question asked was, "Are there significant differences between veteran teachers attitudes toward professional development in schools within District Factor Groups, gender total number of years of teaching experience, teaching level or assignment, and degree attainment?"

Two subsidiary questions were asked:

1. Do teachers believe professional development activities are necessary to maintain a teacher's instructional skills?

2. Do teachers believe professional development activities encourage teachers to provide their students with problem-based instruction?

The single sample size of 980 was limited to nine school districts from six District Factor Groups of teachers in grades K-8 in Somerset County, New Jersey. The sample group was limited to Somerset County, New Jersey and those school districts in which permission to conduct research was granted. Five hundred and fourteen teachers completed the *Personal Data Sheet* and the *Professional Development Survey Instrument*. All respondents completed the *Personal Data Sheet* which asked questions concerning, school district, gender, experience, certification, degree attainment, and teaching level or assignment.

Each question on the *Professional Development Survey Instrument* asked the respondent to respond to a statement. Quantitative methods were used to analyze the data. The methods included frequency distribution, independent t-Test, and an Analysis of Variance (ANOVA).

Additional comments were encouraged. Two hundred and eleven respondents, 41%, of the 514-sample group in the single sample offered additional comments to the seven questions on the *Professional Development Survey Instrument*. The additional comments were coded for possible trends and analyzed for frequency to determine if there were any significant relationships between the comments and District Factor Grouping and experience.

Findings and Conclusions

This section will present a summary of the findings and conclusions, based upon the analysis of the data related to the research questions.

Research Question

Eighty-nine percent, 89%, of the teachers surveyed agreed with the statement, "I have a positive attitude toward professional development." Forty-five per cent, 45%, "Agreed" with the statement and 44% "Strongly agreed" with the statement. To answer the primary research question, "Are there significant differences between veteran teachers' attitudes toward professional development within District Factor Groups. according to gender, total number of years of teaching experience, teaching level or assignment, certification, and degree attainment?" According to the findings, there were no significant differences between veteran teachers with 10 or more years of teaching experience and non-veteran teachers with 1-9 years of teaching experience toward professional development. Based upon the data, both groups have a positive attitude toward professional development. This suggests that the veteran teachers in the sample have a positive attitude toward professional development. There were no significant relationships between the teachers' attitudes toward professional development and gender, teaching level or assignment, certification, and degree attainment. As identified in the research of both Steffy and Huberman, there are distinct stages in the teaching career. The veteran teacher in this study may be in the initial stage of the "taking-stock" period. "This period usually occurs somewhere between the twelfth and twentieth year" (Huberman, 1989, p. 35). While the teachers in the 1-9 year range of experience were

relieved the survival period is over, they are entering the experimental phase, where the teacher is eager to add to their instructional repertoire (Huberman, 1989, p. 33).

The results of this survey contradict the research identified in Chapter II concerning the veteran teacher. Corcoran (1995) suggested that "Implementing this approach calls for pedagogical revolution for which few teachers are prepared (Corcoran, 1995, p. 16). He further emphasizes the stress for veteran teachers when he stated, "they [veteran teachers] are being asked to teach in ways that they have never seen or experienced" (Corcoran, 1995, p. 16). Abdal-Haqq (1996) believes that this is especially stressful for the veteran teacher.

The findings do suggest a relationship between the District Factor Group and the teachers' attitudes toward professional development. District Factor Groups identify the economic status of the school district. This process was implemented by the New Jersey Department of Education to allow for economic factors with which local school districts have no control to be considered when publishing results on state mandated assessments.

There were no significant differences in attitude between a "CD" school district, the lowest DFG and a "J" school district and the highest DFG. Thus, the resources of time and funding may not be factors. The data indicates that there are significant differences between the lowest DFG of "CD" and a DFG of "GH." A "GH" designation is the mid-point on the DFG rating scale. The data can conclude that in the upper half of the DFG's the attitude toward professional development is more positive. The "I" DFG school district is slightly more positive in attitude toward professional development than the "GH."

Qualitative trends, in the response to the primary research question offers, additional insight into the attitudes of teachers toward professional development. The majority of the teachers maintained that they had a positive attitude if the professional development activity was useful, relevant, specialized or related to their subject. A positive attitude was evident if the professional development offered was useful and relevant. Professional development activities should view the teachers as being well trained and highly skilled. It must be noted that in response to the primary question, technology education was identified by one respondent as having an influence or being a factor concerning the teachers' attitudes toward professional development activities.

Subsidiary Question One. To answer the question, "Do teachers believe professional development activities are necessary to maintain a teacher's instructional skills?" The data indicates that the majority of teachers who completed the survey do believe that professional development is necessary to maintain instructional methodologies. Ninety-five percent, 95%, of the teachers surveyed agree with the statement, "Professional Development is necessary to maintain instructional skills." With approximately 50% answering that the, "Strongly agree," or "Agree." The data did not indicate that there was a relationship between gender, teaching level or assignment, certification, and degree attainment and the teachers' attitude toward the necessity of professional development to maintain instructional methodologies.

According to the findings, there was a relationship between the District Factor

Group a teacher's attitudes toward professional development as being necessary to

maintain instructional skills. The teachers practicing in the lowest DFG, "CD", believed

more strongly that professional development was necessary to maintain instructional skills. Higher economic district school districts differ within the mid to high District Factor Grouping. The findings suggest that there were no differences between the veteran and non-veteran teacher concerning the necessity to participate in professional development activities to maintain instructional skills.

Additional comments offered by the respondents provided additional insight and support for the responses to the Likert scale. Sixty percent of the comments maintained that professional development was necessary to maintain instructional skills while 35% agree that professional development maintains their effectiveness and enhances their instruction. A smaller group, 27.1%, believed that if professional development is useful. relevant, or appropriate then it [professional development] is necessary to maintain their instruction. The instructional skills are not identified, but the pattern of the results does indicate that the respondents do see a connection between professional development and the development, modification and enhancement of their instructional skills. Professional development is a continuous process: a continuum of development and enhancement. The application of the information attained through a professional development activity to the classroom is the professional responsibility of the teacher. This confirms the research concerning the necessity of a teacher to be reflective in the classroom and to change or modify instruction based upon the needs of the student. Adaptive behavior has a positive impact on learning.

An undercurrent of trends is evident in the additional comments concerning the professional development activities as being necessary to maintain instructional skills. A small group, 7%, believed it is the teacher's responsibility to stay current. This group did

not identify the benefits of collegiality and collaboration associated with professional development. Professional development, according to the research, affects the teacher's relationships with the students and staff. Seven percent maintained that professional development was rarely useful, relevant or appropriate. Additional reasons for this attitude are not identified. The integration of technology as an educational tool for professional development was not identified as having any affect on the teacher's attitudes toward professional development.

Subsidiary Question Two. The focus of the current reform movement continues to address the changes in instruction. Professional development activities that encourage teachers to provide their students with active learning environments are one of the components of the current educational reform movement. This was identified in the literature, New Professional Development Standards for Teachers and Educational Services Personnel, and is evident in the NJCCS. Question 5 on the Professional Development Survey Instrument answers the second subsidiary research question, "Do teachers believe professional development activities encourage teachers to provide their students with problem-based instruction?"

To answer the second subsidiary question, "Professional development activities have encouraged me to provide the students in my classes with problem-based instruction," 75% of the respondents "Strongly Agreed" or "Agreed" with the statement.

There was a marginal significance between District Factor Groups of .051. Teachers with 1 - 9 years of experience do agree more strongly with the statement, "Professional

development activities have encouraged me to provide the students in my classes with problem-based instruction" than teachers with 10 or more years of experience.

The statistical significance is marginal but does indicate there is some difference between the levels of experience. These activities [professional development] place many demands on teachers, especially veteran teachers. According to Abdal-Haqq (1996), Many demands on teachers, improving subject-matter knowledge and pedagogical skills; understanding cultural and psychological factors that affect student learning; and assuming greater and in some cases, new responsibilities for curriculum, assessment, outreach, governance, and interagency collaboration can create stress for teachers" (Abdal-Haqq, 1996, p. 1). The literature suggests that the current systemic reform movement has a greater emphasis on instruction and accountability and professional development activities that are asking teachers to "learn new visions of practice and unlearning the practices and beliefs about students and instruction that have dominated their professional lives to date" (Swanson, 1995, p. 2).

The results of this survey do offer a minimal confirmation of the research identified in Chapter II concerning the veteran teacher. Corcoran (1995) suggests that "Implementing this approach calls for pedagogical revolution for which few teachers are prepared (p. 16). He further emphasizes the stress for veteran teachers when he states, that "They are being asked to teach in ways that they have never seen or experienced" (Corcoran, 1995, p. 16). Abdal-Haqq (1996) believes that this is especially stressful for the veteran teacher. The research conducted by Steffy (2000) and Huberman (1989) acknowledge that the teaching career stages are not linear but rather places of options.

Options for the teacher to withdraw or maintain a positive continuum of development.

Organizational and environmental factors were not identified.

Questions 3, 4, 6, and 7, did not meet the reliability quotient therefore any statistical comparisons would be marginal. Information concerning the frequency of the answers using the Likert scale were not offered in addition to the trends and patterns of the additional comments.

The majority of the respondents had received the information concerning New Professional Development Standards for Teacher and Educational Services. The additional comments suggest that a majority of those who made comments received the information from an outside source such as the New Jersey Educational Association.

Question 4 on the *Professional Survey Instrument* asked teachers about time for professional development. Sixty-eight percent agreed with the statement, "There is not enough time for professional development." Thirty percent disagreed with the statement. Time and funding were identified as concerns when planning and implementing professional development activities. The additional comments identify financial incentives concerning professional development as necessary. The teachers also suggest flex scheduling, release time and summer programs with compensation to assist in the delivery of the professional development activities.

The objective of question six, "Professional development activities have made me feel forced to change my instruction to a classroom, which is active and student centered" was to identify if the teachers felt pressured or forced to change their instruction. Fiftyone percent of the respondents disagreed with the statement, "Professional development activities have made me feel forced to change my instruction to a classroom, which is

"forced." The majority of the comments associated with this question reacted to the word "forced." Additional comments changed the word "forced" to "modify" or "affect." Additional comments identified that the teachers always provided their students with an active classroom. This indicates that the teachers did not feel pressured to change but rather modify or enhance their instruction. An active student-centered classroom is a component of the current systemic reform movement.

The data indicates that there is no difference between the current information and the training the teacher received in their undergraduate course work. The respondents who did not believe there was a difference maintain that the information is not new just the name.

Implications for Policy

In 2002, the New Jersey Department of Education adopted the New Professional Development Standards for Teachers. This initiative mandates that all teachers must accrue 100 professional hours over a five-year period. These content areas and indicators in this mandated policy are in aligned with the current systemic reform movement and the No Child Left Behind Act. The current policy does not recognize the differences between teacher, by experience, grade level, degree attainment or employment within a District Factor Group.

Resources were identified as a factor concerning professional development activities. The state has initiated a systemic reform movement and mandated the professional development hours but has only referred to the necessity to provide

resources for these activities. Resources are necessary to implement and maintain these initiatives and mandates. The research confirms the link between professional development and its impact on student achievement. The intent of these initiatives is to provide each child with an effective learning experience but the resources necessary to maintain professional development have not been explored.

This study identified the consistency concerning teachers' attitudes toward professional development and the relevance of the professional development activities. Professional development activities should focus upon the teacher's needs. The professional development should not only be mandated by the required hours but also be offered to maintain the teacher's positive attitude, capacity and cycle of their career. Policy statements, which address appropriate incentives and support systems for the veteran teacher or reflect sensitivity to the life/career cycle of the teacher, would assist the teacher through the transitions of their teaching career. Policies must acknowledge the veteran teacher's experience and wisdom. Professional development must be continuous and appropriate for each teacher. It is an individual experience.

Due to the current economy, many people are choosing to enter the teaching profession through the alternate route process. These candidates have had little if any "real" coursework or experience concerning instructional methodologies, classroom management or the physical and emotional development of their students. Teaching is a specialized skill delivered by highly trained and skillful professionals. Teaching is student-centered, adaptive, reflective and dynamic. The policies associated with certification must be evaluated and developed in order to acknowledge the fact that many teachers entered the profession with little specialized training. The alternate route teacher

can temporarily minimize the teacher shortage but the question remains what is the long-term affect on education if these candidates do not develop into the trained specialists necessary to provide the student with effective instruction? Policies that address the alternate route process and the development of the alternate route teacher, would maintain the accountability of the profession.

Top down bureaucratic accountability methods will have a negative affect on public education. Policies that empower the teacher to participate in activities of their choice intended to encourage effectiveness would offer incentives to the teacher.

Accountability for the teacher should come from an evaluation process that links their development and growth with student achievement. The implementation of action research and the use of data to assess the effectiveness of an initiative would empower the teacher and allow for the teacher to change and reflect on the practice of teaching. The teacher should have time to reflect upon the implementation of new methodologies and identify his or her own effectiveness. The use of data to align the professional development with student learning would individualize the approach and address the individual learning of the teachers and the needs of a particular class, school or school district.

Recommendations for Further Research

 This study yields information from teachers in Somerset County, New Jersey in grades K-8. Additional research for teachers in grade 9-12 or another county would be beneficial.

- 2. Further qualitative study concerning the attitudes/perceptions of teachers toward professional development would provide insight. Research that distinguishes the effect of the organization and leadership factors of the school and a teacher's attitude toward professional development would provide insight into the effectiveness of certain professional development models. Research concerning the teachers' use of data and alternate assessments to determine the effectiveness of any changes in their instructional methodology would encourage the implementation of action research as a means of adaptive and reflective teaching.
- 3. Upon completion of the survey process, four questions did not meet the reliability quotient. Although the statistical inferences are marginal, they do suggest some statistical variances. The rewording of these questions would identify any statistical significance.
- 4. Further research concerning the amount of time and resources needed to maintain the New Professional Standards for Professional Development adopted by the NJDOE, 2000 would be beneficial in determining the effect on policy and financial issues.
- 5. This data infers that the District Factor Grouping does influence a teacher's attitude toward professional development. A study focused upon comparative spending and the types of professional development within the District Factor Groups would yield valuable information.
- 6. Although the findings of this study do not indicate that degree attainment is a significant factor, further study to identify the differences between teachers within different District Factor Groups would identify if the level of education influences the

attitude toward professional development and/or the type of professional development activities which would be most beneficial. Additional research concerning the attitudes of "alternate route" teachers and standard certified teachers could potentially influence certification standards.

 Research concerning the impact of additional and identified financial support/resources on the of professional development is indicated.

A "new kind of teacher" is necessary to meet the current demands of our dynamic profession. This "new kind of teacher" does not refer to a recent graduate, but to the career teacher that continually reflects and adapts to the needs of the students. It is our responsibility, as educational leaders to study professional development in an effort to best serve the teacher to maintain an active, effective, and fulfilling teaching career that will provide, as identified by National Commission on Teaching and America's Future "all students in the country with what should be their educational birthright: access to competent, caring, and qualified teachers" (1996, p. 9).

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Appendix A

Survey Packet

Dear Teacher,

My name is Johanna S. Ruberto, I would like to take this opportunity to invite you to participate in a study of teacher attitudes toward professional development. I am conducting this study for my doctoral dissertation at Seton Hall University in South Orange, New Jersey.

- The purpose of the study is to investigate the attitudes of veteran teachers toward professional development in general and the significant differences between the veteran teachers' attitudes toward professional development in schools within District Factor Groups, according to gender, teaching experience, degree attainment, certifications and grade-level assignment.
- Each volunteer will be asked to complete and Personal Data Sheet and a Professional Development Survey Instrument. The questions on the Personal Data Sheet are:

School District
Gender
Certification(s)
Grade level/Subject Assignment
Years of experience
Degree Attainment

The survey is comprised of four questions related to professional development activities. In addition to the four questions, space will be provided for additional comments. The completion of the Personal Data Sheet and Professional Development Survey Instrument will take approximately 10-15 minutes.

- 5. Your participation in this activity is voluntary. Any and all participants may withdraw from the research study without prejudice at any time.
- 6. The identity of each respondent will be anonymous. Results of the study will be reported in aggregate form only.
- All information will be kept completely confidential. All
 completed surveys will be stored in a locked file cabinet in the primary
 researcher's home office.
- Only those persons directly involved in the research will have access to the survey instruments and personal data sheets. Results of the study will be reported in aggregate form only.

- Superintendents and principals will receive a summary of the findings for their districts.
- 10. There are no foreseeable risks or discomforts to the subjects.
- 11. The benefits of the study will be the analysis and conclusions attained from the aggregate data. This will provide information for application and continued research.
- 12. If there are any questions please contact the primary researcher at

Seton Hall University
College of Education and Human Services
400 South Orange Avenue
South Orange, New Jersey 07079-9839

- 13. There will be no video or audiotapes used to conduct this research.
- 14. Please retain this letter for your records.

This project has been reviewed and approved by the Seton Hall University Review Board for Human Subjects Research. The IRB believes that the procedures adequately safeguard the subject's privacy, welfare, civil liberties and rights. The Chairperson of the IRB may be reached at (telephone number).

Once, again I invite you to participate in what I believe is an important study. If you wish additional information about the project, please contact me.

Your completion and return of the Personal Data Sheet and Professional Development Survey Instrument to the "Drop Box" indicates your understanding of the project and your willingness to participate. Your consideration concerning your participation in this project is appreciated.

Sincerely,

Johanna S. Ruberto

Instructions for Completion of the Personal Data Sheet and

Teacher Professional Development Survey

Please complete and place in the "Drop Box" located in the main office of your school.

Due date is

Your time and effort in giving this questionnaire and survey are greatly appreciated. The Professional Data Sheet and Professional Survey Instrument are designed to gather data regarding the attitudes of teachers toward professional development. The survey should take about fifteen minutes to complete.

The Personal Data Survey seeks to gather information to identify significant relationships between the attributes and the attitudes of the participating teachers practicing in Somerset County, New Jersey. Participation is voluntary and all individual responses will remain anonymous and confidential. Only aggregated data will be published.

Thank you for your cooperation and assistance. If you have any questions, please feel free to contact me.

Aggregate data concerning the results of the survey will be distributed to each school district superintendent. Superintendents and principals will receive a summary of the findings for their school district. Results of the survey will be distributed to each school district superintendent.

Personal Data Sheet

Please return by _____

Please place your Personal Data Sheet and Professional Development Survey Instrument. When the Personal Data Sheet and Professional Development Survey Instrument are completed, please place in the "Drop Box" located in the main office of your school.

	nain office of your school.
	ool District:
2 Certi	ification (s):,
	ler: Female Male
4. Tota	I number of years of teaching experience (including this year)
	1 - 9 years 10 or more
5. List te	eaching level assignments and/or subjects:
	
	
S Lest d	legree/credits
J. Last C	
Ш	Bachelor of Science (BS) or Bachelor of Art (BA)
	Credits beyond a BS/BA
	Masters Degree
	Credits beyond a Masters Degree
Ш	o. va.to pojetta a madicio pogrec
	Doctoral Degree

Professional Development Survey Instrument

Please respond to the following statements using the scale.

	Strongly	Agree	Disagree	Strongh
Statement 1	Agree	'''		Disagre
. I have a positive attitude toward professional development activities.				
Additional comments for statement 1				
	Strongly	Agree	Disagree	Strongl
Statement 2	Agree	,		Disagre
 Professional Development is necessary to maintain instructional skills. 				
Additional comments for statement 2:	<u></u>			
	Strongly	Agree	Disagree	Strongh
Statement 3	Strongly Agree	Agree	Disagree	Strongh Disagre
Statement 3		Agree	Disagree	
Statement 3 3. My school district has provided me with the guidelines associated with the New Professional Development Standards for Teachers adopted by		Agree	Disagree	

Statement 4	Strongly Agree	Agree	Disagree	Strongly Disagree
There is not enough time for all the professional development activities.				Disagree.
Additional comments for statement 4:			<u>ļ. </u>	
Statement 5	Strongly Agree	Agree	Disagree	Strongly Disagree
 Professional development activities have encouraged me to provide the students in my classes with problem- based instruction. 				
Additional comments for statement 5:				1
Statement 6	Strongly Agree	Agree	Disagree	Strongly Disagree
Professional development activities have made me feel forced to change my instruction to a classroom, which is active and student centered.				
Additional comments for statement 6:		<u> </u>		
Statement 7	Strongly Agree	Agree	Disagree	Strongly Disagree
7. The new information concerning instruction is very different from what i was taught in my undergraduate course work.				
Additional comments for statement 7:				
-				
<u>.</u>				

Appendix B

Letters

Johanna S. Ruberto Principal

Dear

Currently, I am preparing to present my dissertation proposal to Seton Hall University's Institutional Review Board (IRB) for final approval in January 2003. As part of the IRB process, I must document written approval from the school districts in which I will be conducting my research.

Dissertation topic: Veteran Teachers Attitudes Toward Professional Development.

The purpose of the study is to investigate the attitudes of veteran teachers toward professional development in general and the significant differences between the veteran teachers' attitudes toward professional development in schools within District Factor Groups, according to gender, teaching experience, degree attainment, certifications and grade-level assignment.

The enclosed packet has been mailed to all superintendents of K - 8 school districts within Somerset County. If approved by the school district superintendent, the Personal Data Sheet and Professional Development Survey Instrument will be distributed by the primary researcher to all the teachers assigned to grades K-8 in your school district. The completion period will be two weeks after the distribution of the Personal Data Sheets and Professional Development Survey Instrument. A "Drop Box" will be placed in the main office of each school for collection. If you wish additional information about the project, please contact me at

Upon completion of the research, results of the project will be willingly shared if desired. I would be happy to meet with you should you have any questions or require further clarification. I value and appreciate your support for this research.

I look forward to your response.

Sincerely,

Johanna S. Ruberto

Johanna S. Ruberto Principal

October, 2002

Dear

Currently, I am preparing to present my dissertation proposal to Seton Hall University's Institutional Review Board (IRB) for final approval in January 2003. As part of the IRB process, I must document written approval from the district. Therefore, I respectfully request your approval to complete the necessary research.

Dissertation topic: Veteran Teachers' Attitudes Toward Professional Development.

The purpose of the study is to investigate the attitudes of veteran teachers toward professional development in general and the significant differences between the veteran teachers' attitudes toward professional development in schools within District Factor Groups, according to gender, teaching experience, degree attainment, certifications and grade-level assignment.

Please review the enclosed packet. The Personal Data Sheet and Professional Development Survey Instrument will be distributed by the primary researcher to all the teachers assigned to grades K-8 in your school district. The completion period will be two weeks after the distribution of the Personal Data Sheets and Professional Development Survey Instrument. With your approval, a "Drop Box" will be placed in the main office for collection. If you wish additional information about the project, please contact me.

Upon completion of the research, results of the project will be willingly shared if desired. I would be happy to meet with you should you have any questions or require further clarification.

Please indicate your approval by signing below and returning in the enclosed addressed/stamped envelope.

Llook forward to your response

Troots for the to your responder.		
Sincerely,		
Johanna S. Ruberto		
Signature	Title	Date
School District		

Johanna S. Ruberto Principal

November

Dear Fellow Principal:

I am currently a doctoral candidate at Seton Hall University in South Orange, New Jersey. The anticipated title of my dissertation is: Veteran Teachers' Attitudes Toward Professional Development.

The purpose of the study is to investigate the attitudes of veteran teachers toward professional development in general and the significant differences between the veteran teachers' attitudes toward professional development in schools within District Factor Groups, according to gender, teaching experience, degree attainment, certifications and grade-level assignment.

I have received approval from your District Superintendent and at this time requesting that teachers in your building complete a brief survey. Completion of the Personal Data Sheet and Professional Development Survey Instrument will take approximately 10-15 minutes. Teacher participation is voluntary and confidential. The identity of each teacher will be unknown.

I am requesting permission to distribute the Personal Data Sheet and Professional Development Survey Instrument to each teacher in your building. I am also requesting permission to place a "Drop Box" in the main office of your school to collect the completed survey instruments. I have enclosed a copy of the Personal Data Sheet and Professional Development Survey Instrument for your review. The primary researcher will supply all copies of the survey instrument and distribute the survey instrument to each teacher's mailbox. Each teacher will be asked to voluntarily complete the Personal Data Sheet and Professional Development Survey Instrument and to place the completed survey instruments in the designated "Drop Box." The primary researcher will pick up, the Drop Box, approximately two weeks after the date of distribution.

Your anticipated cooperation in the completion of this study is appreciated. Please indicate your approval by confirming the distribution and pick-up dates and the enclosed information. An addressed and stamped envelope has been included for your convenience. If you wish additional information about this project, please contact me.

I look forward to your response. Thank you.

Sincerely,

Johanna S. Ruberto

Professional Development Survey

Data Sheet

The following dates identify the r	requested time for distribution	
	of collection December_	
Yes, you may distribute and pick designated dates and place a dr	•	als on the
Building Principal		Date
School District	School	
Number of surveys (teachers):		

Please return in the enclosed addressed and stamped envelope.

Appendix C

Reliability Test

Table C1

Reliability Analysis for All Seven Questions on the Professional Survey Instrument

The 514 survey instruments were entered on the SPSS program. A reliability analysis (covariance matrix) was completed for questions 1-7. Correlations around .300 and above lead to a good reliability. Based upon the below quotient reliability for questions 3, 4, 6 and 7, those questions were omitted from the data analysis since any statistical inferences would be marginal.

	Q1	Q2	Q3	Q4	Q5	Q6	Q7
QI	1.000						
Q2	.4275	1.000					
Q3	.1709	.2323	1.000				
Q2 Q3 Q4 Q5	.0777	.0274	.0366	1.000			
Q5	.2844	.2900	.1540	.0262	1.000		
Q6	.0230	.0520	.0263	.1241	.1097	1.000	
Q7	.0449	.0357	.0069	.0777	0316	.2013	1.000

Appendix D

Additional Comments

- If professional development activities are useful, relevant, specialized and appropriate.
- Professional development activities are rarely appropriate; I do not want to hear guest speakers.
 - 3. I want to choose the activity, not the district.
- 4. I receive the best professional development from the organizations in which I am a member.
- Resources; funding and time. Teachers requested release time,
 compensation for summer professional development activities and incentives for graduate
 course work.
- 6. Professional development activities maintain my effectiveness and motivation; professional development keeps me current with new methodologies.
 - 7. It is a teacher's professional responsibility to stay current.
- 8. The professional development activities encourage me to modify instruction.
- I received information about the professional development hours for the
 New Jersey Educational Association (NJEA).
- Professional development activities focuses upon the alignment of instruction to the New Jersey Core Curriculum Standards.
 - 11. Undergraduate studies are just the foundation for a good teacher.
- 12. The instructional methodologies focused upon are different from the way I was taught in my undergraduate course work.
 - 13. I do not need professional development; I always did this.

- 14. Undergraduate studies were current, the new information is not new, just a different name.
- 15. My undergraduate course work did not prepare me to teach, classroom management was not taught.
 - 16. Technology/mentor programs keep me current.
 - 17. Not forced to change just modify.

Table D1

Additional Comments - Distribution by Question and Survey Instrument

District	Ехр.	Q1	Q2	Q3	Q4	Q5	Q6	Q7
6	1	1			5			
6	1			9			•	
6	1				5	8	17	14
6	2	1	1		5	8		
6	1	1			5	•		12
6	1	1			5	8		
6	1	•			,		17	
6	1				5			
6	2				5		13	16
6	2	3			5		17	
6	1		3			3		
6	2	1						
6	1		6					14
6	1	3			5			14
6	1	1			5		_	_
6	1					1	_	11
6	1							12
6	1	1	_	_	5		_	-
6	2	1		_			_	_
6	1	1					13	-
6	1	1					13	
6	1						13	12
6	1	1			5		8	•
6	2	2	1		5			•
6	1				5	,	•	•
6	2	1	6	•	5	•	17	14
6	2	•	v	•	•	•	13	
6	1	•	•	•	5	•		14
6	2	•	•	•	5	•	17	14
6	1	1	•	•	•	•	17	17
6	1	•	•	9	5	8	17	14
6	2	•	•	J	5 .	u	8	12
4	1	2	•	•	5	•	17	
4	2	2	•	12		•		-
4	2	1	•		5	•	•	12
4	1	2	6	•		•	17	13
4	2	1		•	5	•	17	12
4	2		2	•	5	•		
4	2	1		•	5 5	•	17	•
	4							14
4	1	1	7	9		8		14

District	Ехр.	Q1	Q2	Q3	Q4	Q5	Q6	Q7
4	2	1			5	8	8	13
4	1	1	6		5	8		
4	2	1		9		8		. 14
4	2						17	14
4	1	1			5	8	•	
4	2	1			5	8		12
4	2					8		12
4	1	1			5	6	-	14
4	2	1			5		6	
4	2		8			-	-	
4	1	1					-	14
4	2				5		-	12
4	2	1	6		5			12
4	2	1	1			6		14
4	2		6	9	5		8	14
4	2				5	6	17	14
4	2		7		6	13	17	14
4	2	1	,		5	•		12
4	2	1	3	9	5	7	13	13
4	2	3	5			•		
4	2					6	13	12
4	2	2	1		3			12
4	2	4				6		
4	2	2	3	9				
4	2	1	6		5	8		14
4	2						14	14
4	2	1	5		•			
4	2	1	6				_	
4	2	1	6	9	5		_	14
4	1	1				8	6	12
4	2	2	1	-			17	
4	2				5			
4	1	7			5		17	
4				9	5			14
4	2 1						17	
4	2	2		_	5	•	2	
4	2			_		8		14
4	2	1		_	5			14
4	2	1				· -		14
4	1	1	6		5		17	14
4	2			•	•	5		12
4	2	•		•	•		13	
4	1	7	6	•	•		13	•
4	2	•	J	•	5	8		•
4	2	2	•	•	J		-	•
7	_	-	•	•		•		•

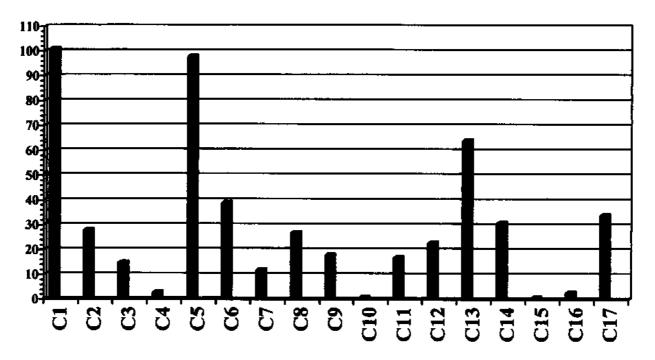
District	Ехр.	Q1	Q2	Q3	Q4	Q5	Q6	Q7
4	2	3	8			8		
4	1	1	,					
4	2		8				•	
4	1		8					
4	2		8					
4	1	1						
4	1	2					17	
4	1		1					
4	1						17	
4	2						17	
4	2							14
4	2					_		14
4	1	6	7	9		6	,	13
4	2					_		12
4	2			· 9	5			
4	1	1			5		13	
4	2	1			5		6	7
4	1	1						
4	2	1	6			17	13	
4	1						13	
4	2						13	
4	1	5		9			17	
4	1						13	
4	1		6		5			
4	1						11	
4	1	10						7
4	1					,	13	
4	1						17	
4	2	1			5		13	
4	2				5		13	
4	1		1			13	13	
4	2	1						
5	1				5			11
5	1	1	6				17	
5	1			•			17	
5 5 5		1		_	5		17	
5	2 2	2						
	2		6			,	17	
5 5	2 1 1	5	5	_	5	13		13
5	1	1						
5	1	3					6	
5 5	1	1	•		5		13	
5	1				5	6	17	11
5	2	1	7		5		•	11
5 5 5	1	1	6	_	5 5		•	
5	2						17	12

District	Ехр.	Q1	Q2	Q3	Q4	Q5	Q6	Q7
5	1	1	1				17	12
5	1	1	1				1,3	
5	2	7	7		5	7	17	11
5	2	1	7		5		17	14
5	2						13	11
5	2	1	1				•	
5	2	1			,			
5	2	1				6		
5	2	1	6		5			
5	2	1	6					
5	1		1				13	
5	2	1				•	•	
5	2	1			_	_	13	_
5	1	_			_		13	13
5	1				_	_	6	13
5	1	5	1		_	_		
5	1					_	17	_
5	2	Ì		Ì			11	
5	2	•	1		•	•	• • •	•
5	2	•		•	5	13	•	-
5	1	1	6	•	5	3	17	14
5	1	5		•	5		13	
5	1	6	5	•	5	8	15	•
5	2	5	1	•	J	Ū	•	•
5	2	1	1	•	•	•	•	11
5	1	•	•	•	•	•	•	14
5	1	•	6	•	•	•	•	1-4
5	1	•	U	•	•	•	16	•
5	ì	4	6		5		13	49
5	2	16	0	9	ð	6	13	13
	2	16	•	•	•	•	•	•
. 5 5	1	1	-	•	5	-	•	•
5	1		-	•	ວ	•	•	
5	2	2	•	•	•		•	11
5	1	•	•	•	•	3	•	
5	1			•		2	•	13
2	1	1	6	•		2	•	•
2	1	5	13	•	5	•	6	•
2	1	6	•	•	5 5	13	13	11
2	1	1	•	•	5	•	•	11
2	2	1	•	-		•	•	12
2	1	•	•	-		•	13	
5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	1	1	6	-	5	1	13	11
2	2	-	1	-	5	-	13	
2	1	•		•	5	-	13	
2	1	2				6		
2	2							11

District	Ехр.	Q1	Q2	Q3	Q4	Q5	Q6	Q 7
2	1	1			5		13	
	2	5	, .				J	
2 2	1	1	•		5			
2	2				5	4	6	12
3	2		1		-		13	
3	1	6	6		•		•	
3	1	1					13	
3	2	1	2		5		13	13
3	2		2	9	5	3	3	12
3	2	3	1					
3	2	1	13		5			13
1	1	•					11	
1	1				5	6		11
1	2	1		3		2		
1	2		2		1	9		13
1	2	2	13		2		13	
1		2	1	1	9			
1	2				6	13	13	13
1	2 2 2							6
1	2							11
1	2		-		5			14
1	1	2	2			13		
1	1						13	
1	1	2			-			12
1	2	1	-	9		7	13	
1	2	2				15	,	14
1	2			9		-		
1	2			9				
1	1	2		•			13	
1	2 2	5		•				
1		-		-		13	,	
1	2	1	6	•		•		
1	1		•				•	
4	2	1			5	8	•	

Table D2

Frequency of Additional Comments



- 1. If professional development activities are useful, relevant, specialized and appropriate.
- Professional development activities are rarely appropriate; I do not want to hear guest speakers.
 - 3. I want to choose the activity, not the district.
- 4. I receive the best professional development from the organizations in which I am a member.
- Resources; funding and time. Teachers requested release time,
 compensation for summer professional development activities and incentives for graduate
 course work.
- 6. Professional development activities maintain my effectiveness and motivation; professional development keeps me current with new methodologies.

- 7. It is a teacher's professional responsibility to stay current.
- 8. The professional development activities encourage me to modify instruction.
- 9. I received information about the professional development hours for the New Jersey Educational Association (NJEA).
- Professional development activities focuses upon the alignment of instruction to the New Jersey Core Curriculum Standards.
 - 11. Undergraduate studies are just the foundation for a good teacher.
- 12. The instructional methodologies focused upon are different from the way

 I was taught in my undergraduate course work.
 - 13. I do not need professional development; I always did this.
- 14. Undergraduate studies were current, the new information is not new, just a different name.
- 15. My undergraduate course work did not prepare me to teach, classroom management was not taught.
 - 16. Technology/mentor programs keep me current.
 - 17. Not forced to change just modify.

Appendix E

Table - No Statistical Significance

Table El

Professional Development Activities have Encouraged Me to Provide the Students in My

Classes with Problem-Based Instruction

	(1) DFG	(J) DFG	Mean Difference	Sig.
5. Professional development	ÇD	DE	.2654	.299
activities have encouraged me		FG	-9.3894E-02	.990
to provide the students in my		GH	8.596E-02	.964
classes with problem-based		1	6.420E-02	.992
instruction.		J	.1661	.762
	DE	CD	2654	.299
		FG	3593	.168
		GH	1794	.510
			2012	.435
		J	-9.9269E-02	.966
	FG	CD	9.389E-02	.990
•		DE	.3593	.168
		GH	.1799	.756
ì		1	.1581	.860
		J	.2600	.498
	GH	CD	-8.5963E-02	.964
		DE	.1794	.510
		FG	1799	.756
		GH	-2.1766E-02	1.000
		J	8.016E-02	.965
	1	CD	-6.4197E-02	.992
		DE	/2012	.435
		FG	1581	.860
1		GH	2.177E-02	1.000
		J	.1019	.925
	J	CD	1661	.762
i		DE	9.927E-02	.966
		FG	-6.7857E-02	.498
		GH	-8.0162E-02	.965
		ļ 1	101 9	925

Table E2

Analysis of Variance by Degree

		Sum of Squares	df	Mean Square	F	Sig.
I have a positive attitude toward	Between Groups	.760	3	.253	.505	.679
professional development.	Within Groups	253.315	556	.502		ŀ
	Total	254.075	508			
Professional development is necessary	Between Groups	.900	3	.300	.821	.483
to maintain instructional skills.	Within Groups	185.370	507	.366		
	Total	186.270	510			
5. Professional development activities	Between Groups	2.376	3	.792	1.696	.203
have encouraged me to provide the students in my	Within Groups	233.040	499	.467		
classes with problem- based instruction.	Total	235.416	502			
	į					

Table E3

Analysis of Variance by Certification

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.131	3	1.044	2.103	.099
Within Groups	251.044	506	.496		
Total	254.175	509			
Between Groups	1.951	3	.650	1.791	.148
Within Groups	184.517	508	.363		
Total	186.469	511			
Between Groups	.951	3	.305	.650	.583
Within Groups	234.511	500	.469		
Total	235.427	503			
	Within Groups Total Between Groups Within Groups Total Between Groups Within Groups	Between Groups 3.131 Within Groups 251.044 Total 254.175 Between Groups 1.951 Within Groups 184.517 Total 186.469 Between Groups .951 Within Groups 234.511	Between Groups 3.131 3 Within Groups 251.044 506 Total 254.175 509 Between Groups 1.951 3 Within Groups 184.517 508 Total 186.469 511 Between Groups .951 3 Within Groups 234.511 500	Square Square Between Groups 3.131 3 1.044	Between Groups 3.131 3 1.044 2.103 Within Groups 251.044 506 .496 Total 254.175 509 Between Groups 1.951 3 .650 1.791 Within Groups 184.517 508 .363 .363 Total 186.469 511 .305 .650 Within Groups .951 3 .305 .650 Within Groups 234.511 500 .469

Appendix F

District Factor Groups

New Jersey State Department of Education

District Factor Groups 1990 Revision

co	dist	County	District	DFG
1	10	ATLANTIC	ABSECON CITY	DE
1	110	ATLANTIC	ATLANTIC CITY	Α
1	570	ATLANTIC	BRIGANTINE CITY	ÐΕ
1	590	ATLANTIC	BUENA REGIONAL	A
1	960	ATLANTIC	CORBIN CITY	CD
1	1300	ATLANTIC	EGG HARBOR CITY	В
1	1310	ATLANTIC	EGG HARBOR TWP	CD
1	1410	ATLANTIC	ESTELL MANOR CITY	DE
Ī	1540	ATLANTIC	FOLSOM BORO	CD
1	1690	ATLANTIC	GALLOWAY TWP	DE
1	1790	ATLANTIC	GREATER EGG	CD
			HARBOR REG	
l	1940	ATLANTIC	HAMILTON TWP	DE
1	1960	ATLANTIC	HAMMONTON TOWN	В
l	2680	ATLANTIC	LINWOOD CITY	GH
1	2780	ATLANTIC	LONGPORT	DE
1	2910	ATLANTIC	MAINLAND	FG
	2000	477 4317TG	REGIONAL	***
1	3020	ATLANTIC	MARGATE CITY	FG
1	3480	ATLANTIC	MULLICA TWP	В
1	3720	ATLANTIC	NORTHFIELD CITY	FG
1	4180	ATLANTIC	PLEASANTVILLE CITY	A
1	4240	ATLANTIC	PORT REPUBLIC CITY	FG
1	4800	ATLANTIC	SOMERS POINT CITY	CD
1	5350	ATLANTIC	VENTNOR CITY	CD
i	5760	ATLANTIC	WEYMOUTH TWP	CD
3	40	BERGEN	ALLENDALE BORO	I
3	80	BERGEN	ALPINE BORO	ĵ
3	300	BERGEN	BERGENFIELD BORO	DE
3	440	BERGEN	BOGOTA BORO	DE
3	740	BERGEN	CARLSTADT BORO	DE
3	745	BERGEN	CARLSTADT-EAST	CD
•			RUTHERFORD	
3	890	BERGEN	CLIFFSIDE PARK	CD
			BORO	
3	930	BERGEN	CLOSTER BORO	I
3	990	BERGEN	CRESSKILL BORO	I
3	1070	BERGEN	DEMAREST BORO	I
3	1130	BERGEN	DUMONT BORO	DE
3	1230	BERGEN	EAST RUTHERFORD	CD
2	1070	DEDCEN	BORO	P.C
3	1270	BERGEN	EDGEWATER BORO	FG

			رکز معم او ا		N
3	1345	BERGEN	•	ELMWOOD PARK	CD
3	1360	BERGEN		EMERSON BORO	GH
3	1370	BERGEN		· ENGLEWOOD CITY	DE
3	1380	BERGEN		ENGLEWOOD CLIFFS	
,	1300	BERGEN	• • • •	BORO	SI ,
3	1450	BERGEN		FAIR LAWN BORO	r.c
					FG
3	1470	BERGEN		FAIRVIEW BORO	B
3	1550	BERGEN		FORT LEE BORO	FG
3	1580	BERGEN	* - * - *	FRANKLIN LAKES	J
		, , , , , , , , , , , , , , , , , , ,	$f = f_{\mathbf{N}}$	BORO	A 10
3	1700	BERGÈN	P .	GARFIELD CITY	В
3	1760	BERGEN		GLEN ROCK BORO	Ī
3	1860	BERGEN		HACKENSACK CITY	ÇĎ
3	2050	BERGEN		HARRINGTON PARK	1 .
		·		BORO	- :
3	2080	BERGEN		HASBROUCK	DE
				HEIGHTS BORO	ă.
3	2090	BERGEN		HAWORTH BORO	\mathbf{I}^{-2}
3	2180	BERGEN	210	HILLSDALE BORO	GH
3	2200	BERGEN		HO HO KUS BORO	J
3	2620	BERGEN		LEONIA BORO	Ī
3	2710	BERGEN		LITTLE FERRY BORO	
3	2740	BERGEN			
3			Ēst .	LODI BOROUGH	B.
	2860	BERGEN		LYNDHURST TWP	CD
3	2900	BERGEN		MAHWAH TWP	I
3	3060	BERGEN		MAYWOOD BORO	FG
3	3170	BERGEN	.‡	MIDLAND PARK BORO	FG
3	3330	BERGEN		MONTVALE BORO	ī
3	3350	BERGEN		MOONACHIE BORO	-
3	3550	BERGEN	. K	NEW MILFORD BORO	
3	3600	BERGEN			•
,	3000	DERGEN		NORTH ARLINGTON BORO	DE
3	3700	BERGEN		NORTHERN	I
•	2.00	DERGEN	-	HIGHLANDS REG	ı
3	3710	BERGEN		NORTHERN VALLEY	Ţ.
-		DERODA	8	REGIONAL	. .
3	3730	BERGEN		NORTHVALE BORO	GH
3	3740	BERGEN	.a.	NORWOOD BORO	1
3	3760	BERGEN		OAKLAND BORO	
3	3850		X 17		I
3		BERGEN		OLD TAPPAN BORO	Į.
	3870	BERGEN		ORADELL BORO	I
3	3910	BERGEN		PALISADES PARK	CD
3	3930	BERGEN		PARAMUS BORO	GH
3	3940	BERGEN		PARK RIDGE BORO	1
3	3960	BERGEN	*	PASCACK VALLEY	1 -
		7.0		REGIONAL	
3	4300	BERGEN	$= \mathbb{E} \left(\mathbf{X}_{t, T} \right) \otimes_{T}$	RAMAPO-INDIAN	I
		Mark Comment	Carrier Spring	HILL REG	;
3	4310	BERGEN	and the second	RAMSEY BORO	I
3	4370	BERGEN		RIDGEFIELD BORO	DE
3	4380	BERGEN	•	RIDGEFIELD PARK	DE

			TWP A W
3	4390	BERGEN	'RIDGEWOOD
			VILLAGE
3	4405	BERGEN	RIVER DELL I
-1	4410	n D D A Post	REGIONAL
, ²	4410	BERGEN	RIVER EDGE BORO GH
3	4430	BERGEN	RIVER VALE TWP
3	4470	Helihen	ROCHELLE PARK TWP DE
3	4500	BER EN	ROCKLEIGH
_	4600	HT. EN	NOTHERRORD BORO FG
3	4610	BERGEN	SAMPLE BROOK TWP DE
3	4620	BERGEN	SADDLE RIVER BORO J
3	4870	BERGEN	SOUTH HACKENSACK B
2	4140	DEDCEM	TWR
3 3	\$150	BERGEN DEDGEN	TEANECK TWP GH
	\$160	BERGEN	TENAFLY BORO
3	5170	BERGEN DEDGEN	TETERBORO
3	5330	BERGEN	UPPER SADDLE J
3	5410	BERGEN	RIVER BORO WALDWICK BORO GH
3	5430	BERGEN	WALLINGTON BORO B
3	1755	BERGEN	WESTWOOD GH
3	4734	DEKCEN	REGIONAL
3	5830	BERGEN	WOOD RIDGE BORO FG
3	5880	BERGEN	WOODELIFF LAKE J
-	4		BORO
3	1920	BERGEN	WYCKOFF TWP 1
5	200	BURLINGTON	BASS RIVER TWP B
5	380	BURLINGTON	BEVERLY CITY B
3	475	BURLINGTON	BORDENTOWN DE
	•	T .	REGIONAL
5	600	BURLINGTON	BURLINGTON CITY B
3	420	BURLINGTON	BURLINGTON TWP DE
5	\$30	BURLINGTON	CHESTERFIELD TWP FG
5	\$40.	BURLINGTON:	CINILAMINSON TWP GH
5	193C	Burling ton	DELANCO TWP DE
5	1040	BURLINGTON	DELRANTWP FG
5	1230	BURLINGTON	EASTAMPTON TWP FG
5	1280	BURLINGTON:	EDGEWATER PARK FG
			TWP
5	1420	BURLINGTON	EVESHALTIWE
5	1530	BURLINGTON	FLOADSETWP CD
5	1910	BURLINGTON	HAINESPORT TWP DE
5,	2610	BURLINGTON	LENAME REGIONAL GH
5	2850	BURLINGTON,	LANGERTON TWP FG
5	2960	BUKLINGTON	MANUFICED TWP FG
5	3810	BURLINGTON	MAPINE SHADE TWP CD
\$	3070	BURLINGTON	MEDFORD LAKES I
تے	0000		BORO
5	30 80	BURLINGTON	MEDPORD TWP
5	3360	BURLINGTON	MOCRESTOWN TWP
)	3430	BURLINGTON	MOUNT HOLLY TWP 13
:	•	:	
			Metable
	4		- MOOR . \$
N.	\$		o Ny Nobel o 🐔
7	. 3		No. of the second secon

		hi M.		
5	3440	BURLINGTON	MOUNT LAUREL TWP	ī
5	3540	BURLINGTON	NEW HANOVER TWP	CD
5	3650	BURLINGTON	NORTH HANOVER	DE
5	3690	BURLINGTON	TWP NORTHERN	DE
3	3070	A THE	BURLINGTON REG	DE
Š	3920	BURLINGTON	PALMYRA BORO	DE
\$	4040	BURLINGTON	PEMBERTON BOROUGH	CD
5 5	4050	BURLINGTON	PEMBERTON TWP	CD
5	4320	BURLINGTON	RANCOCAS VALLEY REGIONAL	DE
5	4450	BURLINGTON	RIVERSIDE TWP	В
5	4460	BURLINGTON	RIVERTON	GH
5	4740	BURLINGTON	SHAMONG TWP	GH
5	4930	BURLINGTON	SOUTHAMPTON TWP	ÇD
5	5010	BURLINGTON	SPRINGFIELD TWP	FG
5	5130	BURLINGTON	TABERNACLE TWP	GH
5	5490	BURLINGTON	WASHINGTON TWP	В
5	5720	BURLINGTON	WESTAMPTON	GH
5	5805	BURLINGTON	WILLINGBORO TWP	DE
5	5890	BURLINGTON	WOODLAND TWP	В
7	150	CAMDEN	AUDUBON BORO	DE
7	160	CAMDEN	AUDUBON PARK BORO	A
7	190	CAMDEN	BARRINGTON BORO	DE
7	260	CAMDEN	BELLMAWR BORO	В
7	330	CAMDEN	BERLIN BORO	ĎΕ
7	340	CAMDEN	BERLIN TWP	CD
7	390	CAMDEN	BLACK HORSE PIKE REGIONAL	DE
7	580	CAMDEN	BROOKLAWN BORO	В
7	680	CAMDEN	CAMDEN CITY	A
7	800	CAMDEN	CHERRY HILL TWP	Ī
7	810	CAMDEN	CHESILHURST	A
7	880	CAMDEN	CLEMENTON BORO	В
7	940	CAMDEŅ	COLLINGSWOOD BORO	DE
7	1255	CAMDEN	EASTERN CAMDEN COUNTY REG	GH
7	1720	CAMDEN	GIBBSBORO BORO	FG
7	1770	CAMDEN	GLOUCESTER CITY	В
7	1780	CAMDEN	•	DE
7	1880	CAMDEN	HADDON HEIGHTS BORO	GH
7	1890	CAMDEN	HADDON TWP	FG
7	1900	CAMDEN		1
7	2130	CAMDEN	HI NELLA	В
7	2540	CAMDEN	LAUREL SPRINGS BORO	CD
7	2560	CAMDEN	LAWNSIDE BORO	В
7	2670	CAMDEN	LINDENWOLD BORO	CD

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7	2810	CAMDEN	LOWER CAMDEN COUNTY REG	CD
7	2890	CAMDEN	MAGNOLIA BORO	В
7	3110	CAMDEN	MERCHANTVILLE BORO	DE ·
7	3420	CAMDEN	MOUNT EPHRAIM BORO	CD
7	3770	CAMDEN	OAKLYN BORO	DE
7	4060	CAMDEN	PENNSAUKEN TWP	CD
7	4110	CAMDEN	PINE HILL BORO	В
7	4120	CAMDEN	PINE VALLEY	_
7	4590	CAMDEN	RUNNEMEDE BORO	В
7	4790	CAMDEN	SOMERDALE BORO	CD
7	5035	CAMDEN	STERLING HIGH SCHOOL DIST	CD
7	5080	CAMDEN	STRATFORD BORO	DΕ
7	5140	CAMDEN	TAVISTOCK	
7	5400	CAMDEN	VOORHEES TWP	I
7	5560	CAMDEN	WATERFORD TWP	DE
7	5820	CAMDEN	WINSLOW TWP	CD
7	5900	CAMDEN	WOODLYNNE BORO	В
9	170	CAPE MAY	AVALON BORO	FG
9	710	CAPE MAY	CAPE MAY CITY	DE
9	730	CAPE MAY	CAPE MAY POINT	DE
9	1080	CAPE MAY	DENNIS TWP	DE
9	2820	CAPE MAY	LOWER CAPE MAY REGIONAL	В
9	2840	CAPE MAY	LOWER TWP	В
9	3130	CAPE MAY	MIDDLE TWP	В
9	3680	CAPE MAY	NORTH WILDWOOD CITY	A
9	3780	CAPE MAY	OCEAN CITY	DE
9	4700	CAPE MAY	SEA ISLE CITY	CD
9	5060	CAPE MAY	STONE HARBOR BORO	GH
9	5340	CAPE MAY	UPPER TWP	FG
9	5610	CAPE MAY	WEST CAPE MAY BORO	CD
9	5700	CAPE MAY	WEST WILDWOOD	Α
9	5790	CAPE MAY	WILDWOOD CITY	A
9	5800	CAPE MAY	WILDWOOD CREST BORO	B
9	5840	CAPE MAY	WOODBINE BORO	Æ
11	540	CUMBERLAND	BRIDGETON CITY	A
11	950	CUMBERLAND	COMMERCIAL TWP	A
11	997	CUMBERLAND	CUMBERLAND REGIONAL	B
11	1020	CUMBERLAND	DEERFIELD TWP	В
11	1120	CUMBERLAND	DOWNE TWP	A
11	1460	CUMBERLAND	FAIRFIELD TWP	A
11	1820	CUMBERLAND	GREENWICH TWP	CD
11	2270	CUMBERLAND	HOPEWELL TWP	ÇD

11	2570	CUMBERLAND	LAWRENCE TWP	Α
11	3050	CUMBERLAND	MAURICE RIVER TWP	В
11	3230	CUMBERLAND	MILLVILLE CITY	В
11	4750	CUMBERLAND	SHILOH BORO	В
11	5070	CUMBERLAND	STOW CREEK TWP	DE
11	5300	CUMBERLAND	UPPER DEERFIELD	B
È	5390	CUMBERLAND	TWP	_
13	250	ESSEX	VINELAND CITY	В
13	410	ESSEX	BELLEVILLE TOWN	CD
13	660	ESSEX	BLOOMFIELD TWP CALDWELL-WEST	DE
13	000	LIGEA	CALDWELL-WEST CALDWELL	I
13	760	ESSEX	CEDAR GROVE TWP	GH
13	1210	ESSEX	EAST ORANGE	A
13	1400	ESSEX	ESSEX FELLS BORO	J
13	1465	ESSEX	FAIRFIELD TWP	GH
13	1750	ESSEX	GLEN RIDGE BORO	I
13	2330	ESSEX	IRVINGTON	A
			TOWNSHIP	
13	2730	ESSEX	LIVINGSTON TWP	I
13	3190	ESSEX	MILLBURN TWP	J
13	3310	ESSEX	MONTCLAIR TOWN	GH
13	3570	ESSEX	NEWARK CITY	A
13	3630	ESSEX	NORTH CALDWELL BORO	J
13	3750	ESSEX	NUTLEY TOWN	DE
13	3880	ESSEX	CITY OF ORANGE TWP	A
13	4530	ESSEX	ROSELAND BORO	I
13	4900	ESSEX	SOUTH ORANGE-	Ī
			MAPLEWOOD	•
13	5370	ESSEX	VERONA BORO	I:
13	5630	ESSEX	WEST ESSEX	1
			REGIONAL	
13	5680	ESSEX	WEST ORANGE TOWN	GH
15	860	GLOUCESTER	CLAYTON BORO	В
15	870	GLOUCESTER	CLEARVIEW REGIONAL	FG
15	1100	GLOUCESTER	DEPTFORD TWP	ÇD
15	1180	GLOUCESTER	EAST GREENWICH	FG
15		ODOCODDIDIC	TWP	10
15	1330	GLOUCESTER	ELK TWP	В
15	1590	GLOUCESTER	FRANKLIN TWP	CD
15	1715	GLOUCESTER	GATEWAY REGIONAL	CD
15	1730	GLOUCESTER	GLASSBORO	В
15	1830	GLOUCESTER	GREENWICH TWP	DE
15	2070	GLOUCESTER	HARRISON TWP	FG
15	2440	GLOUCESTER	KINGSWAY	DE
			REGIONAL	
15	2750	GLOUCESTER	LOGAN TWP	FG
15	2990	GLOUCESTER	MANTUA TWP	DE
15	3280	GLOUCESTER	MONROE TWP	CD

15	3490	GLOUCESTER	NATIONAL PARK BORO	В
15	3580	GLOUCESTER	NEWFIELD BORO	CD
15	4020	GLOUCESTER	PAULSBORO BORO	Α .
15	4140	GLOUCESTER	PITMAN BORO	DE
15	4880	GLOUCESTER	SOUTH HARRISON TWP	DE
15	4940	GLOUCESTER	SO GLOUCESTER CO REGIONAL	CD
15	5120	GLOUCESTER	SWEDESBORO- WOOLWICH	В
15	5500	GLOUCESTER	WASHINGTON TWP	GH
15	5590	GLOUCESTER	WENONAH BORO	I
15	5620	GLOUCESTER	WEST DEPTFORD TWI	DE
15	5740	GLOUCESTER	WESTVILLE BORO	В
15	5860	GLOUCESTER	WOODBURY CITY	В
15	5870	GLOUCESTER	WOODBURY HEIGHTS	FG
		*1	BORO	
17	220	HUDSON	BAYONNE CITY	В
17	1200	HUDSON	EAST NEWARK BORO	Α
17	1850	HUDSON	GUTTENBERG TOWN	В
17	2060	HUDSON	HARRISON TOWN	Α
17	2210	HUDSON	HOBOKEN CITY	В
17	2390	HUDSON	JERSEY CITY	A
17	2410	HUDSON	KEARNY TOWN	В
17	3610	HUDSON	NORTH BERGEN TWP	В
17	4730	HUDSON	SECAUCUS TOWN	FG
17	5240	HUDSON	UNION CITY	Α
17	5580	HUDSON	WEEHAWKEN TWP	В
17	5670	HUDSON	WEST NEW YORK TOWN	A
19	20	HUNTERDON	ALEXANDRIA TWP	GH
19	370	HUNTERDON	BETHLEHEM TWP	I
19	430	HUNTERDON	BLOOMSBURY BORO	DE
19	670	HUNTERDON	CALIFON BORO	I
19	910	HUNTERDON	CLINTON TOWN	I
19	920	HUNTERDON	CLINTON TWP	I -
19	1040	HUNTERDON	DELAWARE TWP	GH
19	1050	HUNTERDON	DELAWARE VALLEY REGIONAL	FG
19	1160	HUNTERDON	EAST AMWELL TWP	I
19	1510	HUNTERDON	FLEMINGTON- RARITAN REG	GН
19	1600	HUNTERDON	FRANKLIN TWP	GH
19	1680	HUNTERDON	FRENCHTOWN BORO	DE
19	1740	HUNTERDON	GLEN GARDNER BORO	GH
19	1970	HUNTERDON	HAMPTON BORO	DE
19	2140	HUNTERDON	HIGH BRIDGE BORO	GH
19	2220	HUNTERDON	HOLLAND TWP	FG
19	2300	HUNTERDON	HUNTERDON CENTRAL REG	I

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19	2450	HUNTERDON	KINGWOOD TWP	FG
19	2530	HUNTERDON	LAMBERTVILLE CITY	FG
19	2590	HUNTERDON	LEBANON BORO	GH
19	2600	HUNTERDON	LEBANON TWP	GH -
19	3180	HUNTERDON	MILFORD BORO	DE
19	3660	HUNTERDON	N HUNT/VOORHEES	[
			REGIONAL	
19	4350	HUNTERDON	READINGTON TWP	ĭ
19	4890	HUNTERDON	SOUTH HUNTERDON	FG
19	5050	HUNTERDON	REGIONAL STOCKTON BORO	FG
19	5180	HUNTERDON	TEWKSBURY TWP	l LO
19	5270	HUNTERDON	UNION TWP	GH
19	5600	HUNTERDON	WEST AMWELL TWP	FG
21	1245	MERCER	EAST WINDSOR	GH
21	1243	WERCER	REGIONAL	Оп
21	1430	MERCER	EWING TWP	FG
21	1950	MERCER	HAMILTON TWP	FG
21	2280	MERCER	HOPEWELL VALLEY	I
-•			REGIONAL	•
21	2580	MERCER	LAWRENCE TWP	I
21	4255	MERCER	PRINCETON	I
			REGIONAL	
21	5210	MERCER	TRENTON CITY	A
21	5510	MERCER	WASHINGTON TWP	GH
21	5715	MERCER	W WINDSOR-	I
22	250) (IDD) EGEV	PLAINSBORO REG	_
23	750	MIDDLESEX	CARTERET BORO	В
23	970	MIDDLESEX	CRANBURY TWP	I
23	1140	MIDDLESEX	DUNELLEN BORO	DE
23	1170	MIDDLESEX	EAST BRUNSWICK TWP	I
23	1290	MIDDLESEX	EDISON TWP	FG
23	2110	MIDDLESEX	HELMETTA BORO	DE
23	2150	MIDDLESEX	HIGHLAND PARK	GH
	2100	WIDDEBSER	BORO	OII
23	2370	MIDDLESEX	JAMESBURG BORO	DE
23	3120	MIDDLESEX	METUCHEN BORO	GH
23	3140	MIDDLESEX	MIDDLESEX BORO	FG
23	3220	MIDDLESEX	MILLTOWN BORO	FG
23	3290	MIDDLESEX	MONROE TWP	FG
23	3530	MIDDLESEX	NEW BRUNSWICK	Α
			CITY	
23	3620	MIDDLESEX	NORTH BRUNSWICK	GH
	3045	AMPIN BARY	TWP	=-
23	3845	MIDDLESEX	OLD BRIDGE TWP	FG
23	4090	MIDDLESEX	PERTH AMBOY CITY	A
23	4130	MIDDLESEX	PISCATAWAY TWP	FG
23	4660	MIDDLESEX	SAYREVILLE BORO	DE
23	4830	MIDDLESEX	SOUTH AMBOY CITY	CD
23	4860	MIDDLESEX	SOUTH BRUNSWICK TWP	I

2	23	4910	MIDDLESEX	SOUTH PLAINFIELD BORO	FG
2	23	4920	MIDDLESEX	SOUTH RIVER BORO	В
2	23	4970	MIDDLESEX	SPOTSWOOD BORO	CD -
2	23	5850	MIDDLESEX	WOODBRIDGE TWP	DE
2	2.5	50	MONMOUTH	ALLENHURST	
2	.5	100	MONMOUTH	ASBURY PARK CITY	Α
2	25	130	MONMOUTH	ATLANTIC	FG
				HIGHLANDS BORO	
	:5	180	MONMOUTH	AVON BORO	GH
	:5	270	MONMOUTH	BELMAR BORO	DE
2	:5	500	MONMOUTH	BRADLEY BEACH BORO	В
2	:5	560	MONMOUTH	BRIELLE BORO	GH
2	:5	945	MONMOUTH	COLTS NECK TWP	I
2	.5	1000	MONMOUTH	DEAL BORO	GH
2	.5	1260	MONMOUTH	EATONTOWN BORO	FG
2	.5	1440	MONMOUTH	FAIR HAVEN BORO	I
2	5	1490	MONMOUTH	FARMINGDALE BORO	DE
2	.5	1640	MONMOUTH	FREEHOLD BORO	CD
2	5	1650	MONMOUTH	FREEHOLD	GH
				REGIONAL	
	5		MONMOUTH	FREEHOLD TWP	GH
			MONMOUTH	HAZLET TWP	DE
2	5	2120	MONMOUTH	HENRY HUDSON REGIONAL	DE
2	5	2160	MONMOUTH	HIGHLANDS BORO	CD
2	5	2230	MONMOUTH	HOLMDEL TWP	I
2	5	2290	MONMOUTH	HOWELL TWP	FG
2	5	2320	MONMOUTH	INTERLAKEN	
2	5	2400	MONMOUTH	KEANSBURG BORO	A
2	5	2430	MONMOUTH	KEYPORT BORO	CD
2	5	2720	MONMOUTH	LITTLE SILVER BORO	I
2	5	2770	MONMOUTH	LONG BRANCH CITY	В
2	5	2920	MONMOUTH	MANALAPAN-	GH
_	_	2020		ENGLISHTOWN REG	
			MONMOUTH	MANASQUAN BORO	FG
2			MONMOUTH	MARLBORO TWP	[
2	5	3040	MONMOUTH	MATAWAN-	FG
				ABERDEEN REGIONAL	
2	5	3160	MONMOUTH	MIDDLETOWN TWP	GH
2			MONMOUTH	MILLSTONE TWP	GH
2			MONMOUTH	MONMOUTH BEACH	I
4	J	J2J0	MONMOOTT	BORO	•
2	5	3270	MONMOUTH	MONMOUTH	GH
				REGIONAL	
2			MONMOUTH	NEPTUNE CITY	CD
2			MONMOUTH	NEPTUNE TWP	CD
2			MONMOUTH	OCEAN TWP	GH
2	5	3830	MONMOUTH	OCEANPORT BORO	GH
2	5	4360	MONMOUTH	RED BANK BORO	CD

25	4365	MONMOUTH	RED BANK REGIONAL	FG
25	4520	MONMOUTH	ROOSEVELT BORO	1
25	4570	MONMOUTH	RUMSON BORO	I
25	4580	MONMOUTH	RUMSON-FAIR	Ι.
			HAVEN REG	
25	4680	MONMOUTH	SEA BRIGHT BORO	GH
25	4690	MONMOUTH	SEA GIRT BORO	i
25	4760	MONMOUTH	SHORE REGIONAL	GH
25	4770	MONMOUTH	SHREWSBURY BORO	I
25	4840	MONMOUTH	SOUTH BELMAR	CD
25	4980	MONMOUTH	SPRING LAKE BORO	I
25	4990	MONMOUTH	SPRING LAKE	FG
26	£102	MOND COLUMN	HEIGHTS BORO	
25	5185	MONMOUTH	TINTON FALLS	GH
25	5230	MONMOUTH	UNION BEACH	В
25	5310	MONMOUTH	UPPER FREEHOLD	FG
25	5420	MONMOUTH	REGIONAL WALL TWP	FG
25	5640	MONMOUTH	WEST LONG BRANCH	
23	3040	MONMOOTH	BORO BRANCH	UH
27	450	MORRIS	BOONTON TOWN	FG
27	460	MORRIS	BOONTON TWP	ľ
27	630	MORRIS	BUTLER BORO	FG
27	785	MORRIS	SCH DIST OF THE	ľ
			CHATHAMS	-
27	820	MORRIS	CHESTER TWP	I
27	1090	MORRIS	DENVILLE TWP	I.
27	1110	MORRIS	DOVER TOWN	В
27	1190	MORRIS	EAST HANOVER TWP	GH
27	1530	MORRIS	FLORHAM PARK	I
			BORO	
27	1990	MORRIS	HANOVER PARK	Ī
22	2000	MORRIC	REGIONAL	
27		MORRIS		GH
27	2010	MORRIS		J
27	2380	MORRIS	JEFFERSON TWP	GH ·
27	2460	MORRIS	the state of the s	I.
27	2650	MORRIS	LINCOLN PARK BORO	
27	2870	MORRIS		I
27	3090	MORRIS	• •	I -
27	3100	MORRIS		J
27	3240	MORRIS		FG
27	3340	MORRIS	the second secon	I
27	3370	MORRIS		GH
27	3380	MORRIS	REGIONAL	,
21	3380	MORKIS	MORRIS PLAINS BORO	I
27	3385	MORRIS		GH
			DISTRICT	-11
27	3410	MORRIS		FG
			BORO	
27	3450	MORRIS	MOUNT OLIVE TWP	GH

27	3460	MORRIS	MOUNTAIN LAKES BORO	J
27	3520	MORRIS.	NETCONG BORO	DE
27	3950	MORRIS	PARSIPPANY-TROY	GH-
			HILLS TWP	
27	4000	MORRIS	LONG HILL TWP	l
27	4080	MORRIS	PEQUANNOCK TWP	GH
27	4330	MORRIS	RANDOLPH TWP	i
27	4440	MORRIS	RIVERDALE BORO	FG
27	4480	MORRIS	ROCKAWAY BORO	FG
27	4490	MORRIS	ROCKAWAY TWP	I
27	4560	MORRIS	ROXBURY TWP	GH
27	5380	MORRIS	VICTORY GARDENS	В
27	5520	MORRIS	WASHINGTON TWP	I
27	5660	MORRIS	WEST MORRIS	I
27	5770	MORRIS	REGIONAL	· DC
29	185	OCEAN	WHARTON BORO BARNEGAT TWP	FG
29	210	OCEAN		CD
29	230	OCEAN	BAY HEAD BORO	l
29	320	OCEAN	BEACH HAVEN BORO	DE
29	530	OCEAN	BERKELEY TWP	В
29	770	OCEAN	BRICK TWP	DE
29	1150	OCEAN	CENTRAL REGIONAL	В
29	2350	OCEAN	EAGLESWOOD TWP	B
27	2330	OCEAN	ISLAND HEIGHTS BORO	FG
29	2360	OCEAN	JACKSON TWP	DE
29	2480	OCEAN	LACEY TWP	CD
29	2500	OCEAN	LAKEHURST BORO	В
29	2520	OCEAN	LAKEWOOD TWP	В
29	2550	OCEAN	LAVALLETTE BORO	DE
29	2690	OCEAN	LITTLE EGG HARBOR	В
			TWP	_
29	2760	OCEAN	LONG BEACH ISLAND	FG
29	2940	OCEAN	MANCHESTER TWP	В
29	2980	OCEAN	MANTOLOKING	I
29	3800	OCEAN	OCEAN GATE BORO	В
29	3820	OCEAN	OCEAN TWP	В
29	4105	OCEAN	PINELANDS	В
			REGIONAL	
29	4190	OCEAN	PLUMSTED TWP	CD
29	4210	OCEAN	POINT PLEASANT	ÐΕ
29	4220	OCEAN	BORO POINT PLEASANT	DE
27	4220	OCEAN	BEACH BORO	DE
29	4710	OCEAN	SEASIDE HEIGHTS	Α
			BORO	••
29	4720	OCEAN	SEASIDE PARK BORO	DĒ
29	4950	OCEAN	SOUTHERN	CD
_	_		REGIONAL	
29	5020	OCEAN	STAFFORD TWP	В
29	5190	OCEAN	TOMS RIVER	DE

			REGIONAL	
29	5220	OCEAN	TUCKERTON BORO	В
31	420	PASSAIC-	BLOOMINGDALE BORO	FG
31	900	PASSAIC	CLIFTON CITY	ÐΕ
31	1920	PASSAIC	HALEDON BORO	В
31	2100	PASSAIC	HAWTHORNE BORO	DE
31	2510	PASSAIC	LAKELAND REGIONAL	FG
31	2700	PASSAIC	LITTLE FALLS TWP	FG
31	3640	PASSAIC	NORTH HALEDON BORO	DE
31	3970	PASSAIC	PASSAIC CITY	A
31	3980	PASSAIC	PASSAIC CO MANCHESTER REG	CD
31	3990	PASSAIC	PASSAIC CO REGIONAL	DE
31	4010	PASSAIC	PATERSON CITY	A
31	4230	PASSAIC	POMPTON LAKES BORO	FG
31	4270	PASSAIC	PROSPECT PARK BORO	В
31	4400	PASSAIC	RINGWOOD BORO	GH
31	5200	PASSAIC	TOTOWA BORO	DE
31	5440	PASSAIC	WANAQUE BORO	CD
31	5570	PASSAIC	WAYNE TWP	GH
31	5650	PASSAIC	WEST MILFORD TWP	FG
31	5690	PASSAIC	WEST PATERSON BORO	DE
33	60	SALEM	ALLOWAY TWP	DE
33	1340	SALEM	ELMER BORO	CD
33	1350	SALEM	ELSINBORO TWP	DE
33	2800	SALEM	LOWER ALLOWAYS CREEK	В
33	2950	SALEM	MANNINGTON TWP	В
33	3860	SALEM	OLDMANS TWP	CD
33	4070	SALEM	PENNS GRV- CARNEY'S PT REG	В
33	4075	SALEM	PENNSVILLE	CD
33	4150	SALEM	PITTSGROVE TWP	CD
33	4280	SALEM	QUINTON TWP	В
33	4630	SALEM	SALEM CITY	Α
33	5320	SALEM	UPPER PITTSGROVE TWP	DE
33	5910	SALEM	WOODSTOWN- PILESGROVE REG	FG
35	240	SOMERSET	BEDMINSTER TWP	l
35	350	SOMERSET	BERNARDS TWP	I
35	490	SOMERSET	BOUND BROOK BORO	
35	510	SOMERSET	BRANCHBURG TWP	1
35	555	SOMERSET	BRIDGEWATER- RARITAN REG	GH

3	5 1610	SOMERSET	FRANKLIN TWP	GH
3	5 1810	SOMERSET	GREEN BROOK TWP	GH
3	5 2170	SOMERSET	HILLSBOROUGH TWP	1
3	5 3000	SOMERSET	MANVILLE BORO	CD ~
3	5 3210	SOMERSET	MILLSTONE	FG
3	5 3320	SOMERSET	MONTGOMERY TWP	J
3	5 3670	SOMERSET	NORTH PLAINFIELD BORO	FG
3	5 4510	SOMERSET	ROCKY HILL	I
3	5 4815	SOMERSET	SOMERSET HILLS REGIONAL	I
3		SOMERSET	SOMERVILLE BORO	DE
3	5 4850	SOMERSET	SOUTH BOUND BROOK	CD
3		SOMERSET	WARREN TWP	I
3.		SOMERSET	WATCHUNG BORO	I
3	5 5550	SOMERSET	WATCHUNG HILLS	I
-		or tooms.	REGIONAL	
3		SUSSEX	ANDOVER REG	FG
3		SUSSEX	BRANCHVILLE BORO	DE
3		SUSSEX	BYRAM TWP	I
3		SUSSEX	FRANKFORD TWP	FG
3		SUSSEX	FRANKLIN BORO	CD
3		SUSSEX	FREDON TWP	GH
3		SUSSEX	GREEN TWP	I
3		SUSSEX	HAMBURG BORO	DE
3		SUSSEX	HAMPTON TWP	GH
3		SUSSEX	HARDYSTON TWP	FG
3		SUSSEX	HIGH POINT REGIONAL	DE
3		SUSSEX	HOPATCONG	FG
3		SUSSEX	KITTATINNY REGIONAL	FG
3′		SUSSEX	LAFAYETTE TWP	FG
3'		SUSSEX	LENAPE VALLEY REGIONAL	GH
3		SUSSEX	MONTAGUE TWP	DE
3'		SUSSEX	NEWTON TOWN	CD
3		SUSSEX	OGDENSBURG BORO	FG
	7 . 4650	SUSSEX	SANDYSTON- WALPACK TWP	DE
3'		SUSSEX	SPARTA TWP	I
3		SUSSEX	STANHOPE BORO	GH
3'		SUSSEX	STILLWATER TWP	DE
3		SUSSEX	SUSSEX-WANTAGE REGIONAL	CD
3		SUSSEX	VERNON TWP	FG
31		SUSSEX	WALLKILL VALLEY REGIONAL	DE
39	•	UNION	BERKELEY HEIGHTS TWP	1
39	850	UNION	CLARK TWP	FG

39	980	UNION	CRANFORD TWP	GH
39	1320	UNION	ELIZABETH CITY	Α
39	1710	UNION .	GARWOOD BORO	CD
39	2190	UNION	HILLSIDE TWP	CD
39	2420	UNION	KENILWORTH BORO	CD
39	2660	UNION	LINDEN CITY	В
39	3470	UNION	MOUNTAINSIDE	I
39	3560	UNION	BORO NEW PROVIDENCE BORO	I
39	4160	UNION	PLAINFIELD CITY	В
39	4290	UNION	RAHWAY CITY	CD
39	4540	UNION	ROSELLE BORO	CD
39	4550	UNION	ROSELLE PARK BORO	DE
39	4670	UNION	SCOTCH PLAINS-	ī
			FANWOOD REG	
39	5000	UNION	SPRINGFIELD TWP	GH
39	5090	UNION	SUMMIT CITY	ſ
39	5290	UNION	UNION TWP	DE
39	5730	UNION	WESTFIELD TOWN	I
39	5810	UNION	WINFIELD TWP	В
41	30	WARREN	ALLAMUCHY TWP	GH
41	70	WARREN	ALPHA BORO	CD
41	280	WARREN	BELVIDERE TOWN	DE
41	400	WARREN	BLAIRSTOWN TWP	FG
41	1620	WARREN	FRANKLIN TWP	DE
41	1670	WARREN	FRELINGHUYSEN TWP	FG
41	1785	WARREN	GREAT MEADOWS REGIONAL	FG
41	1840	WARREN	GREENWICH TWP	FG
41	1870	WARREN	HACKETTSTOWN TOWN	DE
41	2020	WARREN	HARDWICK TWP	FG
41	2040	WARREN	HARMONY TWP	ÐΕ
41	2250	WARREN	HOPE TWP	FG
41	2470	WARREN	KNOWLTON TWP	DE
41	2790	WARREN	LOPATCONG TWP	DE
41	2970	WARREN	MANSFIELD TWP	ÐE
41	3675	WARREN	NORTH WARREN REGIONAL	FG
41	3890	WARREN	OXFORD TWP	CD
41	4100	WARREN	PHILLIPSBURG TOWN	В
41	4200	WARREN	POHATCONG TWP	DE
41	5465	WARREN	WARREN HILLS	DE
• •			REGIONAL	
41	5480	WARREN	WASHINGTON BORO	CD
41	5530	WARREN	WASHINGTON TWP	GH
41	5780	WARREN	WHITE TWP	CD