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Curriculum Monitoring Practices Of Public K-6 Elementary Principals In New Jersey

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CURRICULUM MONITORING PRACTICES OF PUBLIC K-6 ELEMENTARY PRINCIPALS

IN NEW JERSEY

BY

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**In Partial Fulfillment of the
Requirements for the Degree
Doctor of Education
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ABSTRACT

CURRICULUM MONITORING PRACTICES OF ELEMENTARY PRINCIPALS IN NEW JERSEY

Educators continue to endeavor to improve the quality of teaching and learning ultimately with a view to significantly enhance student performance. One area greatly overlooked in educational research is that of the actual implementation of the intended curriculum content designed to provide the framework for daily student- teacher interactions. This paper presents preliminary research into the practices that public elementary principals throughout the state of New Jersey engage in to ensure that the goals and objectives, as adopted by local boards of education, are in place.

Data was gathered through the administration of the Principal Curriculum Monitoring Survey, developed by the researcher, to all 1,242 elementary (K-6) principals in the state. Principal responses were obtained from 557 of 1,242 elementary (K-6) principals in the state, a response rate of approximately 45 percent. The data analysis was completed using one-way analysis of variance (ANOVA) on independent variables: Gender, Years of Experience in the Principalship, District Factor Group, Educational Level, and Size of School. The scale reliability of the 26 item PCMS was fixed at .87 (alpha) for this statewide sample.

Findings indicate that while overall no differences were identified in curriculum monitoring practices, differences were found to exist by gender on 38 percent of the survey questions and by District Factor Group on 31 percent of the survey questions. Small percentages of differences were found on limited survey questions when curriculum monitoring practices were examined by: size of student population, years of

experience in the principalship and the principals' highest degree earned. Twenty-one tables are included.

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Each of us navigates through life on our own individual journey encountering many different people as we travel. Some of these individuals enter into our lives in soft and quiet ways while others come with a resounding voice. Yet each leaves a part of themselves with us and because of that we are forever changed.

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Dedication

This work is lovingly dedicated to my family.

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To my daughter Jennifer, my pride and my joy. Jennifer is the future. May a small bit of this research benefit her as she embarks on her own career in education. *Walk through the open doors, Jen, and hold fast to the opportunities that will allow you to take your place in, what I consider the world's most important profession.*

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CHAPTER I

INTRODUCTION AND STATEMENT OF THE PROBLEM

Curriculum is integral to making decisions about the work to be done; it should have an impact on it. Improving the effectiveness and efficiency of any organization requires searching for what determines how the work being done gets done. An absence of written documents having utility . . . leads to work decisions being made largely by individual employees whose personal "curriculum" may or may not mesh with the organizations missions or goals. What makes a school system possible is its commonality of purpose and content. Otherwise the opposite occurs, a system of individual schools. Complex learning requires focus and connectivity (not uniformity) within and across grades or other significant learning-related grouping criteria. For this reason a curriculum cannot be simply a series of unrelated "exposures" to what teachers feel comfortable doing.

Fenwick English and Robert Larson (1996)

The field of education is currently experiencing one of the most widespread curriculum reform initiatives of its history. Attention is being given to the improvement of curriculum at local, state and national levels with international comparisons weighing heavily. These curricular demands incorporate higher standards and carry with them increased pressure on accountability. At state and national levels, academic standards are being established in all disciplines. Standards articulate what students should know and

be able to do with benchmarking causing local districts to engage in rigorous curriculum revision efforts. These efforts are occurring at a time and in a world where we have limitless access to a rapidly increasing body of information. In the words of Senge (1990),

Perhaps for the first time in history, humankind has the capacity to create far more information than anyone can absorb, to foster far greater interdependency than anyone can manage, and to accelerate change far faster than anyone's ability to keep pace (p. 69).

Educational leaders, boards of education and classroom teachers are diligently pursuing new programs of study to respond to these demands and standards. New curriculum documents are replacing the old and districts are scurrying to align curriculum and off year standardized testing with high risk state tests. Instructional scope and sequence are being designed to guide teachers in their efforts to address these standards and challenges. Yet, some experts (Baldrige & Deal, 1975; Berman & McLaughlin, 1976; Fullan & Pomfret, 1977; Goodlad, 1998; Gross, Giacquinta & Bernstein, 1971; Sarason, 1971; Smith & Keith, 1971; Williams & Elmore, 1976) question the degree to which any educational innovations are actually implemented. In Goodlad's (1998) words; "they never failed, they were really never implemented". Berman and McLaughlin (1976) social scientists with the RAND Corporation elaborate,

Experience suggests that innovative projects *mutate* during implementation – that is, they change over time . . . Thus, the adoption of an innovation cannot be assumed to provide an

accurate forecast of its actual use. . . it may be of little help to policymakers to examine the relationship between treatment and student outcomes without *first* having a systematic understanding of implementation (p. 349).

Fullan & Pomfret (1977) describe implementation as a phenomenon in its own right defining it as the actual use of an innovation or what an innovation consists of in practice (p. 336). They reason that the primary rationale for focusing on the degree of actual implementation is that unless we conceptualize and measure it directly, we do not know what has changed. Fullan & Pomfret (1977) additionally identify the lack of curiosity about what has happened to innovations between the time they have been designed and agreed upon identifying the overriding administrative assumption of implementation. They suggest that the focus has shifted to monitoring the outcomes rather than monitoring the actual implementation.

The research on educational innovation implementation is likewise applicable not only to the myriad of educational innovations designed to improve U.S. student performance, but also to the actual implementation of the very curricula that has been thoughtfully developed to provide our students with the best available academic experiences. The Coleman Report (1966) funded by the U.S. Office of Education, examined a number of schools in rural, urban and suburban settings. The report, the largest federally funded educational study ever conducted in the United States, concluded that public school teachers did not make a significant difference on student achievement. Such a controversial conclusion, which was supported by data, shocked educational researchers, policy analysts, and the general public.

In 1983 a report created by the National Commission on Excellence in Education was transmitted (A Nation at Risk: The Imperative for Educational Reform). The Commission itself was created as a result of then Secretary of Education, T. H. Bell's concern about "widespread public perception that something is seriously remiss in our educational system." The report stated,

The educational foundations of our society are being eroded by a rising tide of mediocrity that threatens our very future as a nation and as a people . . . Our society and its educational institutions seem to have lost sight of the basic purposes of schooling, and of the high expectations (p. 1).

Fifteen years later, A Nation Still at Risk; An Education Manifesto (1998) was published finding that,

The state of our children's education is still very far, very far from what it ought to be. The data are compelling. We learned just last month that American 12th graders scored near the bottom on the recent Third International Math and Science Study (TIMSS): U.S. students placed 19th out of 21 in science. Our advanced students did even worse, scoring dead last in physics (p. 1).

Since A Nation at Risk (1983) many educational reform movements were born, implemented and found to produce student performance results that have not ameliorated our educational concerns: Success for All, The Edison Project, Accelerated Schools, School Development Program, Communities for Learning, Modern Red Schoolhouse, Coalition of Essential Schools, Head Start, Even Start, and Paideia among others. One

must question the inability of decades of curricular and program innovations to affect significant improvement in student achievement. We must again query; what practices, if any, are currently in place in local school districts, to ensure that the prescribed curriculum, which is aligned with state standards and which is likewise designed to improve student performance, is actually being implemented? Have all of our efforts really failed or as Goodlad (1998) speculates, have they never been thoroughly implemented as intended?

The research on curriculum and instruction defines the teacher both as a curriculum deliverer and as an effective, thinking professional employing variation in curriculum implementation (Barth 1991; Darling-Hammond & Snyder 1992; Eisner & Vallance 1974; English & Larson 1996; Johnson 1968; Madaus 1988; Tanner & Tanner 1995). Our definitions of curriculum are equally as encompassing and include deliberately prepared content outlines, textbooks, state standards (English, 1996) as well as the sum of all experiences that students have under the direction of the school and school personnel (Barth 1991; Johnson 1968; Peshkin 1984). Oliva (1997) provides an instructional bridge connecting the teacher as a thinking professional to the curriculum itself. Oliva argues that teaching is a comprehensive decision-making process, which is more effective than trial and error, and is ongoing. Curricular ideologies, as discussed by Schiro (1992), not only reflect the evolution of our understanding of "curriculum" but also represent society's current needs as well as our understanding of the individual learner. Schiro (1992) cites four primary ideologies: (1) the scholar academic which is concerned with the transmittal of traditional academic subjects and cognitive models of inquiry, (2) social efficiency, and (3) social reconstruction which deals respectively with

the individual's need to perform as efficient members of society and the individual's ability to develop a value stance toward society's crises, and (4) the child study which is primarily concerned with the development of the child's self esteem and affective success.

The continua of curriculum definitions being diverse, still dramatizes the need for a sequence of instruction and continues to focus on the results of instruction. What does become notable however, are the striking similarities between conceptions. Zacharais & White (1964), in their work on the Physical Sciences Study Committee and the development of the high school physics course, claimed that the best way to improve high school physics would be to gather together able scholars in the physical sciences and able high school physics teachers and offer them time, money, and technical resources to work out syllabi; a curriculum. He added that instructional materials designed to introduce students as engagingly and efficiently as possible to the learning concepts and methods of the field of physics were also needed. Corresponding teacher in-service with the materials themselves served as the basis for retraining. This thinking formulated the basis of the curriculum reform movement of the 1950s and 1960s, which resulted in the traditional box graph of subject matter from kindergarten through twelfth grade, and a concern for the whole school course of study and its interrelatedness. Bruner (1960) articulated certain leading components of the educational reform movement identifying structure to characterize curricular selection, discovery to describe curricular instructional methods and spiraling to define curriculum sequencing.

Each of these points; instructional sequence, curriculum spiraling, and methodology strongly supports the need to hold some larger conception of a

desirable curriculum consistently in mind. However, the larger curricular conception can never replace an equally essential understanding of the diverse cognitive process by which individuals come to share the knowledge, values, skills, and sensibilities embodied in such a curriculum.

Regardless of subscribed application, the classroom teacher is challenged to provide limitless opportunities for learners to tap into academic content while developing the natural inquisitive nature of the human mind. The unrestricted management of rapidly generated information to learners must be ensured while simultaneously making certain that the intended curriculum is genuinely in place once the classroom door has closed and the private act of teaching begins.

Given the diverse compilation of curriculum and instructional definitions, both educators and researchers must endeavor to ferret out the core curricular issues surrounding what teachers really do in the classroom and what they do not do in our efforts to make continuous, positive strides to improve pupil performance. New Jersey has recently engaged in a statewide reform movement, which looks to the implementation of rigorous core content standards and corresponding cumulative progress indicators as a resolution to the U.S. pupil performance dilemma. Most U.S. states today reflect this belief system which proports that raising the bar, developing rigorous academic standards and adopting local courses of study; curricula which reflect these standards, will move us closer to realizing the potential of each child. The question is again posed; what practices are currently in place in local school districts to ensure that the prescribed curriculum, which is aligned with state standards, and which is likewise designed to improve student performance is, in reality, being implemented?

Silberman (1971) focusing on teacher impact on student achievement found that teachers were unable to either articulate the reasons for utilization of certain school practices or verbalize the school's goals and objectives. Responses to questions regarding reasons for certain school practices were, "We've always done it this way." According to Silberman (1971), "Schools were operating in a state of anarchy, without any purpose, direction, commitment, understanding or mutual belief." (p. 41)

Sirotnik (1998), in his examination of what actually goes on in American classrooms, finds disjuncture between curricular expectations and the curricular realities. To help illustrate the gap between curricular rhetoric and classroom reality he began by examining critical thinking. Classroom interactions were found to be teacher-centered with the teachers spending most of their time talking or monitoring students as they worked on written assignments. Critical thinking was rarely found to be a dialectical process of reflective thought and communication. Sirotnik states,

I find the continual displays of lofty educational goals a curious phenomenon. What is the purpose of such lists? What roles are these goals and the formal curriculum surrounding them really intended to play? What interests are being served by curriculum documents that essentially gather dust in state and district offices? Do the goals serve to remind us of what we wish we could do and what we ought to be doing in schools, if only we could? Are they beacons of hope in increasingly difficult educational conditions and circumstances? Or perhaps, as some sociologists and organizational theorists might suggest, the formal curriculum is

merely a symbolic device whereby, through ceremony and ritual, the revered, multiple functions of schooling are confirmed and, a priori, believed to actually occur. (pps. 65-66)

Aguilera & Hendricks (1996) again echo the impact of curriculum on student performance in synthesizing Ferguson's (1995) work,

In short, he suggests that well-meaning administrators and staffs spend so much time and monies on addressing those effective school characteristics that they seldom are able to focus on what he considers the main problem in schools today: the inability of administrators, teachers, students and parents to focus on curricular issues. (p. 1)

William Schmidt (as quoted in Viadero, 1997), research coordinator for the Third International Mathematics and Science Study concluded that the curriculum is the key to performance. He argues, "We've begun to establish that there is a relationship between what children study and what they learn." Viadero, in response to the TIMSS data continues.

Not surprisingly, they have found connections. Countries whose students scored close to the top on math questions involving concepts of congruence and similarity for example, also ranked high in terms of geometry covered in their curricula. Nations that scored high on questions involving equations and formulas were among those that devoted the most time to algebra. (p. 6)

Purpose

In spite of the myriad of definitions regarding curriculum and the instructional behaviors of teachers, there exists a research void regarding the implementation of actual curricular courses of study by teachers and the corresponding practices of principals to determine this level of application. Therefore, the purpose of this study is to determine whether significant differences exist within the curriculum monitoring practices in K-6 public elementary schools in the state of New Jersey.

A review of the literature indicates that the monitoring of actual curriculum implementation is an area that exists peripherally in educational and supervisory research. Although validated as a term by literature, research, and the New Jersey Department of Education, there is little evidence to suggest that the monitoring of curriculum implementation exists in depth in practice. A significant research void regarding the actions that principals engage in to ascertain the degree of curriculum implementation has been found. Therefore, the research question arises: Is there a significant difference in the curriculum monitoring practices of public elementary school principals (K-6) in New Jersey? Further investigation is also needed in order to answer the question: What are some of the variables, which distinguish among principals that engage in curriculum monitoring practices?

Hypotheses

Due to the existing research void, the following hypotheses, designed to answer the above questions at the .05 level of significance, have been stated in the null form.

Null Hypothesis 1

There is no difference between the curriculum monitoring processes of male and female elementary principals.

Null Hypothesis 2

There is no difference between the curriculum monitoring practices of elementary school principals with varying years of experience.

Null Hypothesis 3

There is no difference between the curriculum monitoring practices of principals from schools with varying socio-economic status (District Factor Groups).

Null Hypothesis 4

There is no difference between the curriculum monitoring practices of elementary principals with varying levels of education.

Null Hypothesis 5

There is no difference between the curriculum monitoring practices of elementary principals with varying school population sizes.

Question 1

What do principals consider the five most important administrative curriculum monitoring practices?

Significance of the Research

In examining the core issue of monitoring the implementation of curriculum content, the researcher found very little evidence that this particular aspect of monitoring has gained the attention of educational researchers. Likewise, the role of the principal in this critical implementation process has had limited attention in our efforts to improve

school practices. This statewide study of elementary principals begins to examine the undisclosed practices that elementary principals actually engage in. This will provide a baseline of data upon which future studies will be able to build thereby, expanding information and knowledge on this topic, perhaps even defining the principal's role in the curriculum monitoring process.

Also, the research could allow for generalization into other closely related fields such as curriculum, teacher and principal supervision roles. Further, middle school implications are inherent in the upward spiraling of content. Potential generalization is another important element in addressing the meaningfulness of this research. Such generalizations however, must be carefully accomplished as outlined below in the limitations of the study.

Limitations of the Study

Limitations of this research are related to several major facts. First, In May, 1996, the New Jersey Department of Education formally adopted Core Curriculum Content Standards and many public schools are currently in the process of aligning their elementary programs to the new standards. The standards describe what all students should know and be able to do upon completion of their education, and are not meant to serve as a statewide curriculum. However, mandated state testing administered at the 4th grade level may have caused some teachers to abandon locally adopted curriculum in favor of the state standards. In other cases, local districts may not have had ample time to complete the curriculum revision process at the local level. Some concern as to what to actually implement in elementary classrooms may have been encountered by respondents.

Second, due to the extensive size of the target survey population and the inclusion of all public K-6 elementary school principals in the state of New Jersey, many districts may have curriculum supervisors or subject level specialists that have curriculum responsibilities that have not been identified in this research. The extent of curricular background or familiarity with curriculum content on the part of the principal was also an area that was not addressed in this study.

Finally, the researcher recognizes that the new survey instrument was developed based upon the availability of limited research, the researcher's perception of curriculum monitoring and the review of four experts in the field.

Organization of the Research

This research is organized in five chapters. Chapter I, Introduction, provides the background information covering: purpose, the research question, subsidiary questions, significance of the research and the research limitations.

Chapter II, Review of Related Research, encapsulates the most current and relevant work related to this research. The five major sections are expanded to connect existing research and literature to this study: introduction, historical and conceptual perspectives of curriculum, curriculum defined, curriculum monitoring operationalized, monitoring curriculum as a supervisory role, and existing research studies which deal with curriculum monitoring practices.

Chapter III, Methodology, defines the sampling design, construction of the Principal Curriculum Monitoring Survey (PCMS), subjects, procedures, data collection and analysis, correspondence, and statistical techniques. Emphasis was placed on the survey design, expert review, pilot and revision.

Chapter IV, Results and Findings, details the outcomes of the methodology.

Chapter contents include: response rate, background information, gender, years of experience in the principalship, district factor group, highest educational degree, number of students enrolled in school, qualitative data, and reliability analysis.

Chapter V, Summary, Conclusions and Recommendations, condenses all of the chapters succinctly with coverage of these sections: summary of the purpose of this research, statement of the research question, discussion of findings and recommendations for further research.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

The present study will determine whether significant differences exist within the curriculum monitoring practices of K-6 public elementary school principals in New Jersey. Therefore, the review of the literature is divided into five sections. The first section will provide an historical and conceptual framework of curriculum. The second section will examine existing definitions of curriculum. The third section will operationalize the processes of curriculum monitoring as presented in the literature. Section four will examine curriculum monitoring as a supervisory role, and section five will review existing studies that deal with curriculum monitoring practices.

Historical and Conceptual Perspectives of Curriculum

Curriculum, in its English usage, first seems to have been used to describe formal courses of study in educational institutions. For example, the high school curriculum or the medical curriculum and was extended to include specific courses of study such as mathematics or physiology (Pinar, 1975). An historical and definitive review of curriculum research identifies a variety of connotations and perspectives.

The historical development of curriculum can be traced back to 4200 BC when educational content was based upon the characteristics of articulate speech, connected thought and the ability to invent and construct tools, shelter, food and clothing. Zais (1976) presented the construction of early curriculum as addressing such questions as: What is the nature of the good of society? What is the nature of man? What is the good of life? What should be in the aims of education?

The Egyptians created a form of writing that they developed into the beginning of phonetic symbols and a 24-letter alphabet. This set of written symbols was an early attempt to indicate each separate sound which, when combined, formed the words of the language (Good 1960).

The early Greeks based their very civilization on the "training and education of strong and courageous soldiers and loyal citizens thoroughly imbued with the conventional morality" (Good, 1960, p. 4). Formal education included reading, writing, arithmetic, grammar, rhetoric, and logic and higher educational content (after the age of 16) which included the study of astronomy, philosophy and geography.

Roman educators were to inculcate moral and social virtues into students simultaneously offering Latin, Greek, literature, speech, history, geography, and mythology. Early Christian education taught theology, Latin, rules of religious conduct, mathematics and astronomy.

The Renaissance brought the "humanistic schools" and the study of man. The Reformation and the invention of the printing press created the need for every individual to learn to read in order to seek guidance from the Bible. The works of Copernicus formally introduced the beginning of scientific investigation, reliance upon the scientific method and the subsequent study of the universe (Good, 1960).

Concerns regarding the imperfections of the traditional school system were brought by the Europeans (Froebel, Montessori, and Pestalozzi) during the early nineteenth century. Their protest movements were based upon perceived needless and meaningless curriculum content, the exclusion of health, citizenship, and personality,

the presentation of topics that were unreal and of no apparent practical value to children and the lack of curricular flexibility to provide for individual needs of particular students.

The Cambridge Latin School in 1894 based its course of study on Harvard admission requirements. This included sight translation in Greek in addition to passing exams in eight elementary studies; English, Latin, grammar, French, history, mathematics, physical science and two advanced studies chosen from Greek, Latin, Greek and Latin composition, German, French, two areas of mathematics, and two areas of physical science.

In 1894, the Report of the Committee on Secondary School Studies, also called the Report of the Committee of Ten and the "educational sensation of the year", set out to investigate the requirements for college admissions. The reason for the emphasis on admission requirements was due to their impact on secondary school curricula. Students were required to complete a specific course of study as required by different colleges. Yale, in 1892-93 required study in, Latin, Greek, ancient history, mathematics and a modern language. The areas to be covered in each category were quite specific; Caesar – Gallic War, books i-iv . . . Roman History to the death of Augustus . . . Xenophon – Anabasis, four books . . . Greek Grammar . . . Algebra – so much as it is included in Loomis's Treatise, up to the chapter on Logarithms. The University of Michigan required that these areas be covered: Physics – An amount represented by Carhart and Chute's Elements of Physics, English, history, mathematics, Latin and Greek. (Sizer, 1964).

The Report of the Committee of Ten, a response by the National Education Association (NEA) to a societal demand for a ladder of formal schooling from grade

school through the university level, recommended that a nationally accepted curriculum for secondary schools be developed in an effort to deal with the maddening array of courses secondary schools were forced to offer perspective college applicants. As a result, this classic secondary school course of study consequently had an impact upon and mapped out curricula for the elementary level. Harvard President, Charles W. Elliot, subsequently attacked elementary school education recommending that the memorization of fact (Sizer, 1964) which comprised the elementary course of study, be eliminated for a program of physical geography, natural history and political geography. He recommended the introduction of language instruction, optionally at least, by the age of ten.

As more children remained in the lower elementary education programs, the elementary curriculum of the three-R's expanded. Algebra was added to arithmetic. English study followed the alphabet, and Latin was introduced along with French and German.

Schiro (1992) speaks to four major curriculum ideologies that are reflective of our curricular history and that incorporate many of these historical facets: Scholar Academic, Social Efficiency, Social Reconstruction and Child Study. These ideologies represent the curricular and philosophical disharmony educators find themselves immersed in as they struggle to identify the major influence over their school curricula. The Scholar Academic is concerned with maintaining cultural literacy by having students study the content models of inquiry of traditional academic subjects. Social Efficiency is concerned with providing students with the skills needed to perform as efficient members of society. Social Reconstruction focuses students on the development of a value stance

toward the crises facing our society with a view to alleviating these crises and ultimately improving society. Child Study is concerned with helping each child to grow into a unique individual with a secure self-esteem.

In A Place Called School, John Goodlad (1984) identifies four parallel major goals that have come to impact the American curriculum. These are: (a.) academic . . . embracing all intellectual skills and domains of knowledge, (b.) vocational . . . developing readiness for productive work and economic responsibility, (c.) social and civic . . . preparing for socialization into a complex society, and (d.) personal . . . emphasizing the development of individual responsibility, talent, and free expression.

Current day perspectives, according to Johnson (1995) and Peshkin (1984) indicate that taxpayers and parents expect the school curriculum to provide everything from student safety to sources of community solidarity. As previously stated, the varied nature of curriculum definitions challenge our thinking on this matter while our indicators of student performance question our very ability to implement any curriculum successfully.

Madaus (1988) presents a contemporary definition of curriculum relative to the impact of testing on classroom instruction echoed by many New Jersey principals today as they wrestle with mandated state testing at elementary, middle and senior high school levels. He states that it is testing, and not the "official" stated curriculum, that has come to determine what is being taught in today's classrooms thus swaying the historical pendulum. His view of measurement driven instruction, invoked by state testing programs or legislatures, results in an identified narrowing of the formal curriculum. Given the nature and need of test results to take on a very high symbolic value within the

community, the tests themselves give both teachers and students specific measurable goals to attain. Spaulding (1938) reports that teachers in New York disregarded the objectives in their formal curriculum in favor of those items tested in the Regents examinations. Morris (1969) cited the "rigidity of these examinations as the principle reason that the chemistry curriculum in Australia remained almost unchanged from 1891 to 1959". The influence of examinations on curriculum is similar in India (Mukerji, 1966) Japan (Cummings, 1980) Ireland (Madaus & Macnamara, 1970) and England (Broadfoot, 1961). Orwell (1968) reaffirms this point.

Subjects which lacked examination value, such as geography, were almost completely neglected, mathematics was also neglected if you were a "classical," science was not taught in any form . . . and even the books you were encouraged to read in your spare time were chosen with one eye on the English paper (p. 336).

According to high stakes testing research, successful student achievement on such examinations determines, for many teachers, their curricular priority and style of teaching. Few teachers, according to White (1888) can resist such an influence. They shut their eyes to the needs of their pupils and put strength into what will "count" in examinations. George Anrig (as quoted in Braun, 1981) the former Commissioner of Education in Massachusetts, upon taking office as the president of the Educational Testing Service said,

I don't know of any good teacher who wants to narrow what he or she does in order to ensure success on a specific test. No test is worth teaching to. But if you place too many conditions on the

testing program, if you place too much importance on it, you could end up with teaching to the test. If you connect the test scores with such decisions as pupil promotion, teacher evaluation, or the distribution of financial aid, you will accomplish the kinds of pressures that narrow the public school curriculum. (p. 31)

To reiterate, the varied nature of curriculum definitions challenge our thinking on this matter, while, our indicators of student performance question our very ability to implement any curriculum successfully.

Curriculum Defined

A review of the curriculum research has found, not only a rich history which defines an evolutionary process, but also a complex compilation of definitions that encompass both content and process. These definitions range from deliberately planned structures which are primarily academic in nature to all of the experiences offered to learners under the auspices of the school which include: cognitive, affective, psychomotor and social.

Mitchell (1998) summarizes several concepts in the field of curriculum that provides a backdrop to assist with our understanding. These concepts are: (a.) curriculum as the process of studies, (b.) curriculum as course content, (c.) curriculum as planned learning experiences, (d.) curriculum as experiences "had" under the auspices of the school, (e.) curriculum as a structured series of intended learning outcomes, (f.) curriculum as a written plan of action, (g.) curriculum as a compromise between experiences and a set of desired outcomes (Zais, 1976) and (h.) curriculum as processes which occur at three levels (Senge, 1997): skills, operations, and dispositions.

According to Johnson (1968) curriculum is the sum of the experiences that students have under the direction of school and school personnel . . . It is the “what” of the schools. “What a social institution does is the central facet of the institution.” (p. 1)

Johnson goes on to say,

The foundations of curriculum refer to the “why” of the experiences that children have in the schools. The values, traditions, force, and professional understandings which determine what the school does constitute the foundations of the curriculum. A study of the curriculum would have limited meaning without a knowledge of its foundations or the “why” of its being. (p.1)

Shane and McSwain (1958) bring together several differing points of view to define curriculum.

The curriculum is (1.) the design of a social group for the educational experiences of their children. But incorporated in this design is (2.) subject content and (3.) educative experiences that extend beyond the confines of subjects and study skills to include the guidance of children through many activities sponsored by the school for instructional purposes. These explicitly include (4.) provision for understanding social functions and for individual academic-emotional-physical needs and social needs in a democratic society – that is, the disciplining of youth in ways of group thinking and acting as are suggested by values that emerge through cooperative planning. Finally, (5.) the curriculum has its

being in two separate but interrelated entities: first in written form as a record of group consensus as to methods, materials, scope and sequence; and second, under the skin of both teacher and child as the sum of the experiences and guides-to-action that each has interpreted for himself as the outcome of their interactive living and learning together in school. (p. 3)

English (1992) defines curriculum as, "the work plan or plans developed by or for teachers to use in classrooms by which the content, scope, and sequence of that content, and to some extent the methodology of their teaching is defined and configured." (p. 17) English goes on to illustrate the varied curriculum documents or "work plans" that are currently in place for instructional use. This materials list includes: textbooks, curriculum guides, scope and sequence charts, computer programs, accreditation guides, state department of education or state board guidelines, local board policies or their specifications.

Mackenzie (1954) defines curriculum as "planned" engagements of the learners with six determiners of these engagements, which are (a.) teachers, (b.) students, (c.) subject matter, (d.) methods, (e.) materials and facilities, and (f.) time. The concept of planned engagements is narrowed significantly (Madeus, 1988), by the actions of many national commissions or panels who have determined that national standardized tests are the vehicle to ensure the improvement of public education.

English and Larson (1996) compare the development of early curriculum to an engineering act in that it relied on a set of principles that resulted in the creation and definition of work content in educational organizations. Their more contemporary

definition reminds us of the "value-laden decisions," i.e., choices that are inherent in the teaching and learning process. English and Larson define curriculum in the broadest sense as, "an interrelated set of codified expectations that define and provide the regulatory framework for different types of work in organizations." (p.3)

They go on to say that curriculum is, "the codification of expectations of work around: (1) what is to be done, produced or preformed, or work content or process, and (2) the expected result or outcome of the production of an object or the rendering of a service." (p. 4)

Three forms or manifestations of curriculum have been found to exist in schools: the formal, informal and the hidden curriculum. English and Larson (1996) define these as, "formal, that which is officially pronounced, studied, developed, adopted and implemented," informal, which is "found to exist in the values at work in the selection of curriculum content", and the hidden curriculum, which refers to the "school routines that are experienced by all students." (pps. 9-10)

Formal may simply be the curriculum promulgated by state boards or recommended by national associations. Scientific creationism added to a scientific study of evolution is one such example of the informal curriculum while the hidden curriculum may simply be the inherent cultural values that are passed along to our children without anyone being conscious of them.

Eisner and Vallance (1974) look at curriculum as the development of cognitive processes. From this perspective,

Subject matter, as typically defined, is considered less instrumental to the development of intellectual abilities that can be used in areas

other than those in which the processes were originally refined. For example, content in history or in biology is considered less important than the development of the student's ability to infer, to speculate, to deduce, or to analyze. These abilities will endure long after the particular content or knowledge is forgotten or rendered obsolete by new knowledge. (p. 19)

Barth (1991) implies that a school climate, which encourages and supports high-level teacher professional development, allows teachers to prepare curriculum outlines of what they want to teach.

Each year I asked teachers to prepare curriculum outlines for the following year that reveal what they wanted to teach. The outlines might reflect a little or a lot of the system's guidelines, but above all, they were to be honest. This practice shifted the teacher's role from passively compliant to actively creative. Although exposing themselves in this way caused both labor and risks, most teachers gladly accepted the accountability, because with the costs came a large measure of control over classroom instruction. (pps. 35-36)

According to Schubert (1986) there are three basic curricular philosophical orientations. These are: the intellectual traditionalist which places emphasis on what is considered to be classic knowledge (poetry, sculpture, logic, wisdom, novels, etc.); the social behaviorist which subscribes to the concept of curriculum as disciplines and subject areas in the context of what is needed in society; and, the experimentalist which speculates that the experiences of some become the knowledge base for all.

An independent critical review of the Third International Mathematics and Science Study (1999) defines curriculum as: intended, that which is set forth in guidelines and by texts; the implemented curriculum, that which is actually delivered by the teacher; and the achieved curriculum, which is measured (p. 31).

As we enter the new millennium, curriculum is more closely examined from the joint perspectives of content and process. Costa and Lieberman (1997) contend,

. . . repeated concern over our vision surfaced, namely, were we revising the dichotomy from content being highly valued and prized - so much that process has almost been excluded - to process being the primary emphasis and the content forgotten? The answer to this question is a firm, resounding "No!" We, as editors and authors, believe strongly in the duality that both are required and must be intertwined. We are not suggesting that content be devalued. We are suggesting that content be viewed from the perspective of how it enhances and accomplishes the development of process. (p. xxii)

They further contend that "curriculum" is,

everything that influences the learning of the students, both overtly and covertly, inside and outside the school. Curriculum is the heart - the pulse of the school; it is what drives everything else. Curriculum is the currency through which teachers exchange thoughts and ideas with students and the school community. It is the passion that binds the organization together. (p. xxiii)

Curriculum Monitoring Operationalized

Curriculum design and delivery face one fundamental problem in schools. When the door is shut and nobody else is around, the classroom teacher can select and teach just about any curriculum he or she decides is appropriate. . . School structure isolates teachers in self-contained classrooms with children, and alone they can make independent decisions about what they teach. The decisions of a teacher can void the best developed curriculum plans by ignoring them. (English, 1992, p. 1)

Curriculum, English states (1992), is one vehicle to ensure that the instructional objectives established by local school boards or state level authorities are "realized." English (1980), goes on to say that "no curriculum would be required for schools if any result or outcome were as good as any other, or if the state had not decided that some results are clearly more important than others. In short, curriculum is a managerial tool" (p.3). Lortie (1975) supports the sentiments of English (1992), by describing the discontinuity between written approved objectives and teacher objectives, "Official statements of school objectives and the daily reality of classroom teaching are not the same thing." (p. 81) Lortie cites the "cellular organization of schools, which isolates teachers, causes high turnover, and precludes any important gains in teacher productivity." (p. 81) Teachers are likewise left unaccountable for their curricular choices (Kieran, 1978).

A review of the educational research finds little with regard to the concept of curriculum monitoring. Although a term that has been in the general education literature for over a decade, there is no such formal category.

The dictionary defines monitor as, "to listen or to watch, to act or supervise as a monitor." (Funk & Wagnalls, 1986, p. 421) The New Jersey Administrative Code 6:8, Thorough and Effective System of Free Public Schools (1998) defines monitoring as, "the process by which the Commissioner of Education or his or her designee evaluates the status of each school district every seven years for the purpose of determining certification status". (p. 3) The document itself is filled with monitoring phrases such as; "shall be monitored", "the monitoring team", "scheduled for monitoring", "the dates for such monitoring visits", "monitoring format" and "monitoring conference" which all imply a deliberate act to determine the extent of and compliance with established curriculum and mandated programs. Elements of the curriculum monitoring process (N.J.A.C. 6:8) states that "the district board of education shall provide a curriculum evaluation schedule for all content and all grade levels. Documentation for this specific element shall include: (1.) written curriculum including content standards; (2.) lesson plans; (3.) the master schedule; (4.) classroom observations; and (5.) staff interviews." (pps. 13-14)

Tyler (1949) recognized the importance of developing instructional objectives, and then testing students to measure the degree to which they mastered the curriculum. Stake (1967) criticized what he perceived to be deficiencies in the teacher evaluation system and called for a more formal methodology. He observed that evaluations are

reliant on casual observation and subjective judgments and called for “monitoring the gap” between what educators intended and what actually happens in schools.

Romberg and Price (1999) define systematic monitoring in the following way,

To monitor something means to gather information about it at several times. The procedure would monitor the expected effects . . . The term “expected effects” is not limited to student outcomes, which are conventionally monitored. It can certainly include student outcomes, but it should also include other expected effects on the lives of persons in schools. . . Monitoring and the tracking that it permits of selected aspects of life in schools involves a different conceptual framework (and more data) than conventional pretest-posttest approaches. Campbell and Stanley make a strong case for an interrupted time-series design . . . at least four observations (two before implementation and two after) are necessary to distinguish between changes due to implementation and change due to natural growth. At least six are needed to discern drift, decay, cycles, and so forth. Obviously, the larger the number of observations, the more we can detect. (pps. 220-221)

English & Larson (1996) are credited with the inclusion of the concept of monitoring curriculum implementation in the literature. Implementation and monitoring the curriculum includes, “(1.) Implementation of the curriculum on a systematic basis. (2.) Monitoring the curriculum as it is implemented to ensure proper implementation as it is completed to ensure outcomes (results) match those intended.” (p. 16)

Early and Rehage (1999) define monitoring as the “gathering of information about an innovation several times thereby monitoring the expected effects of an innovation. Such monitoring can include student outcomes and other expected effects. It should also include the monitoring of anticipated problems.” (p.220)

Curriculum, however narrowly or broadly defined, is ultimately what each teacher decides is to be done in the classroom. It is this very issue that makes the monitoring of curriculum one of the most challenging of supervisory activities. English and Larson (1996) view supervision as the monitoring of teaching. They point out that traditional observation practices do not seek evidence that the designed, approved and intended curriculum is being implemented. It is the monitoring of the implemented curriculum that ensures that the educational system is “acting like a system.” (p.84)

Greaney & Kellaghan (1996), while speaking to a broader interest in the development of a systematic monitoring approach to assessing learning outcomes, agree that, “A system of monitoring is particularly needed when greater autonomy is provided to local authorities and schools. When traditional central controls are loosened in this way, a coherent system of monitoring is necessary.” (p.3)

Coutts (1999), states that it is “essential for administrators to monitor instruction by measuring progress toward instructional goals.” (p. 119) He suggests one methodology for principals’ use is that of electronic lesson planning and the subsequent measurement of the turn rate for each teacher. Coutts (1999) links his thinking to techniques utilized in the business world concluding that the data gathered can be used to “justify the need for extra resources in a specific classroom, or problems in teaching”. (p. 119)

Curriculum monitoring, for the purposes of this study, will be defined as the actions that principals deliberately engage in to ensure the implementation of the district's adopted curriculum documents.

Monitoring Curriculum as a Supervisory Role

Of all the roles and duties that go with the principalship, perhaps none goes to the heart of school leadership as much as curriculum supervision. The central purpose of educational administration, after all, is to see that schools fulfill their primary function: to provide their students with the best possible education . . .

One major role that emerges from this discussion of the principal's activities and processes of curriculum supervision is that of the *curriculum monitor*. No one else in the school has the constant access to all parts and levels of the curriculum and to the overall perspective to fill this role of maintenance and quality . . .

In this function, the principal is the pulse sensor of the energy, quality, efficiency, effectiveness, and richness of the learning program in action. (John Hill, 1989, p. 9)

Research defines the role of the supervisor and administrator in curriculum as: involving teachers in making curricular decisions, engaging teachers in deeper collaborative decision-making, providing time for collegial meetings, providing professional books, journals and resources for curricular improvement and obtaining and providing the financial support needed to ensure this support (Tanner & Tanner, 1995).

Hill (1989) argues that the role of the principal as curriculum supervisor, more specifically as curriculum monitor, goes directly to the heart of educational administration. Hill utilizes the six levels of curriculum as described by John Goodlad (1979) to identify the different activities that principals can perform at each level.

The written level is intended to provide the formally adopted structure of what is being taught. Hill states that principals on this level should first find out: (a) whether the written document exists, (b) whether each teacher has a copy and (c) the usefulness of the document (scope and sequence of goals and objectives, objectives referenced to text and learning materials by page numbers, learning scenarios, worksheets, labs, projects for each objective, and five to ten criterion tester performance items for each objective). The principal, as curriculum supervisor, should next find the connection between the written curriculum and the lesson plan. To what degree are the objectives of the written lesson plan addressed and communicated?

The resourced curriculum level suggests that principals examine teacher requisition forms to determine the extent to which requested materials conform to the goals or the design of the written curriculum. On this level, the availability of existing curriculum support material must also be made available to teachers for use in the implementation process.

The experienced curriculum level encourages principals to take time to speak to students to ascertain their understanding of lesson purposes/objectives. What have learners experienced within the design of the lesson? The experienced curriculum also needs to take into the account prior learning, individual experiences, and student learning

styles. Principals monitoring implemented curriculum need to encourage attention to strategies useful in creating personal meaning for students within their classrooms.

The role of the principal at the tested curriculum level, usually a standardized or state-mandated test, advocates for a broader concept of the tested curriculum than singularly defined. Curriculum-based tests, teacher tests, work portfolios, and teacher judgments need to be utilized. Principals are encouraged to suggest, according to Hill, that the local district move testing to the fall and utilize results to design the year's instructional program.

The role of the principal is that of cutting edge catalyst at the ideal curriculum level. While Hill (1989) suggests that principals at the tested curriculum level encourage district level administrators to reschedule the traditional spring testing program, this will not necessarily resolve poor student performance issues unless the local curriculum has been audited for alignment with the testing instrument, and district policy and procedure.

Majkowski (2000) points out that substantial discrepancies often exist between the written and implemented curriculum and he goes on to say that few principals systematically collect information about curriculum implementation while fewer still use such information to guide curriculum improvement and to identify needed "implementation support services for teachers". (p. 76) He begins with the premise that the curriculum and curriculum guide is to help teachers design and provide appropriate learning activities for children. He sets forth a curriculum implementation monitoring system that should, (a.) communicate to all faculty members what the curriculum committee thinks are the essential elements in the curriculum, (b.) close the gap between the informed expectations of the curriculum committee and the student learning

opportunities teachers actually create and use, (c.) increase teacher s' responsibility and commitment to the curriculum as a shares set of professional agreements about content and pedagogy, and (d.) engage teachers in what should be one of their major responsibilities: assessing the adequacy of the curriculum as a guide for the design of student learning opportunities. –

Majkowski (2000) is also very clear that the principal “must take the lead” in responding to this challenge. Principals must put gathered data in the hands of teachers, focus conversations on classroom practice and empower them to improve their practice.

Majkowski (2000) additionally identifies a self-assessment checklist for teachers about specific elements of the curriculum useful in this data gathering, curriculum monitoring process. (A.) Degree of implementation: how much is each essential element actually infused into student learning opportunities and learning environments? (B.) Level of difficulty: how difficult is it to incorporate each element into instructional practice? (C.) Essentially: how important is each element to the goals of the specific curriculum?

Morris (1999), in a study of secondary school principals in Trinidad and Tobago, found that female principals managed their schools with the assistance of management teams who were given the responsibility of monitoring the delivery of their subject area. Their leadership styles were predicated upon an ethic of care (Enomot, 1997; Nordings, 1988). Nordings (1988) describes an ethic of caring specifically in terms of responsibility and response.

The responsibility of the career is to respond to the needs and wants of the one cared for . . . The mother-child relationship is seen

as the prototype of a relation of caring which is concerned with fostering the growth of the child and shaping an acceptable individual. Teaching also has as its main concerns the fostering of intellectual growth and the shaping of acceptable individuals so that the ethic of care is an appropriate orientation for teaching. (p. 344)

Shakeshaft, Nowell and Perry (1992) have examined the impact of gender on successful supervision in school personnel. They find that, men are more likely to emphasize organizational structure and avoid conflict while women are more likely to attend to instructional issues. Thus, the evaluations written by female principals focused on more items, and particularly more items concerned with teaching and learning.

This view of female principals is supported by Schautz (1995) who studied elementary female administrators to gather information about how they supervise teachers. Supervision was defined as "the function that draws together the elements of instructional effectiveness into whole-school action" (Glickman, 1990, p. 4). Supervision also takes into account the implementation of goals, the resources used by teachers to carry out the implementation, the evaluation of the program and the provision of professional activities for staff. Shautz contends that female supervisors have a greater understanding of what is taking place in the classroom as a direct result of their collaborative, transformational style.

Elizabeth Griffin (1995) cites six school districts that have utilized external curriculum audits to "jump start reform" (p.18). Based on effective schools research and organizational theory, a curriculum management audit examines school practices and

policy for the design and delivery of curriculum and draws conclusions about curricular quality control which is designed to speed improvements that affect student achievement and accelerate needed reform. The external audit team gathers data from interviews, documents and site visitations in order to draw conclusions about how curriculum is designed and delivered. Internal audits provide objective opinions without allowing internal biases to influence the audit outcome. Unless you align curriculum, wealth English (1989) concludes, predicts student achievement. A curriculum audit looks for evidence about the direction that a school sets for students and then how well it accomplishes those goals.

English (1989) reminds us of the variety of work plans currently in place regarding curriculum which compete for the teacher's attention as well as loyalty: curriculum guides, scope and sequence charts, state guidelines, and local board specifications which are all simply documents of some sort or another. In many cases, English states, "these documents do not match each other, may contain contradictory advice or information, or may be so open to interpretation that contradiction arises when they are implemented" (p.2). Too often, English (1989) finds, these documents are a "hollow" symbol of what the school feels its mission or purpose might be. He concludes, "Reality may present a far different picture" (pps. 2-3).

English & Larson (1996) argue that the traditional supervisory process in schools does not serve to manage the adopted curriculum. Both formal and informal teacher supervision in some schools is virtually nonexistent and if it does exist, evaluation "may or may not include criteria that examine the relationships of classroom work to curriculum materials. It is unusual to find a teacher evaluation instrument that highlights

teacher responsibility to implement district curricula" (English & Larson, 1996, pps 104-105). The most common curriculum implementation problem is that of "teacher misuse or non-use of the prepared curricular materials" resulting in a breakdown between the written and taught curriculum. (English & Larson, 1996, p.110)

According to Glatthorn (1994), "In too many districts, a high quality curriculum guide is written, presented to teachers in a summer workshop, put on a shelf, and then never referred to again." (p. 57) He identifies the concept of mutual accomplishment as central to the success of any type of implementation effort. Mutual accomplishment first identifies the tension for top down administration to coordinate the central elements of curriculum implementation while respecting the professionalism of teachers. Mutual accomplishment allows teachers to adapt the curriculum to their classroom in a way, which achieves the curriculum objectives while avoiding the "curricular anarchy" which assumes, as Glatthorn (1994) puts it, "that teachers are curriculum experts." (p.57) The role of the principal is seen as critical in facilitating successful curriculum implementation requiring the monitoring of the implementation of the (new) curriculum.

Glickman (1985) identifies a critical lesson learned by instructional supervisors; no curriculum, regardless of how good it is, is "teacher proof." Teacher proof meaning that the curriculum is so complete and detailed that it is immune to teacher practice and belief. Schools, Glickman (1985) finds, are too loosely structured with an absence of a continual monitoring of the actual instructional work to be done. Instead, teachers are surrounded by four classroom walls without anyone with managerial/supervisory control watching what they do. Glickman (1985) continues,

. . . unless a teacher really desires to implement a curriculum, he or she won't. No one is going to stand over a teacher six hours a day, 180 days a year to see that the curriculum is going to be implemented. On those rare occasions when a person in authority does stand over a teacher, the teacher can usually give the person what he or she is expecting and then return to the usual method once authority is gone. Therefore, any notion of a curriculum being teacher-proof simply flies in the face of reality. (p. 305)

Hersey and Blanchard (1993) identify schools in which organizational goals are not controlled, to be running out of control and not able to be improved. They find that these schools contain teachers who are physically connected by classrooms only. A comment made by a teacher in one such school sums this sentiment up; "Curriculum here is what any teacher wants to do" (p.152-154).

Peterson (1995), in a 304 page publication entitled Teacher Evaluation; A Comprehensive Guide to New Directions and Practices, makes no mention of curriculum or the necessity to regard such a document in the implementation of an instructional lesson or in the evaluation of a teacher. Peterson does, however, provide survey research which speaks to the overall effects of teacher evaluation on instruction.

Wolf (1973) in a study involving 293 classroom teacher finds,

Teachers . . . believe that standards for evaluating . . . are too vague and ambiguous to be worth anything. They feel that current appraisal techniques fall short of collecting information that accurately characterizes their performance. They perceive the

ultimate ratings as depending more on idiosyncrasies of the rater than on their own behavior in the classroom. As a result, teachers see nothing to be gained from evaluation. One suggested that present teacher evaluation practice does more to interfere with professional quality teaching than to nurture it. (p.160)

Johnson's 1990 study was again critical of current evaluation practices.

For . . . good teachers, schools offered no systematic way to productively review and improve their practice. The process of . . . evaluation, supposedly meant for all teachers, actually addressed the problems of only the weakest. Evaluators were seldom sufficiently skilled or experienced to offer constructive criticism in subject areas and frequently limited themselves to giving categorical praise. They concentrated on the procedural demands of the process that were subject to legal review in any dismissal case. These consumed enormous amounts of administrative time while diverting administrator's attention from the substance of most teachers' practice. (p. 274)

Wise and colleagues (1984) at the RAND Corporation completed an extensive survey and case studies of school districts on teacher evaluation for the National Institute of Education and found a significant role conflict for principals as evaluators.

Central office respondents believed that the conflict between the principal as instructional leader and evaluator has not been settled. Noting that collegial relationships lead many principals to want to

be “good guys,” many respondents felt that principal evaluations were upwardly biased. Principals’ disinclinations to be tough makes the early identification of problem teachers difficult and masks important variations in teacher performance. (p. 22)

Fullan and Pomfret (1977) examine the “phenomenon” of implementation and recognize that implementation refers to the “actual use of an innovation”. Their definition does not assume, like Goodlad (1979) that there has been implementation unless a change has actually been measured. They continue to focus on implementation directly as possible answers to questions such as: why do so many educational changes fail and why do some teachers have greater educational gains than others?

Existing Research and Studies which deal with Curriculum Monitoring Practices

Curriculum implementation and monitoring is also examined in the research from three different approaches: a fidelity perspective; measuring the degree to which a particular innovation is implemented as planned and identifying the factors which facilitate or hinder implementation as planned, mutual adaptation; the process whereby adjustments in a curriculum are made by curriculum developers and those who actually use it in the classroom context, and enactment; the educational experiences jointly constructed by the teacher and the student. (Fullan & Pomfret, 1977; Snyder, Bolin & Zumwalt, 1989)

Researchers ascribing to the fidelity perspective of monitoring the curriculum search for ways to ensure its faithful implementation. Mutual adaptation research seeks to explain what happened to the actual curriculum during the implementation process.

The curriculum enactment perspective seeks to find what effect the outside factors (packaged materials, federal policies, student and teacher characteristics) have on the curriculum as implemented.

Lukas and Wohlleb (1973) measured the degree of implementation of a social reform initiative at 12 different Head Start Planned Variation models. Shortly into the study it became apparent that treatment implementation probably varied and that without this knowledge the models could not be evenly evaluated. Each sponsor in the study was asked to rate every head teacher on performance (0 = not acceptable, 9 = outstanding). There was no definition of what constituted "full" or "outstanding" implementation and the judgements themselves were based on the sponsor's personal conception of the idea. Lukas and Wohlleb (1973) did find that 74% of the variance in ratings within the models occurred within sites. Lukas and Wohlleb (1973) concludes, "It appears that some teachers are implementing the treatment better than others and that classes under the same treatment label are having differing experiences." (p. 345)

Evans and Scheffler (1974) developed an eleven-item scale to determine the extent of implementation of a prepackaged individualized IPI math curriculum comprised of eleven elements broken into two categories: (a.) Materials and space, (b.) Audio room, (c.) Scheduling, (d.) Monitoring, Instructional; (e.) Placement tests, (f.) Pretests/posttests, (g.) CET (Curriculum Embedded Tests), (h.) RX (Prescriptive Writing, (i.) Classroom Management, (j.) Student self-management, (k.) Planning session. The degree of implementation was measured in six IPI math schools with no individual measure of teacher implementation. The researchers found that the degree of implementation varied

by school. Two of the six schools scored 78% and the remaining four scored between 95% and 96%. This represented a high degree of implementation.

Solomon, Heann & Meyers (no date) developed a 95-item scale to assess the degree of implementation of a prepackaged preschool curriculum. This study involved 15 classrooms. They found that some of the dimensions were implemented more effectively than others. Solomon, Heann & Meyers (no date) found that most of the elements most successfully implemented were structural in nature.

Romberg and Price (1999) examined the efforts of the Berea City School District (Ohio) who utilized a systematic monitoring plan (SMPL) to monitor the implementation of a Curriculum Review project. This curriculum innovation was designed to develop a comprehensive scope and sequence of skills and content for kindergarten through grade 12 and was to produce this planned curricular change via a set of high priority objectives for which teachers in all subject matter would be responsible. Once a curricular program guide was adopted, all teachers in all subjects were to use it as a basis for their classroom and instruction with changes in student performance as the goal.

Although changes in student outcomes were the ultimate goal, they were consciously expecting teachers to change their work habits (and, in return, the students' work habits). For example, all teachers were to implement the writing program. This meant that teachers of science, mathematics, shop, homemaking, and so forth were to know the program and its objectives and to implement it by correcting spelling, grammar, and organization of paragraphs in

their courses . . . In particular, all teachers were responsible for all curricular change. (p.223)

Changes in student achievement were expected to occur as a result of the Curriculum Review project. However, according to Romberg and Price (1999) they were expected to occur only when changes in teachers and their teaching were evident.

The school board recognized that in the past curricular changes often ended with adoption, publication, and distribution of a guide or manual. Once classroom doors had been closed, the innovation had remained on a bookshelf. The activities of teaching had continued unchanged. Thus, staff development was seen as essential. (p.223)

Romberg and Price (1999) identified three conditions under which SMPL would be able to demonstrate that each new curriculum program was actually implemented. These conditions were: (a.) teachers understand the rationale and philosophy of each new Curriculum Change program, (b.) targeted aspects of the new program be reflected in each teachers' lesson plans and classroom activities, and (c.) teacher-student and student-student interactions should follow certain principles suggested by instructional research. Focusing on item b., it was believed that "teachers tend to achieve what they plan; therefore daily and long range planning were seen as critical. Lesson plans must include the new content or skills, the new priorities, appropriate materials and strategies and means of assessing student growth expected in the new program." (Romberg and Price, 1999, p. 225)

The Berea project caused principals and staff to study their implementation plans continuously and involved a myriad of monitoring procedures and data sources. Lesson plans were examined in a totally different fashion. Instructional time was more carefully allocated and documented and teachers at all grade levels had set established goals. Student achievement was reflected not only in standardized achievement scores but also in such ways as actual time spent in free reading. The use of a systemic monitoring system in Berea has returned the principal to the critical role of instructional leader and evaluator. Classroom observations have increased and curriculum and instruction have been placed in the spotlight.

Blankenship (1985) states that successful instruction relies on a close link between student performance and instructional decisions that teachers make in the classroom, daily. Based on this premise, curriculum-based decisionmaking (CBM) is offered as one methodology for administrative use to close the gap between student performance and instructional teacher decisions. CBM procedures allow teachers and principals to evaluate the rate of individual student performance against the curriculum and determine when instructional modifications are warranted (Fuchs, Hamlett & Fuchs, 1989).

Whinnery and Stecker (1992) describe four ways of using CBM in a case study monitoring operations of mathematical skills for learning disabled students. Basic Math, a curriculum monitoring mathematics software package (Fuchs, Hamlett & Fuchs, 1990) provides students with short tests or probes each containing 25 questions incorporating all types of problem types from the implemented mathematics curriculum. This program monitors individual student progress across the entire year against the end of year goal of

mastering the grade level curriculum. An individual skill profile is generated identifying the level of mastery. Criteria are: (a.) not attempted; (b.) non-mastered, fewer than 75% problems attempted with less than 85% accuracy or 75% or more problems attempted with less than 40% accuracy; (c.) partial mastered, fewer than 75% problems with less than 85% accuracy or 75% or more problems attempted with less than 40% accuracy; and (d.) mastered, at least 75% problems attempted with at least 85% accuracy. The skills profile is used by the teacher to assist in instructional decisionmaking by reflecting important operational problems in the applied curriculum. The use of such reliable measures likewise allows the monitoring of progress made toward the end of the year curriculum achievement goal. Fuchs, Fuchs, and Hamlett (1989) find that,

Teachers tend to set and maintain inappropriately low goals. In this study, teachers who received goal raise messages along with the graphed data raised student goals more often than teachers who were free to raise their goals at any time but were not explicitly told to raise goals. Further, teachers who received the goal raise messages effected greater student achievement. Therefore, the evaluation and modification of goals through curriculum-based measurement can enhance teacher decisionmaking and student achievement. (p. 437)

Hess and Buckholdt (1974) looked at the degree of implementation of a Language and Thinking (LAT) program designed for preschool, kindergarten and first grade students. The program involved a series of ten activity packages designed to develop essential language skills and basic concept development. The study design

identified three groups. Group 1 – Received the complete set of materials and material use training. Group 2 – Did not receive any materials but did receive the complete set of LAT objectives and training in the use of the criterion tests. Group 3 – Did not receive either materials or training. They were the control group. Groups were rated against the following six components: (1.) Teacher preparedness for LAT lesson(s) observed. (2.) Correct following of procedures as specified in the teacher's guide. (3.) Proper use of LAT materials as suggested in the guide. (4.) Teacher effectiveness in maintaining student attention and elicitation of student responses. (5.) Amount of positive reinforcement given to students. 6. Teacher affect (enthusiasm) towards the lesson. The results indicated that teachers in group 1 having received materials and training were divided into three groups: high, moderate and low implementation. The findings on a variety of tests of students in classes of high implementation, teachers show greater acquisition of objectives.

Leinhardt (1973) investigated six primary implementation components in relation to a prepackaged, early learning, K-3 math curriculum: context, allocation of time, allocation of space, assignment procedures, classroom management and student independence. The study included implementation based on a questionnaire in nine sites and in 52 classrooms. Leinhardt (1973) reported data on the relationship between program implementation and student achievement explaining 35% of the variance between sites. In general, he concludes, most key aspects of the program were implemented.

In another study, Crowther (1972) combined direct observation and teacher questionnaires to determine the degree of implementation of an elementary social studies

curriculum. He utilized an 11-item inventory to reflect the key distinguishing features of the curriculum. Crowther (1972) additionally examined the reliability of his scale by investigating 13 classrooms and by obtaining principals' perceptions of rate of adoption, based upon principals' familiarity with teachers' behavior in social studies lessons and units. Crowther (1972) found, after interviews with teachers and pairs of students, that the principals' ratings did not correspond with the student and teacher perceptions. In light of the other measures, he found this discrepancy to call into question the value of relying on principals' knowledge of degree of implementation.

In a Principal-Teacher Interaction (PTI) Study by Hord and Huling-Austin (1986) at the Research and Development Center for Teacher Education at the University of Texas at Austin, interventions in curriculum implementation, made by nine elementary principals and other facilitators involved with teachers in curriculum implementation, were examined. The key research questions of the study were concerned with what principals and others do in the process of facilitating change and what effects their interventions have on the implementation of new curricula at the classroom level. They conclude that the principal is not the "sole" facilitator. In each school in the study, one or two additional persons played a major role in supplying implementation interventions. These persons include: assistant principals, school-based resource teachers, teacher specialists, district level curriculum coordinators and consultants who functioned as second change facilitators. They further conclude that the source of leadership in school improvement is a shared one involving persons with a variety of roles and functions. Their data found that a large number of principals focused on developing supportive and organizational arrangements (41%); 3% involved training, 16% consultation and

reinforcement and 28% monitoring. Of great significance is that most of the second change facilitators concentrated less on the organizational activities (34%) and more than principals on training (6%), on activities related to consultation and reinforcement (24%), and on monitoring (30%) (Hord, Hall, & Steigelbauer, 1983).

In a National Defense Network (NDN) fidelity study entitled; *Dissemination Efforts Supporting School Improvement (DESSI)* efforts were made to identify successful locally developed school programs for replication. The NDN used a modified research and development model in which teachers and practicing educators were the experts. The developers of the curriculum products were no longer outside of the organization, staff also became responsible for training and monitoring the curriculum project implementation. Amid other results, this study concluded that leadership involved more than the support of the principal. "No single role or type of assistance is sufficient to bring about successful implementation of a new curriculum/program." (Parish and Aguila, 1983, p. 34).

CHAPTER III

METHODOLOGY

This study was designed to determine whether significant differences exist within the curriculum monitoring practices of K-6 public school elementary principals in New Jersey. Existing research regarding curriculum monitoring has been extremely limited and identification of the actual practices used by principals to monitor curriculum implementation has been lacking. Hess and Buckholdt (1974) looked at the degree of implementation of a Language and Thinking program for primary learners, however, this study excluded involvement of school principals. Crowther (1972), examined the degree of implementation of an elementary social studies curriculum, again limiting the involvement of the school principal. Crowther (1972) did find that when involved, the principals' rating of the degree of implementation did not correspond with the perceptions of students and teachers involved in the study thus concluding that the principals' knowledge of degree of implementation was questionable.

This chapter comes face to face with a research design to learn about curriculum monitoring practices directly from principals, the instructional and curriculum leaders in their schools. The following research elements will be addressed: the sampling design, the survey instrument construction, the subjects, the procedures, the data collection and analysis, the study correspondence and the statistical techniques used.

Sampling Design

The use of observation in examining curriculum monitoring practices of elementary principals represents the most rigorous measurement and data collection methodology with high inter-rater reliability. However, research on the impact of observation on the behaviors of subjects is not clear. The presence of an observer may

impact the quality of performance and have other negative consequences. Observation methods may be limited to the mechanical use of an implementation and not adequately address all aspects of implementation. Finally, the use of observation may be rather costly and unfeasible if the sample population is large. The focused interview allows for the collection of valuable data that can be content analyzed while allowing for more open-ended opportunities. However, the scope of this proposed curriculum monitoring study makes interviewing as a data collection methodology very impractical. Content analysis in assessing existing formal documents and teacher lesson plans allows for a more thorough assessment than questionnaires, but is again very time-consuming and costly. One great advantage of this methodology however, includes the ability to examine non-behavioral elements.

To achieve the purposes of this study, having reviewed multiple data gathering methods, surveys are identified as having the greatest potential for reaching the largest number of sample users. In determining the use of the survey in this sampling design, it was necessary to weigh the broader purpose of the study against the limitations of the survey. The ambitious nature of seeking feedback from all K-6 public elementary principals in New Jersey requires a research design that provides for a high return rate and feasible data collection methods. In making this decision, some concessions had to be made. As a result, the importance of these findings reside not so much in their inter-rater reliability, but rather in their contribution to a theory of how principals monitor the critical educative component of delivering the intended curriculum objectives of New Jersey school districts. Given the lack of available data regarding curriculum monitoring practices of elementary principals, this initial study seeks to gather information from as

many respondents as possible regarding actual practices. Acknowledging that surveys do demonstrate a discrepancy between what is reported and what is actually implemented, the data gathered should provide a baseline for future efforts.

Construction of the Principal Curriculum Monitoring Survey (PCMS)

The PCMS consists of three parts: (a.) a section on background information, (b.) a section on curriculum implementation elements, and (c.) a section that requests respondents to rank the five perceived most important curriculum monitoring elements. The items in each section were developed by the researcher after a thorough review of the literature, consultation with experts in the field, an examination of existing surveys, a review by a jury of four experts in the curriculum field, and a principal pilot study. In the development of the survey instrument an effort was made to avoid ambiguity in the phrasing of each survey question, wording was straightforward and appropriate to the population of principals being surveyed, and multipurpose questions were excluded. Dr. Elaine Walker, a statistician in the Department of Administration and Supervision at Seton Hall University, reviewed the survey instrument for construction validity making minor recommendations, which were incorporated into a revision of the final survey instrument.

The section on general background information is composed of four open-ended or multiple-choice questions related to respondent biographical information, which in no way reflect the identity of the respondent.

The section on curriculum monitoring elements contains 26 Likert-type items that comprise eight subcategories, the sum of whose scores represents a measure of curriculum implementation monitoring. Additional data is obtained through a Oneway

Analysis of Variance (ANOVA) calculated for each of the five independent variables; Gender, Total Years of Experience in the Principalship, District Factor Group, Highest Educational Degree of Respondents, and Number of Students Enrolled in School. The eight subcategories were designed to examine principal curriculum monitoring practices in different areas: District Curriculum, Lesson Plans, Lesson Observation, District Testing Program, Teacher Supervision, Curriculum Implementation, Staff Development and the Principal's Role.

The third section of the PCMS is a single question that allows the respondents to identify and rank order what they perceive to be the five most important curriculum monitoring elements for a principal to engage in selected from the 26 survey questions.

The first draft of the PCMS, consisting of three sections and 25 questions, was distributed to four curriculum experts (July 12, 2000); Dr. Willa Spicer, Dr. Marie Simone, Dr. Chuck M. Achilles and Dr. Fenwick English. This preliminary review was designed to evaluate the suitability of the language used, the appropriateness of the subcategories and the thoroughness of the survey content. Suggestions made by these four experts were incorporated into a new revision of the instrument.

The second draft of the PCMS, consisting of three sections and 26 questions, was administered to four public elementary school principals from the Somerset County Elementary Principals Association on October 18, 2000 on a voluntary basis at a meeting established for this purpose. The PCMS was distributed by the researcher. This administration was timed in order to estimate whether most respondents could complete the survey within 15 minutes. The four principals who participated in the PCMS pilot administration represented various years of experience in the principalship, different

levels of educational achievement, different genders, and schools of different district factor groups. The surveys were completed with no substantive issues. One clarifying question that was built into the final survey revision. This revision consisting of 3 sections and 26 questions was prepared for distribution to the remaining identified target population of all elementary principals in New Jersey (1238).

The development of the survey was heavily dependent on the work of John Hill (1989) the role of the principal as curriculum supervisor and John Goodlad's (1979) six levels of curriculum which identify the different activities that principals can perform at each level.

Subjects

All of the public elementary, K-6 principals in New Jersey (1242) were selected as subjects of this research study. Elementary principals were specifically selected as the target population because elementary principals are generally the sole administrators in the building at this level. They are the individuals most likely to be concerned with classroom instruction, teacher supervision and student performance. In contrast, middle and high school organizational configurations tend to have vice-principals and department chairpersons or subject matter supervisors charged with overseeing curriculum and sometimes teacher evaluation. This sample population represents different genders, different socio-economic regions; rural, urban and suburban; varying levels of years of experience in the principalship; different levels of educational backgrounds of principals; and schools of varying student population sizes. This sample also includes principals of different genders and different levels of educational backgrounds, all variables that were being examined for curriculum monitoring practices.

The K-6 public elementary school principalship in New Jersey totals approximately 1,242 professionals. The listing of New Jersey public elementary school principals was obtained from the New Jersey Department of Education School Directory 1999-2000.

Procedures

The New Jersey Department of Education School Directory 1999-2000 was purchased through the Publications Office, P.O. Box 500, Trenton, New Jersey. The cost of this public publication was \$10.00. The directory was reviewed identifying public elementary school configurations of K-6. Telephone calls were made to all New Jersey local boards of education to verify the names of the current K-6 principals in the identified schools as well as the correct school mailing address. Telephone calls were made to verify directory listing information in an effort to yield a survey response rate of approximately 50-60%.

A personal introductory letter was prepared informing all potential respondents of the voluntary and confidential nature of the study. A postage paid addressed postcard was also provided for respondents seeking research results upon completion of the study.

All respondent survey data was stored in a locked file cabinet in the researcher's home office. The master list was maintained separately from the respondent survey data.

Data Collection and Analysis

Each of the 1,242 principals received a set of materials through the mail posted December 1, 2000. Each set included: a personal introductory letter, one five page Principal's Curriculum Monitoring Survey (PCMS), a postage-paid return addressed envelope, a survey follow-up postage paid self-addressed postcard and a teabag for

respondent enjoyment. A copy of the PCMS used in the study is presented in Appendix A. The principal of each of the 1,242 schools was informed of the voluntary nature of their participation in the mail-based study, and requested to complete his/her survey and return it by December 18, 2000. All return envelopes were coded to determine follow-up on un-returned surveys, and to allow for cross-checking of DFG data if unknown by the respondent.

A follow-up survey was mailed on January 5, 2001 to 809 non-responsive K-6 public elementary school principals. This second mailing consisted of a personal introductory letter, the 5-page Principal Curriculum Monitoring Survey instrument and self-addressed postage-paid envelope, requesting a survey return date of January 20, 2001. All return envelopes were again coded to allow for cross-checking of DFG data if unknown by the respondent.

Correspondence

All letters of correspondence used in this study have been provided in Appendix B. Principals seeking study follow-up data are advised to mail the addressed, stamped, postcard provided for this purpose and included in the original mailing to the researcher. A postcard separate from the survey document maintains the anonymity of the respondent. Results of the survey will be sent to respondents requesting a copy within 90 days of dissertation completion.

Statistical Techniques

In order to test Hypothesis 1, that there is no difference between the curriculum monitoring processes of male and female elementary principals, ANOVA was selected based upon the suitability of the approach to compare differences between independent

population means. The researcher used this approach to compare the differences between male and female composite scores, as well as the differences between means for each of the 26 questions of the survey.

In order to test Hypothesis 2, that there is no difference between the curriculum monitoring practices of elementary school principals with varying years of experience; Hypothesis 3, that there is no difference between the curriculum monitoring practices of principals from schools with varying socio-economic status (District Factor Groups); Hypothesis 4, that there is no difference between the curriculum monitoring practices of elementary principals with varying levels of education; and Hypothesis 5, that there is no difference between the curriculum monitoring practices of elementary principals with varying school population sizes an ANOVA was used to examine the differences between the composite score group means of the various groups along with the differences between means for each of the 26 questions of the survey.

In order to respond to Question 1, what do principals consider the five most important administrative curriculum monitoring practices, responses were sorted to identify the five most frequently identified practices by respondents and a best estimate of percent of principals who consider the item important.

The actual results and findings using this research methodology are enumerated in the next chapter.

CHAPTER IV

RESULTS AND FINDINGS

The purpose of this research study was to determine whether significant differences exist within the curriculum monitoring practices of K-6 public elementary school principals in New Jersey. This chapter will present a detailed presentation of the data obtained from the survey research and a complete analysis of the results to respond to this research question. The data will be presented under nine subsections: response rate, background information, gender, years of experience, district factor group, highest degree earned, size of school, qualitative data and a data reliability analysis. Extensive use of the Statistical Package for Social Sciences (SPSS) was made to thoroughly assess this data.

Response Rate

The survey was piloted on October 18, 2000 with four members of the Somerset County Elementary Principals Association out of an anticipated population of 1,242 K-6 public elementary school principals from the entire state of New Jersey. On December 1, 2000, the remaining 1,238 surveys were mailed. Each mailing consisted of a personal introductory letter, the five page Principal Curriculum Monitoring Survey (PCMS) instrument and self-addressed postage-paid envelope (requesting a survey return date of December 18, 2000), a survey follow-up postage-paid self-addressed postcard and a teabag for respondent enjoyment. From December 1 to December 18, 2000, three surveys were returned with "Not Deliverable As Addressed," annotations. These returned surveys were checked again for correct address information and re-mailed.

The researcher allowed for both holiday mail delays and principal vacations and by January 5, 2001 had received a total of 433 completed surveys. This response rate is calculated at 34.98% (433 of 1,238). According to Rea and Parker (1997), this response rate gives the this research a 95% ($\pm 4\%$) level of confidence that the 433 respondents statistically represent the entire population of 1, 242. An extrapolation of Rea and Parker's survey size recommendations was accomplished in attaining this percentage (see Rea & Parker, 1997, Table 7.2, p. 121).

A follow-up survey was mailed on January 5, 2001 to 809 non-responsive K-6 public elementary school principals. The follow-up mailing consisted of a personal introductory letter, the five page PCMS instrument and a self-addressed postage-paid envelope, requesting a survey return date of January 20, 2001. There were no survey returns made by the post office resulting from this follow-up mailing.

The researcher allowed for a busy January school start-up and by January 31, 2001 had received an additional 124 completed surveys; a total of 557 completed surveys. This response rate is calculated at 44.84% (557 of 1242). According to Rea and Parker (1997) this response rate gives this research a 99% ($\pm 4\%$) level of confidence that the 557 respondents statistically represent the entire population of 1, 242. An extrapolation of Rea and Parker's survey size recommendations was accomplished in attaining this percentage (see Rea & Parker, 1997, Table 7.2, p. 121).

Responses to the survey instrument will be analyzed throughout this chapter. The first subcategory to be discussed is background information.

Background Information

Respondents were requested to complete a three-part curriculum monitoring survey. The first section of the survey consisted of a section on background information made up of five open-ended or multiple choice biographical questions. The first question was to identify their gender. From a total of 557 respondents, 298 or 53.5% indicated they were males. The remaining 259 or 46.5% of the respondents indicated they were female. These statistics indicate that although there were 39 (7%) more male respondents than female respondents the difference in male/female response were not found to be significant. Table 1 displays the associated frequency statistics for gender.

Table 1

Associated Frequency Statistics for Gender

		Gender			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	298	24.0	53.5	53.5
	Female	259	20.9	46.5	100.0
	Total	557	44.8	100.0	
Missing System		685	55.2		
Total		1242	100.0		

The second question was to identify the respondents' total years of experience in the principalship (including the current school year). Respondent years of experience in the principalship ranged from 1 to 38 years. These responses were re-coded for data analysis into the following four categories: 1 to 5 years; 1, 6 to 10 years; 2, 11 to 15 years; 3, 16 or more years; 4.

From a total of 557 completed survey responses, 555 (99.6%) respondents completed this background question. Approximately 31.9% (177 of 555) of the respondents indicated they had accrued 1 – 5 years in the principalship. First year principals were coded as 1 although they had not yet completed the first year. Approximately 24% (134 of 555) of the respondents indicated they had accrued 6-10 years in the principalship, 22.7% (126 of 555) of the respondents indicated they had accrued 11-15 years in the principalship. The remaining 21.3% (118 of 555) indicated they had accrued 16 or more years in the principalship. These statistics indicate that the greatest number of principals completing the PCMS spent between 1 – 5 years as principal. The second largest group of respondents spent between 6-10 years as principal. The smallest percentage (21.3) is attributed to the principals in this study with the greatest number of years (16+) on the job. Table 2 displays the associated frequency statistics for years in the principalship.

Table 2

Associated Frequency Statistics for Total Years of Experience in the Principalship

Total Years of Experience in the Principalship

	Frequency	Percent	Valid Percent	Cumulative Percent
1-5 Years	177	14.3	31.9	31.9
6-10 Years	134	10.8	24.1	56.0
Valid 11-15 Years	126	10.1	22.7	78.7
16 or More Years	118	9.5	21.3	100.0
Total	555	44.7	100.0	
Missing System	687	55.3		
Total	1242	100.0		

The third question was to identify the respondents' district factor group (DFG). The DFG is a system of identifying school districts by the socioeconomic status of their communities. Socioeconomic status is determined by the social and economical characteristics of the local population. The DFG is revised every 10 years using data from the Census of Population. The 1990 DFG groupings were the only available DFG groupings for use in this research study and are based on the following 7 indicators:

- The percent of persons over 25 years who have no high school diploma,
- The percent of persons over 25 years who have attended college,
- The median income of families,
- A measure of the prestige of the occupations of those over 16 years of age,
- The percentage of those in the labor force who are unemployed,
- The percentage of persons whose family income is below the poverty level,
- The population density (persons per square mile).

(New Jersey Department of Education, 1993, p. 1-2)

The 1990 district factor groups (DFG) are: A, B, CD, DE, FG, GH, I, J. The DFG 's were re-coded for data analysis in this study into the following 8 categories: A; 1, B; 2, CD; 3, DE; 4, FG; 5, GH; 6, I; 7, and J; 8.

Approximately 39% (219 of 557) of the completed survey responses were returned with this section blank, noted "unknown" or "DFG". Survey identification numbers placed on the exterior of the postage-paid addressed return envelope, which were explained to the participants in the personal letter of introduction, allowed the researcher to identify the respondents DFG utilizing the New Jersey Department of

Education District Factor Groupings based on 1990 Census by county. Approximately .7% (4 of 557) completed and returned the survey whiting out or tearing off the identification number from the return envelope. Consequently .7% (4 of 557) surveys were missing this data.

From a total of 553 respondents completing this background survey question, the researcher calculated the following results employing a combination of respondent responses and researcher cross-checking: 50 or 9% of the principals participating in the study responded that their DFG was coded A, 46 or 8.3% of the principals responded that their DFG was coded B, 60 or 10.8% of the principals responded that their DFG was coded CD, 82 or 14.8% of the principals responded that their DFG was coded DE, 85 or 15.4% of the principals responded that their DFG was coded FG, 92 or 16.6% of the principals responded that their DFG was coded GH, 114 or 20.6% of the principals responded that their DFG was coded I and 24 or 4.3% of the principals responded that their DFG was coded J.

District Factor Group I had the highest percentage, 20.6% of K-6 public elementary school principals in New Jersey participating in the study. District Factor Group GH had the second highest percentage, 16.6 % of K-6 public elementary school principals in New Jersey participating in the study. District Factor Group FG had the third highest percentage, 15.4% and DE with the fourth highest percentage, 14.8%. These statistics indicate that 67.4% of the data collected in this study represents districts of medium to high socio-economic status. Table 3 displays the associated frequency statistics for District Factor Groups.

Table 3

Associated Frequency Statistics for your District Factor Group (DFG)

Your District Factor Group (DFG)

	Frequency	Percent	Valid Percent	Cumulative Percent
A	50	4.0	9.0	9.0
B	46	3.7	8.3	17.4
CD	60	4.8	10.8	28.2
DE	82	6.6	14.8	43.0
Valid FG	85	6.8	15.4	58.4
GH	92	7.4	16.6	75.0
I	114	9.2	20.6	95.7
J	24	1.9	4.3	100.0
Total	553	44.5	100.0	
Missing System	689	55.5		
Total	1242	100.0		

The fourth question was to identify the respondents' highest educational degree (HED). This information was re-coded for data analysis in this study into the following 3 categories; Masters, Masters + 30 and Educational Specialist, and Doctorate.

From a total of 557, 556 or 99.8% of respondents completed this question. From the 556 respondents, 44% (245 of 556) indicated their HED was at the Master's level. Approximately 33.8% (188 of 556) responded their HED was at the Masters + 30 or Educational Specialist level. Principals indicating that they had two Master's degrees were also coded into this category. The remaining 123 respondents or 22.1% (123 of

556) indicated that their highest educational degree was a doctorate. These statistics indicate that 77.7% of the data gathered for this PCM study was obtained from principals earning Masters or Masters + 30 degree levels. Table 4 displays the associated frequencies for highest degree earned.

Table 4.

Associated Frequency Statistics for Your Highest Educational Degree

		Your Highest Educational Degree			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Master	245	19.7	44.1	44.1
	Specialist or Master + 30	188	15.1	33.8	77.9
	Doctorate	123	9.9	22.1	100.0
	Total	556	44.8	100.0	
Missing	System	686	55.2		
Total		1242	100.0		

The fifth question was to identify the number of students enrolled in respondents' school. This information was also re-coded for data analysis into the following 4 categories; 0 - 300 students, 301 - 400 students, 401 - 500 students and 501 + students.

From a total of 557, 554 or 99.4% of respondents completed this question. Approximately 23.1% (128 of 554) of the respondents had school sizes of 0-300 students. Approximately 23.3% (129 of 554) of the respondents had school sizes of 301 - 400 students. Approximately 22.4% (124 of 554) of the respondents had school sizes 401-

500 students. The remaining 31.2% (173 of 554) of the respondents had school sizes of 501 or more students. These statistics indicate that 68.8% of the respondents had school sizes of less than 500 students while 31.2% of the respondents had school sizes greater than 500 students. Table 5 displays the associated frequencies for number of students enrolled in your school.

Table 5.

Associated Frequency Statistics for Size of School

Size of School				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0-300 Students	128	10.3	23.1	23.1
301-400 Students	129	10.4	23.3	46.4
401-500 Students	124	10.0	22.4	68.8
501 or More Students	173	13.9	31.2	100.0
Total	554	44.6	100.0	
Missing System	688	55.4		
Total	1242	100.0		

Gender

To analyze whether or not differences exist between the curriculum monitoring practices of male and female elementary principals, each of the 26 survey questions in part two was analyzed individually by gender and as a respondent composite survey score by gender. The PCMS questions asked respondents to identify the extent to which they employed each curriculum monitoring practice using the following Likert scale: 1- Never, 2 – Rarely, 3 – Sometimes, 4 – Often and 5 – Always.

A oneway ANOVA was calculated on the PCMS composite survey scores for both male and female principal groups respectively. These results, when male and female group means were compared, produced a significance level of .094. This result is greater than .05 and therefore not of great significance, but certainly worthy of further study. Table 6 portrays the associated composite survey score ANOVA statistics for gender.

Table 6

ANOVA – Composite Survey Statistics by Gender

ANOVA - GENDER (Total)

TOTAL

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	486.235	1	486.235	2.816	.094
Within Groups	88412.0	512	172.680		
Total	88898.2	513			

The researcher also performed a Oneway analysis of variance on each of the 26 questions examining specific curriculum monitoring practices finding that 10 of the 26 questions (38%) yielded significant results on gender differences. This analysis compared the mean score for the male principals with the mean score for the female principals at the .05 level of significance. Table 7 portrays the associated ANOVA statistics for the 26 survey questions by gender.

Table 7

ANOVA Statistics for Gender

ANOVA - GENDER (Questions 1-13)

		Sum of Squares	df	Mean Square	F	Sig.
Q1	Between Groups	1.116	1	1.116	1.315	.252
	Within Groups	466.882	550	.849		
	Total	467.998	551			
Q2	Between Groups	.326	1	.326	.216	.643
	Within Groups	835.559	553	1.511		
	Total	835.885	554			
Q3	Between Groups	.804	1	.804	.536	.464
	Within Groups	830.684	554	1.499		
	Total	831.487	555			
Q4	Between Groups	8.764	1	8.764	7.768	.005
	Within Groups	625.027	554	1.128		
	Total	633.791	555			
Q5	Between Groups	11.982	1	11.982	9.653	.002
	Within Groups	687.687	554	1.241		
	Total	699.669	555			
Q6	Between Groups	11.637	1	11.637	15.558	.000
	Within Groups	414.384	554	.748		
	Total	426.022	555			
Q7	Between Groups	2.517	1	2.517	4.863	.028
	Within Groups	286.678	554	.517		
	Total	289.194	555			
Q8	Between Groups	4.978	1	4.978	7.588	.006
	Within Groups	362.128	552	.656		
	Total	367.106	553			
Q9	Between Groups	1.284	1	1.284	2.233	.136
	Within Groups	317.898	553	.575		
	Total	319.182	554			
Q10	Between Groups	13.414	1	13.414	16.420	.000
	Within Groups	452.577	554	.817		
	Total	465.991	555			
Q11	Between Groups	5.821	1	5.821	12.143	.001
	Within Groups	265.566	554	.479		
	Total	271.387	555			
Q12	Between Groups	1.807	1	1.807	1.042	.308
	Within Groups	961.220	554	1.735		
	Total	963.027	555			
Q13	Between Groups	1.316	1	1.316	.834	.362
	Within Groups	874.511	554	1.579		
	Total	875.827	555			

(Table continues)

Table 7

ANOVA Statistics for Gender

ANOVA - GENDER (Questions 14-26)

		Sum of Squares	df	Mean Square	F	Sig.
Q14	Between Groups	4.601	1	4.601	6.480	.011
	Within Groups	393.320	554	.710		
	Total	397.921	555			-
Q15	Between Groups	1.440	1	1.440	1.112	.292
	Within Groups	711.836	550	1.294		
	Total	713.275	551			
Q16	Between Groups	5.252	1	5.252	7.766	.006
	Within Groups	374.654	554	.676		
	Total	379.906	555			
Q17	Between Groups	.752	1	.752	.617	.432
	Within Groups	674.306	554	1.217		
	Total	675.058	555			
Q18	Between Groups	.528	1	.528	.383	.536
	Within Groups	759.978	551	1.379		
	Total	760.506	552			
Q19	Between Groups	2.055E-02	1	2.055E-02	.015	.901
	Within Groups	733.895	552	1.330		
	Total	733.915	553			
Q20	Between Groups	.642	1	.642	.357	.551
	Within Groups	993.230	552	1.799		
	Total	993.872	553			
Q21	Between Groups	2.182	1	2.182	2.011	.157
	Within Groups	601.205	554	1.085		
	Total	603.387	555			
Q22	Between Groups	5.110E-04	1	5.110E-04	.000	.983
	Within Groups	589.048	552	1.067		
	Total	589.049	553			
Q23	Between Groups	3.883	1	3.883	5.263	.022
	Within Groups	406.457	551	.738		
	Total	410.340	552			
Q24	Between Groups	9.042E-03	1	9.042E-03	.010	.919
	Within Groups	479.439	545	.880		
	Total	479.448	546			
Q25	Between Groups	9.103E-02	1	9.103E-02	.063	.803
	Within Groups	790.958	544	1.454		
	Total	791.049	545			
Q26	Between Groups	1.291	1	1.291	1.588	.208
	Within Groups	448.889	552	.813		
	Total	450.181	553			

Ten questions had means that were significantly different from one another and these questions, along with their mean scores are listed in Table 8.

Table 8

Mean Scores for Significant Gender Questions

<u>Question and Number</u>	<u>Male Average</u>	<u>Female Average</u>	<u>Female-Male Mean Diff</u>
Q4 You review teacher supply and material requisition forms for alignment with district curriculum.	4.07	4.36	.29
Q5 You cross-reference lesson plans monthly to verify adherence to district curriculum.	3.80	4.09	.29
Q6 You review lesson plan content to determine whether or not district curriculum goals and objectives are reflected.	4.18	4.46	.28
Q7 You observe instructional lessons checking for documentation of the teacher's written lesson plan.	4.52	4.66	.14
Q8 You observe instructional lessons checking for documentation of district goal and objective implementation.	4.27	4.46	.19
Q10 You speak with students to assess their level of understanding of lesson objectives.	3.08	3.40	.32
Q11 You look for use of instructional materials that support district goals and objectives.	4.25	4.45	.20
Q14 You regularly refer to the district curriculum goals and objectives when supervising teachers.	3.98	4.16	.18
Q16 You use lesson observations to determine if curriculum implementation can be improved.	4.06	4.25	.19
Q23 You make certain that teachers are trained in new district curriculum content	4.34	4.51	.17

Each of the ten gender questions identified as significant will be analyzed in this section.

Survey Question 4) You review teacher supply and material requisition forms for alignment with district curriculum.

Overall, 56% of the females always review supply and material requisition forms, 31% often engage in review, 6% sometimes engage in review, 3% rarely engage in review and 4% never review supply and requisition forms. The males indicated that 46% always review supply and requisition forms, 31% often engage in review, 13% sometimes engage in review, 5.4% rarely engage in review and 4.7% never review supply and requisition forms. While both male and female principal respondents indicated that

they often review teacher supply and material requisition forms for alignment with district curriculum, female principals had a mean score that was .29 higher than the male respondents did. The calculated mean difference for male and female principals is portrayed in Table 8.

Survey Question 5) You cross-reference lesson plans monthly to verify adherence to district curriculum.

Overall, 46% of the females cross-reference lesson plans on a monthly basis, 29% often cross reference plans, 17% sometimes cross reference plans, 4% rarely cross reference plans and 4% never cross reference plans. The males indicated that 34% always cross-reference lesson plans on a monthly basis, 30% often cross-reference plans, 22% sometimes cross-reference plans, 9% rarely cross-reference plans and 5% never cross-reference lesson plans. While both male and female principal respondents indicated that they sometimes and often cross-reference lesson plans monthly to verify adherence to district curriculum, again, female principals had a mean score that was .29 higher than male principal respondents did. The calculated mean difference for male and female principals is portrayed in Table 8.

Survey Question 6) You review lesson plan content to determine whether or not district goals and objectives are reflected.

Overall, 60% of the females always review lesson plan content to determine whether or not district curriculum goals and objectives are reflected, 29% often review lesson plans, 8.5% sometimes review lesson plans, 1.5% rarely review lesson plans and 1% never review lesson plan content. The males indicated that 44% always review lesson plan content to determine whether or not district curriculum goals and objectives

are reflected, 36% often review lesson plans, 14% sometimes review lesson plans, 4% rarely review lesson plans and 2% never review lesson plan content. While both male and female principal respondents indicated that they often review lesson plan content to determine whether or not district curriculum goals and objectives are reflected, female principals had a mean score that was .28 higher than male principal respondents did. The calculated mean difference for male and female principals is portrayed in Table 8.

Survey Question 7) You observe instructional lessons checking for implementation of the teacher's written lesson plan.

Overall, 71% of the females always observe instructional lessons checking for implementation of the teacher's written lesson plan, 24% often check, 3% sometimes check, 1% rarely check and .4% never check for implementation of the lesson plan. The males indicated that 65% always observe instructional lessons checking for implementation of the teacher's written lesson plan, 26% often check, 6% sometimes check, 2% rarely check, and 1% never check for implementation of the lesson plan.

While both male and female principal respondents indicated that they often observe instructional lessons checking for implementation of the teacher's written lesson plan, female principals had a mean score .14 higher than male principal respondents did. The calculated mean difference for male and female principals is portrayed in Table 8.

Survey Question 8) You observe instructional lessons checking for documentation of district goal and objective implementation.

Overall, 59% of the females always observe instructional lessons checking for documentation of district goal and objective implementation, 31% often check, 8.9% sometimes check, .8% rarely check, and .4% never check for district goal and objective

implementation. The males indicated that 47% always observe instructional lessons checking for documentation of district goal and objective implementation, 37% often check, 13% sometimes check, 1% rarely check, and 1% never check for documentation of district goal and objective implementation. While both male and female principal respondents indicated that they often observe instructional lessons checking for documentation of district goal and objective implementation, female principals had a mean score .19 higher than male principal respondents did. The calculated mean difference for male and female principals is portrayed in Table 8.

Survey Question 10) You speak with students to assess their level of understanding of lesson objectives.

Overall, 10% of the females always speak with students to assess their level of understanding of lesson objectives, 34% often speak with students, 41% sometimes speak with students, 13% rarely speak with students, and 1% never speak with students to assess understanding of lesson objective. The males indicated that 4.7% always speak with students to assess their level of understanding of lesson objectives, 28% often speak with students, 44% sometimes speak with students and 18% rarely speak with students and 5% never speak with students to assess their level of understanding of lesson objectives. While both male and female principal respondents indicated that they sometimes speak with students to assess their level of understanding of lesson objectives, female principals had a mean score .32 higher than male principal respondents did. The calculated mean difference for male and female principals is portrayed in Table 8.

Survey Question 11) You look for use of instructional materials that support district goals and objectives.

Overall, 53% of the females always look for use of instructional materials that support district goals and objectives, 40% often look, 7% sometimes look, .4% rarely look, and 0% never look for use of instructional materials that support district goals and objectives. The males indicated that 40% always look for use of instructional materials that support district goals and objectives, 48% often look for use of instructional materials, 11% sometimes look, .7% rarely look, and .7% never look for use of instructional materials that support district goals and objectives. While both male and female principal respondents indicated that they often speak with students to assess their level of understanding of lesson objectives, female principals had a mean score .20 higher than male principal respondents did. The calculated mean difference for male and female principals is portrayed in Table 8.

Survey Question 14) You regularly refer to the district curriculum goals and objectives when supervising teachers.

Overall, 38% of the females always refer to the district curriculum goals and objectives when supervising teachers, 42% often refer to the curriculum, 17% sometimes refer to the curriculum, 3% rarely refer to the curriculum, and 0% never refer to the district curriculum goals and objectives when supervising teachers. The males indicated that 30% always refer to the district curriculum goals and objectives when supervising teachers, 45% often refer to the curriculum, 19% sometimes refer to the curriculum, 5% rarely refer to the curriculum, and .7% never refer to the district curriculum goals and objectives when supervising teachers. While both male and female principal respondents indicated that they often or always refer to the district curriculum goals and objectives when supervising teachers, female principals had a mean score that was .18 higher than

male principal respondents did. The calculated mean difference for male and female principals is portrayed in Table 8.

Survey Question 16) You use lesson observations to determine if curriculum implementation can be improved.

Overall, 42% of the females always use lesson observations to determine if curriculum implementation can be improved, 44% often use lesson observations, 12% sometimes use lesson observations, 2% rarely use lesson observations, and 0% never use lesson observations to determine if curriculum implementation can be improved. The males indicated that 35% always use lesson observations to determine if curriculum implementation can be improved, 41% often use lesson observations, 19% sometimes often use lesson observations, 4% rarely use lesson observations, and .7% never use lesson observations to determine if curriculum implementation can be improved. While both male and female principal respondents indicated that they often use lesson observations to determine if curriculum implementation can be improved, female principals had a mean score that was .19 higher than male principal respondents did. The calculated mean difference for male and female principals is portrayed in Table 8.

Survey Question 23) You make certain that teachers are trained in new district curriculum.

Overall, 63% of the females always make certain that teachers are trained in new district curriculum, 29% often make certain, 5% sometimes make certain, 2% rarely make certain, and 1% never makes certain that teachers are trained in district curriculum. The males indicated that 55% always make certain that teachers are trained in new district curriculum, 30% often make certain, 9% sometimes make certain, 2% rarely

make certain, and 3% never make certain that teachers are trained in new district curriculum. While both male and female principal respondents indicated that they often make certain that teachers are trained in new district curriculum, female principals had a mean score that was .17 higher than male principal respondents did. The calculated mean difference for male and female principals is portrayed in Table 8.

The largest mean difference in the ten gender questions found to be significant regarding the curriculum monitoring practices for gender was observed in Question 10; speaking with students to assess their level of understanding of lesson objectives (.32). Question 4; reviewing teacher supply and material requisition forms for alignment with the district curriculum, Question 5; cross-referencing lesson plans to verify adherence to district curriculum and Question 6; reviewing lesson plan content to determine whether or not district curriculum goals and objectives are reflected closely followed Question 10 with mean differences of .29, .29 and .28 respectively. The question with the lowest mean difference between male and female principal respondents was Question 7; checking for implementation of the teacher's written lesson plan. In this question there was only a .14 difference. It should also be noted that in 16 of the survey's 26 questions there was no significant difference between the curriculum monitoring practices of male and female principals.

In the ten questions where there was a significant difference between male and female principals with respect to curriculum monitoring practices, the female principals scored significantly higher than their male counterparts on all questions. In fact, for these ten questions the female principal scored on the average .23 points higher than the male principals.

In summary, the F ratio for the composite survey scores of male and female principals was 2.816 at the .094 level of significance. Therefore, Null Hypothesis 1: There is no difference between the curriculum monitoring practices of male and female elementary principals is accepted. However, one may also conclude that although the Oneway analysis of variance for gender was not found to be significant at the .05 level of significance, differences found in 10 of the 26 curriculum monitoring survey questions of males and female principals were found to be significant in this research study.

Years of Experience in the Principalship

To analyze whether or not differences exist between the curriculum monitoring practices of K-6 principals in public elementary schools with different years of experience in the principalship, a Oneway ANOVA was calculated on the PCMS composite scores for the four re-coded groupings; (1) 1-5 years, (2) 6-10 years, (3) 11-15 years, and (4) 16 or more years. These results, when means for years of experience were compared, produced a significance level of .657. This result is greater than .05 and therefore not of great significance but certainly worthy of further study. The related ANOVA composite statistics are available in table 9.

Table 9

ANOVA-Composite Statistics for Years of Experience in the Principalship

ANOVA - YEARS OF EXPERIENCE (Total)

TOTAL

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	278.339	3	92.780	.537	.657
Within Groups	87728.0	508	172.693		
Total	88006.3	511			

A Oneway analysis of variance was also performed on each of the 26 survey questions cited. This analysis compared the mean scores for each of the four re-coded groupings with one another for each question finding that 2 of the 26 questions (8%) yielded significant results on years in the principalship differences at the .05 level of significance and 1 question was significant at the .093 level of significance. The related ANOVA statistics for each of the 26 questions are listed in table 10.

Table 10

ANOVA Statistics for Years of Experience in the Principalship

ANOVA - YEARS OF EXPERIENCE (Questions 1-13)

		Sum of Squares	df	Mean Square	F	Sig.
Q1	Between Groups	2.823	3	.941	1.105	.346
	Within Groups	464.829	546	.851		
	Total	467.653	549			
Q2	Between Groups	2.549	3	.850	.562	.640
	Within Groups	829.386	549	1.511		
	Total	831.935	552			
Q3	Between Groups	1.577	3	.526	.350	.789
	Within Groups	826.107	550	1.502		
	Total	827.684	553			
Q4	Between Groups	7.321	3	2.440	2.147	.093
	Within Groups	625.013	550	1.136		
	Total	632.334	553			
Q5	Between Groups	1.896	3	.632	.505	.679
	Within Groups	688.017	550	1.251		
	Total	689.913	553			
Q6	Between Groups	6.470	3	2.157	2.842	.037
	Within Groups	417.364	550	.759		
	Total	423.834	553			
Q7	Between Groups	2.366	3	.789	1.514	.210
	Within Groups	286.479	550	.521		
	Total	288.845	553			
Q8	Between Groups	2.699	3	.900	1.356	.256
	Within Groups	363.647	548	.664		
	Total	366.346	551			
Q9	Between Groups	1.655	3	.552	.959	.412
	Within Groups	315.908	549	.575		
	Total	317.562	552			
Q10	Between Groups	3.794	3	1.265	1.510	.211
	Within Groups	460.632	550	.838		
	Total	464.426	553			
Q11	Between Groups	.505	3	.168	.342	.795
	Within Groups	270.644	550	.492		
	Total	271.150	553			
Q12	Between Groups	15.620	3	5.207	3.045	.028
	Within Groups	940.546	550	1.710		
	Total	956.166	553			
Q13	Between Groups	2.737	3	.912	.575	.632
	Within Groups	872.729	550	1.587		
	Total	875.466	553			

(Table continues)

Table 10

ANOVA Statistics for Years of Experience in the Principalship

ANOVA - YEARS OF EXPERIENCE (Questions 14-26)

		Sum of Squares	df	Mean Square	F	Sig.
Q14	Between Groups	1.178	3	.393	.547	.650
	Within Groups	394.736	550	.718		
	Total	395.913	553			
Q15	Between Groups	.817	3	.272	.209	.890
	Within Groups	710.967	546	1.302		
	Total	711.784	549			
Q16	Between Groups	.659	3	.220	.319	.812
	Within Groups	379.204	550	.689		
	Total	379.863	553			
Q17	Between Groups	.111	3	3.715E-02	.031	.993
	Within Groups	658.531	550	1.197		
	Total	658.643	553			
Q18	Between Groups	4.107	3	1.369	1.008	.389
	Within Groups	743.014	547	1.358		
	Total	747.122	550			
Q19	Between Groups	.449	3	.150	.113	.952
	Within Groups	724.674	548	1.322		
	Total	725.123	551			
Q20	Between Groups	8.049	3	2.683	1.498	.214
	Within Groups	981.630	548	1.791		
	Total	989.679	551			
Q21	Between Groups	1.077	3	.359	.330	.804
	Within Groups	598.881	550	1.089		
	Total	599.958	553			
Q22	Between Groups	3.980	3	1.327	1.244	.293
	Within Groups	584.454	548	1.067		
	Total	588.435	551			
Q23	Between Groups	2.934	3	.978	1.321	.267
	Within Groups	405.059	547	.741		
	Total	407.993	550			
Q24	Between Groups	2.453	3	.818	.954	.414
	Within Groups	463.830	541	.857		
	Total	466.283	544			
Q25	Between Groups	5.418	3	1.806	1.259	.288
	Within Groups	774.742	540	1.435		
	Total	780.160	543			
Q26	Between Groups	2.751	3	.917	1.129	.337
	Within Groups	445.075	548	.812		
	Total	447.826	551			

The significant questions and their corresponding means for each factor group are listed in table 11.

Table 11

Mean Scores for Significant Years of Experience Questions

Question Number	1-5	6-10	11-15	16 or more years
Q 4* You review teacher supply and material requisition forms for alignment with district curriculum.	4.27	4.23	4.25	<u>3.97</u>
Q 6 You review lesson plan content to determine whether or not district curriculum goals and objectives are reflected.	4.30	4.43	4.38	<u>4.12</u>
Q12 You play an active role in selecting the district testing materials.	<u>3.35</u>	3.67	3.75	3.68

High mean in group
 Low mean in group
 * Statistically significant at the .093 level

Both of the questions regarding years of experience in the principalship will be analyzed in this section.

Survey Question 6) You review lesson plan content to determine whether or not district curriculum goals and objectives are reflected.

Overall, 58% of respondents with 6-10 years of experience in the principalship responded always to reviewing lesson plans, 32% responded often, 6% responded sometimes, 2% responded rarely, and 2% responded never. Respondents with 6-10 years of experience had the highest mean score for this question (4.43). While 44% of respondents with 16 or more years in the principalship responded always to reviewing lesson plans, 33% responded often, 16% responded sometimes, 4% responded rarely, and 3% responded never. Respondents with 16 or more years in the principalship had the

lowest mean score (4.12). The calculated mean difference for years of experience is portrayed in Table 11.

Survey Question 12) You play an active role in selecting the district testing materials.

Overall, 38% of respondents with 11-15 years of experience in the principalship responded always to selecting district testing materials, 25% responded often, 18% responded sometimes, 10% responded rarely, and 8% responded never. Respondents with 11-15 years of experience in the principalship had the highest mean score for this question (3.75). While 30% of respondents with 1- 5 years of experience in the principalship responded always, 20% responded often, 20% responded sometimes, 16% responded rarely, and 14% responded never. Respondents with 1-5 years of experience had the lowest mean score for this question (3.35). The calculated mean difference for years of experience is portrayed in Table 11.

Survey Question 4) You review teacher supply and material requisition forms for alignment with district curriculum had a significance level of .093 which exceeded the .05 threshold. However the significance level was under .10, indicating a potential (or possible) trend.

Years of experience for the 2 significant survey questions found principal responses to exist in each of the 4 re-coded categories for years of experience in the principalship; 1-5 years, 6-10 years, 11-15 years and 16 or more years. It should also be noted that in 23 of the survey's 26 questions there was no significant difference between the curriculum monitoring practices of respondents with different years of experience in the principalship. The calculated mean difference for years of experience is portrayed in Table 11.

In summary, the F ratio for the composite survey scores for years of experience in the principalship was .537 at the .657 level of significance. Therefore Null Hypothesis 2: There is no difference between the curriculum monitoring practices of principals from schools with varying years of experience is accepted. However, one may also conclude that although the Oneway analysis of variance for years of experience was not found to be significant at the .05 level of significance, differences found in 2 of the 26 curriculum monitoring questions of principals with different years of experience in the principalship were found to be significant in this research study.

District Factor Group (DFG)

To analyze whether or not differences exist between the curriculum monitoring practices of K-6 principals in public elementary schools of different district factor groups, the researcher performed a Oneway ANOVA on the PCMS composite survey scores for the eight different DFG's. These results, when DFG means were compared, produced a significance level of .164. This result is greater than .05 and therefore not of great significance but certainly worthy of further study. Table 12 portrays the associated composite survey score ANOVA statistics for DFG.

Table 12

ANOVA-Composite Statistics for DFG

ANOVA - DFG (Total)

TOTAL

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1810.400	7	258.629	1.503	.164
Within Groups	86719.5	504	172.062		
Total	88529.9	511			

A Oneway analysis of variance was also performed on each of the 26 survey questions cited. This analysis compared the mean scores for each of the eight district factor groups (A through J) with one another for each question finding that 8 of the 26 questions (31%) yielded significant results on DFG differences at the .05 level of significance. The related ANOVA statistics are available in table 13.

Table 13

ANOVA Statistics for DFG

ANOVA - DFG (Questions 1-13)

		Sum of Squares	df	Mean Square	F	Sig.
Q1	Between Groups	9.891	7	1.413	1.677	.112
	Within Groups	455.078	540	.843		
	Total	464.969	547			
Q2	Between Groups	35.018	7	5.003	3.404	.001
	Within Groups	797.893	543	1.469		
	Total	832.911	550			
Q3	Between Groups	41.550	7	5.936	4.103	.000
	Within Groups	787.029	544	1.447		
	Total	828.580	551			
Q4	Between Groups	8.820	7	1.260	1.109	.356
	Within Groups	618.050	544	1.136		
	Total	626.870	551			
Q5	Between Groups	22.115	7	3.159	2.555	.014
	Within Groups	672.666	544	1.237		
	Total	694.781	551			
Q6	Between Groups	9.643	7	1.378	1.819	.081
	Within Groups	412.002	544	.757		
	Total	421.645	551			
Q7	Between Groups	6.616	7	.945	1.826	.080
	Within Groups	281.551	544	.518		
	Total	288.167	551			
Q8	Between Groups	3.539	7	.506	.763	.618
	Within Groups	358.972	542	.662		
	Total	362.511	549			
Q9	Between Groups	1.757	7	.251	.433	.882
	Within Groups	314.675	543	.580		
	Total	316.432	550			
Q10	Between Groups	14.000	7	2.000	2.441	.018
	Within Groups	445.780	544	.819		
	Total	459.781	551			
Q11	Between Groups	1.253	7	.179	.362	.924
	Within Groups	269.348	544	.495		
	Total	270.601	551			
Q12	Between Groups	33.992	7	4.856	2.878	.006
	Within Groups	918.006	544	1.688		
	Total	951.998	551			
Q13	Between Groups	24.492	7	3.499	2.266	.028
	Within Groups	840.001	544	1.544		
	Total	864.493	551			

(Table continues)

Table 13

ANOVA Statistics for DFG

ANOVA - DFG (Questions 14-26)

		Sum of Squares	df	Mean Square	F	Sig.
Q14	Between Groups	6.289	7	.898	1.262	.267
	Within Groups	387.364	544	.712		—
	Total	393.652	551			
Q15	Between Groups	23.011	7	3.287	2.590	.012
	Within Groups	685.505	540	1.269		
	Total	708.516	547			
Q16	Between Groups	3.570	7	.510	.741	.637
	Within Groups	374.249	544	.688		
	Total	377.819	551			
Q17	Between Groups	3.629	7	.518	.423	.888
	Within Groups	666.630	544	1.225		
	Total	670.259	551			
Q18	Between Groups	10.342	7	1.477	1.073	.379
	Within Groups	744.623	541	1.376		
	Total	754.965	548			
Q19	Between Groups	7.411	7	1.059	.793	.593
	Within Groups	723.500	542	1.335		
	Total	730.911	549			
Q20	Between Groups	20.457	7	2.922	1.640	.122
	Within Groups	966.118	542	1.783		
	Total	986.575	549			
Q21	Between Groups	6.735	7	.962	.881	.521
	Within Groups	593.866	544	1.092		
	Total	600.601	551			
Q22	Between Groups	3.223	7	.460	.428	.885
	Within Groups	583.550	542	1.077		
	Total	586.773	549			
Q23	Between Groups	3.002	7	.429	.574	.777
	Within Groups	404.310	541	.747		
	Total	407.311	548			
Q24	Between Groups	5.574	7	.796	.928	.484
	Within Groups	460.877	537	.858		
	Total	466.451	544			
Q25	Between Groups	11.069	7	1.581	1.101	.361
	Within Groups	767.065	534	1.436		
	Total	778.135	541			
Q26	Between Groups	13.186	7	1.884	2.354	.022
	Within Groups	433.798	542	.800		
	Total	446.984	549			

curriculum content and the time spent teaching it, 17% often, 17% sometime, 39% rarely, and 22% never. Principals in DFG's coded J had the lowest mean score for this question (2.43). The calculated mean difference for DFG is portrayed in Table 14.

Survey Question 3) You regularly (at least monthly) schedule time for teachers to map actual time spent implementing the district curriculum.

Overall, 31% of the principals in DFG A responded always to the question of scheduling monthly time for teachers to map actual time spent implementing the district curriculum, 35% responded often, 20% responded sometime, 10% rarely, and 4% never. Principals in DFG's coded A had the highest mean score for this question (3.78). While 0% of the principals in J responded always to scheduling monthly time, 33% responded often, 21% sometime, 25% rarely, and 21% never. Principals in DFG's coded J had the lowest mean score for this question (2.67). The calculated mean difference for DFG is portrayed in Table 14.

Survey Question 5) You cross-reference lesson plans monthly to verify adherence to district curriculum.

Overall, 64% of the principals in DFG A responded always to the question of cross-referencing lesson plans, 26% often, 6% sometimes, 4% rarely, and 0% never. Principals in DFG's coded A had the highest mean score for this question (4.50). While 38% of the principals in J responded always, 21% often, 21% sometimes, 8% rarely, and 12% never. Principals in DFG's coded J had the lowest mean score for this question (3.63). The calculated mean difference for DFG is portrayed in Table 14.

Survey Question 10) You speak with students to assess their level of understanding of lesson objectives.

Overall, 13% of the principals in DFG J responded always to speaking with students, 42% often, 42% sometimes, 4% rarely, and 0% never. Principal's in DFG's coded J had the highest mean score for this question (3.63). While 8% of the principals in CD responded always, 25% often, 38% sometimes, 23% rarely, and 5% never and 4% of the principals in FG responded always, 27% often, 48% sometimes, 16% rarely, and 5% never. Principals in DFG's coded CD and FG had the lowest mean score for this question (3.08 and 3.08 respectively). The calculated mean difference for DFG is portrayed in Table 14.

Survey Question 12) You play an active role in selecting the district testing materials.

Overall, 46% of the principals in DFG J responded always to playing an active role in selecting test materials, 21% often, 29% sometime, 4% rarely, and 0% never. Principals in DFG's coded J had the highest mean score for this question (4.08). While 16% of the principals in A responded always, 24% often, 14% sometimes, 24% rarely, and 22% never. Principals in DFG's coded A had the lowest mean score for this question (2.88). The calculated mean difference for DFG is portrayed in Table 14.

Survey Question 13) You participate in aligning the district curriculum and the district testing instruments.

Overall, 46% of the principals in DFG J responded always to aligning the district curriculum and the district testing instrument, 25% often, 21% sometimes, 8% rarely, and 0% never. Principals in DFG's coded J had the highest mean score for this question (4.08). While 24% of the principals in A responded always, 20% often, 20% sometimes, 12% rarely, and 24% never. Principals in DFG's coded A had the lowest mean score for this question (3.08).). The calculated mean difference for DFG is portrayed in Table 14.

Survey Question 15) You use curriculum mapping data in the teacher supervision process.

Overall, 24% of the principals in DFG A responded always to using curriculum mapping in the supervision process, 46% often, 16% sometimes, 12% rarely, and 2% never. Principals in DFG's coded A had the highest mean score for this question (3.78). While 8% of the principals in J responded always, 42% often, 13% sometimes, 21% rarely, and 17% never and 7% of the principals in I responded always, 31% often, 28% sometimes, 26% rarely, and 8% never. Principals in DFG's coded I and J had the lowest mean score for this question (3.04 and 3.04 respectively). The calculated mean difference for DFG is portrayed in Table 14.

Survey Question 26) Your daily workload and unanticipated events prevent you from engaging in activities related to curriculum as much as you would like.

Overall, 50% of the principals in DFG J responded always to having a daily workload preventing them from engaging in curriculum-related activities, 27% often, 23% sometimes, 0% rarely, and 0% never. Principals in DFG's coded J had the highest mean score for this question (4.27). While 20% of principals of in FG responded always, 45% often, 29% sometimes, 5% rarely, and 1% never. Principals in DFG's coded FG had the lowest mean score for this question (3.78). The calculated mean difference for DFG is portrayed in Table 14.

Survey Question 6; You review lesson plan content to determine whether or not district curriculum goals and objectives are reflected, had a significance level of .081 and Question 7; You observe instructional lessons checking for implementation of the teacher's written lesson plans, had a significance level of .08 which exceeded the .05

threshold. However the significance level was under .10, indicating a potential (or possible) trend.

When looking at Table 14 for the eight questions that had a significant difference between the means of the district factor groups, six of the eight involved district factor groups A and J. Question 2; scheduling time to map actual district curriculum content, Question 3; scheduling time to map actual time spent implementing the curriculum, Question 5; cross-referencing lesson plans, and Question 15; use of mapping data in the teacher supervision process, principals in the A district factor grouping had the highest mean scores (3.61, 3.78, 4.50, and 3.78) respectively while those with the J district factor group had the lowest (2.43, 2.67, 3.63 and 3.04) respectively.

When looking at Question 12; playing an active role in selecting the district testing materials, and Question 13; aligning the district curriculum and the district testing instruments, principals in the J district factor group had the highest mean for these questions (4.08 and 4.08) respectively while principals with the district factor group A had the lowest (2.88 and 3.08) respectively.

When looking at Question 10; speaking with students to assess their level of understanding of lesson objectives, the J district factor group principals had the highest mean scores (3.63) and the CD and FG district factor group principals had the lowest mean scores (3.08 and 3.08) respectively.

When looking at Question 26; daily workload and unanticipated events preventing principals from engaging in activities related to curriculum as much as they would like, the J district factor group principals had the highest mean score (4.27) and FG district principals had the lowest mean score (3.78).

It should also be noted that in 16 of the survey's 26 questions there was no significant difference between the curriculum monitoring practices of principal of different DFG's.

In summary, the *F* ratio for the composite survey scores of principals from different DFG's was 1.503 at the .164 level of significance. Therefore, Null Hypothesis 3: There is no difference between the curriculum monitoring practices of elementary principals from schools with varying socio-economic status (district factor groups) is accepted. However, one may also conclude that although the Oneway analysis of variance for DFG was not found to be significant at the .05 level of significance, differences found in 8 of the 26 curriculum monitoring survey questions of principals from different DFG's were found to be significant in this research study.

Your Highest Educational Degree

To analyze whether or not differences exist between the curriculum monitoring practices of K-6 principals in public elementary schools having achieved differing levels of educational degrees, the researcher performed A Oneway ANOVA on the PCMS composite survey scores for principal highest educational degree earned. These results, when group means were compared, produced a significance level of .843. This result is greater than .05 and therefore not of great significance but certainly worthy of further study. Table 15 portrays the associated composite survey score ANOVA statistics for highest educational degree earned.

Table 15

ANOVA – Composite Statistics for Highest Educational Degree Earned

ANOVA - EDUCATIONAL DEGREE (Total)

TOTAL

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	59.272	2	29.636	.170	.843
Within Groups	88691.9	510	173.906		
Total	88751.2	512			

A Oneway analysis of variance on each of the 26 survey questions cited. This analysis compared the mean scores for each of the 3 re-coded highest degree earned categories: (1) Masters Degree, (2) Masters Degree + 30 credits or Education Specialist, and (3) Doctorate. Each of these categories was compared with one another for each question finding that 2 of the 26 questions (8%) yielded significant results on highest degree earned differences at the .05 level of significance and two questions were significant at the .053 level of significance. The related ANOVA statistics are available in table 16.

Table 16

ANOVA-Statistics for Highest Educational Degree Earned

ANOVA - EDUCATIONAL DEGREE (Questions 1-13)

	Sum of Squares	df	Mean Square	F	Sig.	
Q1	Between Groups	.383	2	.191	.224	.799
	Within Groups	467.273	548	.853		
	Total	467.655	550			
Q2	Between Groups	8.810	2	4.405	2.949	.053
	Within Groups	823.009	551	1.494		
	Total	831.819	553			
Q3	Between Groups	13.343	2	6.672	4.501	.012
	Within Groups	818.141	552	1.482		
	Total	831.485	554			
Q4	Between Groups	4.751	2	2.376	2.085	.125
	Within Groups	629.004	552	1.139		
	Total	633.755	554			
Q5	Between Groups	.722	2	.361	.285	.752
	Within Groups	698.071	552	1.265		
	Total	698.793	554			
Q6	Between Groups	.224	2	.112	.145	.865
	Within Groups	425.315	552	.770		
	Total	425.539	554			
Q7	Between Groups	.117	2	5.841E-02	.112	.894
	Within Groups	288.903	552	.523		
	Total	289.020	554			
Q8	Between Groups	.186	2	9.288E-02	.139	.870
	Within Groups	366.541	550	.666		
	Total	366.727	552			
Q9	Between Groups	.285	2	.143	.247	.781
	Within Groups	318.329	551	.578		
	Total	318.614	553			
Q10	Between Groups	2.598	2	1.299	1.553	.213
	Within Groups	461.881	552	.837		
	Total	464.479	554			
Q11	Between Groups	1.003	2	.501	1.030	.358
	Within Groups	268.576	552	.487		
	Total	269.578	554			
Q12	Between Groups	3.357	2	1.678	.967	.381
	Within Groups	957.663	552	1.735		
	Total	961.020	554			
Q13	Between Groups	1.605	2	.802	.508	.602
	Within Groups	872.190	552	1.580		
	Total	873.795	554			

(Table continues)

Table 16

ANOVA-Statistics for Highest Educational Degree Earned

ANOVA - EDUCATIONAL DEGREE (Questions 14-26)

		Sum of Squares	df	Mean Square	F	Sig.
Q14	Between Groups	1.381	2	.691	.963	.382
	Within Groups	395.657	552	.717		
	Total	397.038	554			
Q15	Between Groups	2.034	2	1.017	.783	.457
	Within Groups	711.201	548	1.298		
	Total	713.234	550			
Q16	Between Groups	1.663	2	.831	1.213	.298
	Within Groups	378.222	552	.685		
	Total	379.885	554			
Q17	Between Groups	1.782	2	.891	.730	.482
	Within Groups	673.256	552	1.220		
	Total	675.038	554			
Q18	Between Groups	1.213	2	.606	.438	.645
	Within Groups	759.119	549	1.383		
	Total	760.332	551			
Q19	Between Groups	.149	2	7.450E-02	.056	.946
	Within Groups	733.547	550	1.334		
	Total	733.696	552			
Q20	Between Groups	12.503	2	6.251	3.517	.030
	Within Groups	977.540	550	1.777		
	Total	990.043	552			
Q21	Between Groups	4.844	2	2.422	2.239	.108
	Within Groups	597.203	552	1.082		
	Total	602.047	554			
Q22	Between Groups	6.229	2	3.115	2.947	.053
	Within Groups	581.225	550	1.057		
	Total	587.454	552			
Q23	Between Groups	1.543	2	.772	1.037	.355
	Within Groups	408.455	549	.744		
	Total	409.998	551			
Q24	Between Groups	3.140E-02	2	1.570E-02	.018	.982
	Within Groups	479.238	543	.883		
	Total	479.269	545			
Q25	Between Groups	1.416	2	.708	.486	.615
	Within Groups	789.623	542	1.457		
	Total	791.039	544			
Q26	Between Groups	2.155	2	1.077	1.326	.266
	Within Groups	446.850	550	.812		
	Total	449.005	552			

The questions and their corresponding means for each factor group are listed in table 17.

Table 17

Mean Scores for Significant Highest Degree Earned Questions

Question Number	Degree Held		
	Masters	MA +30/Ed Specialist	Doctorate
Q2* You regularly (at least monthly) schedule time for all teachers to map actual district curriculum content and the time spent teaching it.	3.06	3.03	<u>2.75</u>
Q3 You regularly (at least monthly) schedule time for teachers to map actual time spent implementing the district curriculum.	3.05	3.01	<u>2.66</u>
Q20 You require that all teachers develop a timeline for teaching all curriculum content each year.	3.10	3.15	<u>2.76</u>
Q22* You request that teachers assess the appropriateness of the district curriculum as an instructional guide in meeting student needs.	3.73	3.86	<u>3.56</u>

High mean in group
Low mean in group
 *Statistically significant at the .053 level

Each of the two highest degree-earned questions identified as significant will be analyzed in this section.

Survey Question 3) You regularly (at least monthly) schedule time for teachers to map actual time spent implementing the district curriculum.

Overall, 14% of principals earning a Master's degree responded always to scheduling time to map actual time spent implementing the curriculum, 24% often schedule time, 29% sometimes schedule time, 22% rarely schedule time, and 12% never schedule time. Principals earning a Master's degree had the highest mean score for this

question (3.05). While 8% of principals earning a Doctorate degree responded always, 17% often, 26% sometimes, 30% rarely, and 19% never. Principals earning a doctorate degree had the lowest mean score for this question (2.66). The calculated mean difference for highest degree earned is portrayed in Table 17.

Survey Question 20) You require that all teachers develop a timeline for teaching all curriculum content each year.

Overall, 16% of principals earning a Masters degree + 30 or an Education Specialist degree responded always to requiring teachers to develop a timeline for teaching curriculum content, 28% often require a timeline, 23% sometimes require a timeline, 23% rarely require a timeline, and 11% never require a timeline. Principals earning a Master's degree + 30 or an Education Specialist degree had the highest mean score for this question (3.15). While 16% of principals earning a Doctorate degree responded always, 12% often, 29% sometimes, 20% rarely, and 24% never. Principals holding a Doctorate degree had the lowest mean score for this question (2.76).). The calculated mean difference for highest degree earned is portrayed in Table 17.

Survey Question 2; You regularly (at least monthly) schedule time for teachers to map actual district curriculum content and the time spent teaching it, and Question 22; You request that teachers assess the appropriateness of the district curriculum as an instructional guide in meeting student needs, each had a significance level of .053 which exceeded the .05 threshold. However the significance level was under .10, indicating a potential (or possible) trend.

Of significance in the study of principals having achieved differing levels of degrees, principals holding Doctorate degrees had the lowest mean score for both of the

questions identified as significant as well as the two identified trends. Principals having achieved a Master's degree or a Master's + 30 or Education Specialist achieved the highest mean scores in one of two significant questions.

It should also be noted that in 22 of the survey's 26 questions there was no significant difference between the curriculum monitoring practices of principals having achieved varying levels of educational degrees.

In summary, the *F* ratio for the composite survey scores of principals having achieved varying levels of educational degrees was .170 at the .843 level of significance. Therefore, Null Hypothesis 4: There is no difference between the curriculum monitoring practices of elementary principals with varying levels of education is accepted. However, one may also conclude that although the Oneway analysis of variance for different levels of educational degree was not found to be significant at the .05 level of significance, differences found in 2 of the 26 curriculum monitoring survey questions of principals with varying levels of education were found to be significant in this research study and two other potential trends.

Number of Students Enrolled in Your School

To analyze whether or not differences exist between the curriculum monitoring practices of K-6 principals in public elementary schools of different student population sizes, the researcher performed a Oneway ANOVA on the PCMS composite survey scores. These results, when size of school group means were compared, produced a significance level of .921. This result is greater than .05 and therefore not of great significance but worthy of further study. Table 18 portrays the associated composite survey score ANOVA statistics for size of school

Table 18

ANOVA-Composite Scores for Size of School

ANOVA - NUMBER OF STUDENTS (Total)

TOTAL

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	84.936	3	28.312	.164	.921
Within Groups	87694.8	507	172.968		
Total	87779.7	510			

A Oneway analysis of variance was also performed on each of the 26 survey questions cited. This analysis compared the mean scores for each of the four re-coded size of school categories; 0-300, 301-400, 401-500, 501 +. Each of these categories was compared with one another for each question finding that 4 of the 26 questions (15%) yielded significant results on size of school differences at the .05 level of significance and 1 question was significant at the .073 level of significance. The related ANOVA statistics by question are available in table 19.

Table 19

ANOVA-Statistics for Size of School

ANOVA - NUMBER OF STUDENTS (Questions 1-13)

		Sum of Squares	df	Mean Square	F	Sig.
Q1	Between Groups	201.741	248	.813	.919	.755
	Within Groups	265.570	300	.885		
	Total	467.311	548			-
Q2	Between Groups	374.006	248	1.508	1.000	.498
	Within Groups	456.906	303	1.508		
	Total	830.911	551			
Q3	Between Groups	374.751	248	1.511	1.017	.444
	Within Groups	451.831	304	1.486		
	Total	826.582	552			
Q4	Between Groups	232.903	248	.939	.715	.997
	Within Groups	399.394	304	1.314		
	Total	632.297	552			
Q5	Between Groups	293.592	248	1.184	.908	.785
	Within Groups	396.317	304	1.304		
	Total	689.910	552			
Q6	Between Groups	189.336	248	.763	.992	.526
	Within Groups	234.017	304	.770		
	Total	423.353	552			
Q7	Between Groups	131.299	248	.529	1.023	.425
	Within Groups	157.370	304	.518		
	Total	288.669	552			
Q8	Between Groups	149.252	248	.602	.839	.925
	Within Groups	216.712	302	.718		
	Total	365.964	550			
Q9	Between Groups	140.497	248	.567	.970	.598
	Within Groups	177.003	303	.584		
	Total	317.500	551			
Q10	Between Groups	207.930	248	.838	.994	.518
	Within Groups	256.442	304	.844		
	Total	464.373	552			
Q11	Between Groups	114.307	248	.461	.894	.821
	Within Groups	156.724	304	.516		
	Total	271.031	552			
Q12	Between Groups	441.483	248	1.780	1.056	.326
	Within Groups	512.687	304	1.686		
	Total	954.170	552			
Q13	Between Groups	383.462	248	1.546	.959	.632
	Within Groups	489.967	304	1.612		
	Total	873.429	552			

(Table continues)

Table 19

Oneway ANOVA – Size of School by Question

ANOVA - NUMBER OF STUDENTS (Questions 14-26)

		Sum of Squares	df	Mean Square	F	Sig.
Q14	Between Groups	1.255	3	.418	.583	.626
	Within Groups	393.776	549	.717		
	Total	395.031	552			
Q15	Between Groups	1.557	3	.519	.399	.754
	Within Groups	709.594	545	1.302		
	Total	711.151	548			
Q16	Between Groups	.362	3	.121	.175	.914
	Within Groups	378.774	549	.690		
	Total	379.136	552			
Q17	Between Groups	.924	3	.308	.257	.856
	Within Groups	656.440	549	1.196		
	Total	657.363	552			
Q18	Between Groups	7.485	3	2.495	1.847	.138
	Within Groups	737.650	546	1.351		
	Total	745.135	549			
Q19	Between Groups	2.409	3	.803	.608	.610
	Within Groups	722.502	547	1.321		
	Total	724.911	550			
Q20	Between Groups	.275	3	9.154E-02	.051	.985
	Within Groups	985.591	547	1.802		
	Total	985.866	550			
Q21	Between Groups	.455	3	.152	.139	.937
	Within Groups	599.480	549	1.092		
	Total	599.935	552			
Q22	Between Groups	9.388	3	3.129	2.957	.032
	Within Groups	578.978	547	1.058		
	Total	588.367	550			
Q23	Between Groups	1.598	3	.533	.716	.543
	Within Groups	406.055	546	.744		
	Total	407.653	549			
Q24	Between Groups	2.966	3	.989	1.153	.327
	Within Groups	463.144	540	.858		
	Total	466.110	543			
Q25	Between Groups	1.636	3	.545	.378	.769
	Within Groups	777.734	539	1.443		
	Total	779.370	542			
Q26	Between Groups	5.652	3	1.884	2.335	.073
	Within Groups	441.339	547	.807		
	Total	446.991	550			

The one questions identified as significant and its corresponding mean for each school size group are listed in table 20.

Table 20

Mean Scores for Significant Size of School Questions

Question #	School Size by Student Population			
	0-300	301-400	401-500	501+ students
Q22 You request that teachers assess the appropriateness of the district curriculum as an instructional guide in meeting student needs.	3.75	<u>3.63</u>	3.97	3.65
Q26* Your daily workload and un-anticipated events prevent you from engaging in activities related to curriculum as much as you would like.	3.86	3.94	<u>3.77</u>	4.04

High mean in group
Low mean in group
 * Statistically significant at the .073

The size of school question identified as significant will be analyzed in this section.

Survey Question 22) You request that teachers assess the appropriateness of the district curriculum as an instructional guide in meeting student needs.

Overall, 30% of principals in schools with 401-500 students responded always to requesting that teachers assess the appropriateness of the district curriculum as an instructional guide in meeting student needs, 45% often, 19% sometimes, 5% rarely, and 2% never. Principals in schools with 401-500 students had the highest mean score for this question (3.97). While 24% of principals in schools of 301-400 students responded always, 38% often, 22% sometimes, 8% rarely, and 8% never. Principals in schools with 301-400 students had the lowest mean score for this question (3.63). The calculated mean difference for size of school is portrayed in Table 20.

When looking at Table 20 for the question that had a significant difference in the curriculum monitoring practices by student population size, schools with 401 - 500 students had the highest mean in the group for this question.

Survey Question 26; Your daily workload and unanticipated events prevent you from engaging in activities related to curriculum as much as you would like, had a significance level of .073 which exceeded the .05 threshold. However the significance level was under .10, indicating a potential (or possible) trend.

It should also be noted that in 21 of the survey's 26 questions there was no significant difference between the curriculum monitoring practices of principals of elementary schools of different student population sizes.

In summary, the F ratio for the composite survey scores of principals having schools of varying student population sizes was .164 at the .921 level of significance. Therefore, Null Hypothesis 1: There is no difference between the curriculum monitoring practices of elementary principals with varying student population sizes is accepted. However, one may also conclude that although the oneway analysis of variance for size of school was not found to be significant at the .05 level of significance, differences found in 4 of the 26 curriculum monitoring survey questions of these principals were found to be significant in this research study.

Qualitative Data

Qualitative data regarding the Curriculum Monitoring Practices of K-6 public Elementary School Principals in New Jersey was provided in part three of the PCMS, which was a single open-ended question that read:

Please review the twenty-six survey questions, which each contain a curriculum monitoring practice, and select the five which you feel are the most important. Please indicate the number of the survey question on the lines below with 1 being the most important. Nearly 96% (535 Of 557) of the respondents completed this section of the PCMS. Approximately 4.3% opted to provide the researcher with additional comments. The actual comments are available for review in Appendix C.

Respondents identified Question 23 with the greatest cumulative frequency (236) of all the 26 curriculum monitoring practices. Therefore, the training of teachers in new district curriculum content was the most frequently selected curriculum monitoring practice and the most important.

Question 9 was identified as the second greatest cumulative frequency (224) of the 26 curriculum monitoring practices. It would appear that speaking with teachers to assess the outcomes attained of instructional lessons in achieving district curriculum goals and objectives was the second most important.

The third most frequently selected question of the 26 in the survey was Question 26 with a cumulative frequency of 195. Respondents rated their daily workload and unanticipated events preventing them from engaging in activities related to curriculum as much as they would like as the third most important aspect of the principal's role in curriculum monitoring.

Question 16 had the fourth highest cumulative frequency (187) indicating that observing lessons to determine if curriculum implementation can be improved was also of importance to principals. Observing instructional lessons checking for implementation of the teacher's written lesson plan.

Question 7, was ranked 5th with a cumulative frequency of 162. Observing instructional lessons checking for implementation of district goals and objectives also had a cumulative frequency of 162, likewise ranking it 5th in importance. Question 25, the inclusion of a statement regarding the supervision of curriculum implementation the principal's annual evaluation document was found to be the least important of the 26 curriculum monitoring practices. It had a cumulative frequency of 13. Table 21 contains the cumulative survey responses for each of the 26 survey questions.

Table 21

Cumulative Survey Responses Question 1-26

Question	1 st	2 nd	3 rd	4 th	5 th	Cumulative
1	61	12	11	9	17	110
2	24	32	14	8	16	94
3	13	17	8	9	8	55
4	17	16	12	6	4	55
5	18	22	21	17	12	90
6	28	34	28	21	29	140
7	36	51	41	22	12	162
8	29	44	44	28	17	162
9	26	55	68	44	31	224
10	5	16	15	26	15	77
11	3	10	26	35	28	102
12	1	8	12	13	9	43
13	10	10	22	31	24	97
14	15	19	28	26	30	118
15	3	8	6	12	6	35
16	17	41	44	46	39	187
17	2	2	4	8	18	34
18	6	14	12	17	17	66
19	5	11	12	17	14	59
20	5	11	12	17	11	56
21	17	20	27	28	26	118
22	9	24	14	23	24	94
23	58	49	38	44	47	236
24	5	5	6	4	8	28
25	3	3	1	3	3	13
26	132	11	7	2	43	195

Reliability Analysis

The research contained in this research study regarding the curriculum monitoring practices of elementary principals was carefully analyzed and presented. Methodological requirements were thoroughly incorporated throughout the study to maintain both internal and external validity. The data was calculated and recalculated several times for accuracy. A reliability analysis of the quantitative respondent data was conducted using a correlation matrix. The procedure provides a large number of reliability coefficients for multiple-item scales. The procedure subcommands encompass many different approaches to reliability definition and estimation. In general, the concept of reliability refer to how accurate, on the average, the estimate of the true score is in a population of objects to be measured (SPSS, 1998). This matrix correlated each and every question on the PCMS with one another. The resulting reliability coefficient was fixed at .8739 (N=26), reflecting strong data reliability. Table 22 reflects the detailed reliability analysis.

Table 22

Detailed Reliability Analysis-Scale (Alpha)

	Correlation Matrix				
	Q1	Q2	Q3	Q4	Q5
Q1	1.0000				
Q2	.2806	1.0000			
Q3	.2903	.8285	1.0000		
Q4	.3087	.2419	.2525	1.0000	
Q5	.3042	.2759	.2734	.3594	1.0000
Q6	.3556	.1466	.1682	.3511	.6230
Q7	.1510	.0472	.0181	.1737	.2458
Q8	.2087	.1397	.1174	.1640	.3020
Q9	.2232	.2517	.2354	.1725	.2485
Q10	.1234	.1524	.1428	.1528	.2329
Q11	.2865	.1247	.1675	.3386	.2227
Q12	.0287	.0335	.0165	.1683	.0139
Q13	.0596	.0260	.0255	.1565	.0748
Q14	.3307	.2587	.2250	.2872	.3749
Q15	.2287	.5254	.4916	.2157	.3413
Q16	.2530	.1248	.1301	.2341	.1588
Q17	.1953	.1946	.2158	.2279	.2477
Q18	.2183	.2844	.2870	.2043	.2626
Q19	.2767	.3615	.3837	.2472	.3196
Q20	.2334	.4049	.3966	.1638	.3604
Q21	.2824	.3609	.3468	.2671	.2736
Q22	.2762	.2981	.2799	.2793	.2682
Q23	.1721	.1569	.1782	.1938	.0197
Q24	.1421	.1225	.1545	.1600	.1000
Q25	.2313	.1647	.2052	.1945	.1437
Q26	-.0764	-.1288	-.1256	-.0284	-.0949

(Table continues)

Table 22

Detailed Reliability Analysis-Scale (Alpha)

	Correlation Matrix					
	Q6	Q7	Q8	Q9	Q10	
Q6	1.0000					
Q7	.3197	1.0000				
Q8	.3925	.4491	1.0000			
Q9	.2924	.2233	.4711	1.0000		
Q10	.2463	.1616	.2546	.3023	1.0000	
Q11	.3129	.1878	.3001	.3833	.2544	
Q12	-.0050	.0572	.0925	.1959	.0654	
Q13	.0622	.0229	.1126	.2280	.1137	
Q14	.4397	.2758	.4493	.4462	.2623	
Q15	.2525	.1372	.2673	.3557	.2118	
Q16	.3101	.2529	.3506	.3275	.2409	
Q17	.3425	.1344	.3325	.3500	.2469	
Q18	.2156	.1126	.1864	.2750	.1834	
Q19	.3135	.1375	.2418	.2695	.2451	
Q20	.2000	.0912	.2270	.2444	.1504	
Q21	.2406	.1610	.2070	.2905	.1542	
Q22	.2273	.1553	.1915	.3112	.1704	
Q23	.1188	.0806	.1641	.2078	.0821	
Q24	.2148	.1096	.1003	.1494	.1034	
Q25	.2440	.1204	.1327	.1572	.1401	
Q26	-.1111	-.0687	-.1109	-.2045	-.1166	
		Q11	Q12	Q13	Q14	Q15
Q11		1.0000				
Q12		.2023	1.0000			
Q13		.2092	.7779	1.0000		
Q14		.3786	.1736	.2048	1.0000	
Q15		.2473	.1008	.1489	.5247	1.0000
Q16		.3977	.1735	.2005	.4599	.3570
Q17		.2791	.0835	.1361	.4336	.3476
Q18		.2627	.2018	.2176	.3455	.3423
Q19		.1844	.1125	.1562	.3902	.3772
Q20		.1565	.0755	.1109	.2530	.4130
Q21		.2763	.1317	.1352	.3604	.3661
Q22		.2631	.2504	.2265	.3432	.3448
Q23		.2831	.2610	.2684	.1680	.1365
Q24		.1677	.0518	.0884	.1962	.0717
Q25		.2477	.1311	.1498	.2146	.2094
Q26		-.1323	-.0687	-.0868	-.1370	-.1514

(Table continues)

Table 22

Detailed Reliability Analysis-Scale (Alpha)

	Correlation Matrix				
	Q16	Q17	Q18	Q19	Q20
Q16	1.0000				
Q17	.3367	1.0000			
Q18	.2108	.4082	1.0000		
Q19	.2656	.4224	.5920	1.0000	
Q20	.1796	.2562	.2989	.3778	1.0000
Q21	.3148	.3388	.3725	.4627	.4753
Q22	.2954	.2956	.2899	.3650	.3840
Q23	.2383	.2106	.1897	.2185	.2186
Q24	.1463	.2680	.2616	.2476	.0998
Q25	.2220	.3175	.2721	.3362	.2352
Q26	-.0739	-.0913	-.1591	-.1183	-.0974
	Q21	Q22	Q23	Q24	Q25
Q21	1.0000				
Q22	.6069	1.0000			
Q23	.3067	.3332	1.0000		
Q24	.2342	.2040	.2004	1.0000	
Q25	.2708	.2342	.2446	.5138	1.0000
Q26	-.0209	-.1161	-.0438	-.0233	-.0629
	Q26				
Q26	1.0000				

N of Cases = 514.0 Reliability Coefficients 26 items

Alpha = .8739 Standardized item alpha = .8770

The data and results in this chapter mandate the acceptance of the research question. The research and subsidiary questions are to be discussed by results and findings. All of these elements will be summarized and concluded in the next chapter, including recommendations for future research.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The purpose of this research was to determine whether significant differences exist within the curriculum monitoring practices of K-6 public elementary school principals in the state of New Jersey. To answer this question, the researcher has framed this study within the historical context of educational content traced back to 4200 BC when schooling was based upon the characteristics of articulate speech, connected thought and the ability to invent and construct tools, shelter, food and clothing. Evolving definitions of curriculum as both content and process have also been presented to further assist in understanding the aims of our educational spiral.

Research on implementation has additionally been discussed with some experts concluding that the degree of any actual implementation is questionable (Baldrige & Deal, 1975; Berman & McLaughlin, 1976; Fullen & Pomfret, 1977; Goodlad, 1998; Gross, Giacquinta & Bernstein, 1971; Sarason, 1971; Smith & Keith, 1971; Williams & Elmore, 1976). Fullen and Pomfret (1977) reason that the primary rationale for focusing on the actual degree of implementation is that, in the absence of doing so, our overlying assumptions may be incorrect with Mojkowski (2000) concluding that substantial discrepancies often exist between the written and implemented curriculum. If curriculum is indeed "integral to making decisions about the work to be done" (English & Larson, 1996), this study sought to examine what elementary school leaders do to ensure that a locally defined curriculum is actually implemented.

The role of the principal as curriculum supervisor/monitor has been explored within the existing limited research. Goodlad (1979) and Hill (1989) identify roles that the principal may perform to ensure that the formally adopted structure is being taught. This research provided the framework for the development of the Principal Curriculum Monitoring Survey (PCMS) instrument.

Curriculum monitoring has been “operationalized” for the purposes of this study as “the actions that principals deliberately engage in to ensure the implementation of the district’s adopted curriculum”. Within this context a Principal Curriculum Monitoring Survey was constructed to gather data to answer this overarching research question. SPSS (2000) was used to conduct a statistical analysis of the data obtained through the survey instrument.

Research specific to the topic of curriculum monitoring and the principal’s role was scant causing the researcher to draw from works on “implementation”, “monitoring”, and to some degree, supervisory roles, in developing the statement of the problem.

Answers to the five subsidiary questions as calculated through ANOVA, frequency and reliability statistical analysis are presented in this chapter.

Statement of the Research Question

Is there a significant difference in the curriculum monitoring practices of elementary school principals (K-6) in New Jersey? To answer this research question the researcher examined five separate hypotheses for differences in gender, total years of experience in the principalship, DFG, highest educational degree, and number of students enrolled in school.

Subsidiary Questions

1. There is no difference between the curriculum monitoring practices of male and female elementary principals.

The data gathered from the 557 respondents, 298 males (53%) and 259 females (46.5%) found no significant differences to exist by gender. The Oneway ANOVA for composite survey scores, when group means were compared, produced a significance level of .094 which is greater than the specified .05 level of significance. The data did produce significant results or differences on the curriculum monitoring practices of 10 of the 26 total PCMS questions. For each of these 10 questions, the female mean score was greater than that of the male principals indicating that female principals consistently engaged in these 10 practices more often than their male counterparts.

These 10 questions identify specific instructional elements that include; reviewing teacher supply and material forms for alignment with district curriculum, cross referencing lesson plans monthly to verify adherence to the district curriculum, reviewing lesson plan content to determine whether district goals and objectives are reflected, observing lessons for implementation of the written lesson plan and checking for goals and objectives, speaking with students to assess their level of understanding, looking for materials to support district goals and objectives, referring to the district goals and objectives when supervising teachers, using lesson observations to determine if curriculum implementation can be improved and making certain that teachers are trained in new district curriculum content.

This may suggest that female leadership styles encourage the use of more monitoring practice to ensure the district curriculum is implemented than male leadership

styles. These results are consistent with gender research conducted by Enomot (1997), Glickman (1990), Morris (1999), Nordings (1988), Schautz (1995), and Shakeshaft, Nowell and Perry (1992) finding that men are more likely to emphasize organizational structure (non instructional) and women are more likely to attend to instructional issues. Female leadership styles were found to be predicated on an "ethic of care" therefore more prone to take into account the implementation of goals and the evaluation of the program

2. There is no difference between the curriculum monitoring practices of elementary school principals with varying years of experience.

The data gathered from the 557 respondents, 177 with 1-5 years of experience, 134 with 6-10 years of experience, 126 with 11-15 years of experience, and 118 with 16 years of experience or more (38 years being identified as the longest principal tenure) found no significant difference to exist in the curriculum monitoring practices of these principals. The Oneway ANOVA for composite scores, when group means were compared, produced a significance level of .657 which is greater than the specified .05 level of significance. The data did produce significant results or differences on the curriculum monitoring practices of 2 of the 26 total PCMS questions.

For both of these questions, principals with 6-10 years of experience or 11-15 years of experience had the highest mean scores indicating that these principals review lesson plan content to determine whether district curriculum goals and objectives are reflected. They also more frequently play an active role in selecting the district testing materials. Principals with 16 or more years of experience review lesson plans with the least degree of frequency and principals with 0-5 years of experience participate in selecting the district testing materials with the least degree of frequency. This may

suggest that beginning principals require a few years on the job to become adjusted to the organizational routine of supervising school wide activities prior to going into greater supervisory depth in the area of curriculum implementation. It may also imply that principals with the greatest years of experience assume that these practices, focused upon midstream during their tenure, remain in place and no longer require close supervision or that traditional supervisory systems historically in place in schools do not serve to manage the adopted curriculum (English & Larsen, 1996).

3. There is no difference between the curriculum monitoring practices of principals from schools with varying socio-economic status (District Factor Groups).

The data gathered from the 557 respondents from the eight District Factor Groups found no significant differences to exist by DFG. The Oneway ANOVA for composite survey scores, when group means were compared produced a significance level of .164, which is greater than the specified .05 level of significance. The data did produce significant results or differences on the curriculum monitoring practices of 8 of the 26 total PCMS questions.

For 6 of these 10 questions, principals in DFG's coded A (the lowest group) had either the highest or lowest mean scores while principals in DFG's coded J (the highest group) had either the highest or lowest mean score for all eight of the questions. Specifically, principals in DFG's coded A engaged more frequently in scheduling time to map actual district curriculum content and the time spent teaching it, using this curriculum mapping data in the teacher supervision process and cross referencing lesson plans to verify adherence to district curriculum. Principals in J engaged in these practices with the least degree of frequency. This may suggest that principals in DFG's

implementing whole school reform models requiring developers to align instructional materials and processes with the Core Curriculum Content Standards, are engaging in these practices as a direct result of this mandate. It may also imply that principals in J district factor groups that have achieved student proficiency levels deemed acceptable do not feel the need to monitor these activities closely. Conversely, principals in DFG's coded J engaged more frequently in playing an active role in selecting the district testing instruments and aligning the district curriculum with the district testing instruments. Principals in DFG's coded A engaged in these practices with the least degree of frequency. This may suggest that principals in DFG's coded J are afforded the opportunity to participate in this testing and alignment process while districts coded A are reliant upon the School Management Team (SMT) to make these decisions (Hord, Hall & Steigelbauer, 1983; Morris, 1999). It may also suggest that principals in DFG's coded J recognize the necessity of aligning curriculum with district testing instruments to maintain and insure high level student test results.

Principals in DFG's coded J engaged more frequently in speaking with students to assess their level of understanding of lesson objectives while principals in DFG's coded CD and FG engaged in these practices with the least degree of frequency. This may suggest that principals in DFG's coded J have recognized the need for the principal to become closely involved in the monitoring of student outcomes of curriculum implementation while principals in DFG's coded CD and FG continue to focus on basic implementation issues (Blankenship, 1985; Leinhardt, 1973).

Finally, principals in DFG's coded J more frequently indicated that daily work loads and unanticipated events prevented them from engaging in curriculum related

activities as much as they would like while principals in DFG's coded FG found this to be so with the least degree of frequency. This may suggest that principals in DFG's coded J have developed an understanding of the critical role of the principal in the supervision of curriculum (Goodlad, 1979; Hill, 1989; Romberg & Price, 1999) while principals in DFG's coded FG remain engaged in middle management activities or traditional supervisory systems (English & Larson, 1996).

4. There is no difference between the curriculum monitoring practices of elementary principals with varying levels of education.

The data gathered from the 557 respondents from respondents coded Masters, Masters + 30 or Education Specialist and Doctorate found no significant differences to exist by highest educational degree earned. The Oneway ANOVA for composite survey scores, when group means were compared, produced a significance level of .843 which is greater than the specified .05 level of significance. The data did produce significant results or differences on the curriculum monitoring practices of 2 of the 26 total PCMS questions.

Specifically, principals with a Masters Degree more frequently scheduled time to map actual time spent implementing the district curriculum while principals with a Doctorate did so with the least degree of frequency. Principals with a Master's +30 or an Education Specialist degree more frequently required teachers to develop a timeline for teaching curriculum content all year long while principals with a Doctorate did so with the least degree of frequency. This may suggest that principals with a Master's Degree or Master's + 30, remain more closely connected to the elements of classroom organization and planning the year's instructional content while principals with a

Doctorate may again assume that these practices remain in place and no longer require close supervision or that traditional supervisory systems historically in place in schools do not serve to manage the adopted curriculum (English & Larsen, 1996).

5. There is no difference between the curriculum monitoring practices of elementary principals with varying school population sizes.

The data gathered from the 557 respondents from respondents of the four recoded size of school groups; 0-300, 301-400, 401-500, 501 + students found no significant differences to exist by size of school by student population. The Oneway ANOVA for composite survey scores, when group means were compared, produced a significance level of .921 which is greater than the specified .05 level of significance. The data did produce significant results or differences on the curriculum monitoring practices of 1 of the 26 total PCMS questions. For this question, principals in schools with 401-500 students more frequently requested that teachers assess the appropriateness of the district curriculum as an instructional guide in meeting student needs while principals in schools with 301-400 students did so with the least degree of frequency. This may suggest that districts of mid size schools have organizational plans that are either more inclusive of teacher feed back or less inclusive of teacher feedback depending upon the educational culture created by the central office.

Across the five independent variables being examined in this study of curriculum monitoring practices of elementary principals, 5 of the 26 survey questions were found to be significant in two areas being examined. Question 3; You regularly (at least monthly) schedule time for teachers to map actual time spent implementing the district curriculum was significant for DFG and highest degree earned. This may suggest that mapping

actual time spent teaching/implementing the district curriculum provides principals with important data regarding what teachers actually do with children when the classroom door is closed and the private act of teaching begins.

Question 5; You cross-reference lesson plans monthly to verify adherence to district curriculum was significant for gender and DFG. This may suggest that adhering to the district curriculum is seen as an important instructional practice and that cross-referencing lesson plans for adherence to district curriculum is viewed by principals as important in the curriculum monitoring process.

Question 6; You review lesson plan content to determine whether or not district curriculum goals and objectives are reflected was significant for gender and years of experience in the principalship. This may suggest that reviewing lesson plans specifically for district goals and objectives is viewed as another step in the curriculum monitoring process.

Question 10; Speaking with students to assess their level of understanding of lesson objectives was significant for gender and DFG. This may suggest that speaking with students, the consumers of our instructional efforts, is viewed as significant in determining successful curriculum implementation on an ongoing basis.

Question 12; You play an active role in selecting the district testing materials was significant for DFG and years of experience in the principalship. This may suggest that principals, facing increased accountability for achievement and performance on mandated state tests and district standardized tests, are finding alignment between the written curriculum and testing instrument (English, 1992) to be of importance and an area where they seek active participation.

Upon careful review of the statistical findings to the five subsidiary questions contained in this study, this researcher concludes that the curriculum monitoring practices of elementary principals as, identified in the Principal Curriculum Monitoring Survey Instrument, were not found to be significantly different. However, this research does indicate that elementary principals do engage in practices to ensure the implementation of district adopted curriculum and that additional research on this topic is needed.

To answer the question; What are the five curriculum monitoring practices that you feel are the most important, respondents selected the following with questions 7 and 8 having equal importance:

Question 23: Training of teachers in new district curriculum was viewed as being of the greatest importance; Question 9: Speaking with teachers to assess the outcomes of instructional lessons in achieving district goals and objectives was viewed as being the second most important, Question 26: Daily work load and unanticipated events preventing engagement in activities related to curriculum was viewed as being the third most important; Question 16: Using lesson observations to determine if curriculum implementation can be improved was viewed as the fourth most important , Question 7: Observing instructional lessons checking for documentation of the teacher's written lesson plan was viewed as the fifth most important, and Question 8: You observe instructional lessons checking for documentation of district goal and objective implementation. All questions are found to be instructionally related with the exception of Question 26 regarding the size of principal workload, which puts distance between the principal and those curriculum monitoring practices identified in this research.

Recommendations for Further Research

The limited existing research on curriculum monitoring briefly reminds us that too frequently high quality district curriculum guides are written, shelved, and never referred to again (Glatthorn, 1994). Unless a teacher really desires to implement a curriculum, he or she won't (Glickman, 1985) resulting in schools where curriculum becomes anything any teacher wants to do. (Hershey & Blanchard, 1993) Hill (1989) and Goodlad (1979) succinctly argue that it is the role of the principal, "more specifically as curriculum monitor" that goes directly to the heart of educational administration.

If we are to assign validity to any of the curricular definitions presented in this work ranging from classical knowledge (Schubert, 1986), to content work plans set forth in guidelines (English, 1992; Mackenzie, 1954; Mitchell, 1998; Shane & McSwain, 1958) to process oriented content (Costa & Lieberman, 1997; Eisner & Vallance, 1974) then value must be placed on the actual implementation of curriculum, and on the administrative practices in place to insure it.

Given the research void in this specific topic, similar studies of this nature investigating the curriculum monitoring practices of elementary principals should be conducted to replicate or dispute these research findings. A parallel study of New Jersey elementary principals (K-6) employing interview techniques would support or negate conclusions derived from straight survey research (Rea & Parker, 1997).

Specific curriculum monitoring elements contained in the PCMS were found to be significant within each of the five areas being examined; gender, years of experience in the principalship, DFG, highest educational degree, number of students enrolled. Five curriculum monitoring practices contained in the PCMS were found to be significant in

two of the five areas; scheduling time to map actual time spent implementing the curriculum, cross-referencing lesson plans to verify adherence to district curriculum., reviewing lesson plan content to determine whether or not district goals and objectives are reflected, observing lessons checking for implementation of the teacher's written plan and playing an active role in selecting the district testing materials. These practices should be investigated in greater depth and a further examination of the methodologies employed by female principals to engage in these specific practices would likewise add to the body of available research on this topic.

Six survey questions were statistically identified as trends; reviewing teacher supply and material requisition forms for alignment with district curriculum, scheduling time (monthly) for all teachers to map actual district curriculum content and the time spent teaching it, reviewing lesson plan content to determine whether or not district curriculum goals and objectives are reflected, observing instructional lessons, checking for implementation of the teacher's written lesson plan, requesting teachers to assess the appropriateness of the district curriculum as an instructional guide in meeting student needs, and having a daily work load that prevents engagement in curriculum related activities to the desired extent. These six areas should also be examined in greater depth.

Elementary (K-6) principals were specifically selected as the target population for this study because elementary principals are generally the sole administrators in the building at this level. They are subsequently the individuals most likely to be concerned with classroom instruction, teacher supervision, student performance and curriculum implementation. Due to the large number of students generally found to be enrolled in middle and senior high schools, the organizational configurations of these schools tend to

include vice-principals, department chairpersons or subject matter supervisors charged with overseeing curriculum and sometimes teacher evaluation. The results of this Principal Curriculum Monitoring Survey found, upon examination of the independent variable; Number of Students Enrolled in Your School, that 173 of the respondents reported that they had 501 or more students enrolled. One respondent reported having as many as 1,800 students at the K-6 level. One could infer from this data that schools of this student population size may also have an administrative structure more similar to a middle or high school and may place someone other than the principal in charge of building level curriculum implementation and monitoring. Therefore, this study should also be repeated at middle school and high school levels to examine the effects of administrative structure on the curriculum monitoring process. Interviews with curriculum supervisors to determine the extent of their curriculum monitoring practices would also add to this structural component.

A study of the curricular preparedness of new principals as well as the perceived impact of the curricular components of whole school reform models adopted by New Jersey school districts would likewise contribute to this knowledge base. In addition, it is also recommended that a statewide analysis of administrative job descriptions be conducted to identify those individuals responsible for curriculum as well as those responsible for monitoring actual curriculum implementation. Finally, a longitudinal study of several principals examining the actual activities engaged in during the course of the year to determine the degree of actual curriculum implementation would contribute to both curriculum monitoring and curriculum implementation fields of research.

In the words of Charles Frances Adams, Jr. (1884) Director of the Union Pacific Railway,

No matter what sort of bill you have, everything depends upon the men, who, so to speak, are inside of it, and who are to make it work. In the hands of the right men, any bill would produce the desired results . . . practice depends upon the daily activities of those organizational members in charge of applying or implementing it. If they respond to influences other than the intentions of the law's advocates, then even the most carefully worded and strongly supported legislation is unlikely to be implemented as planned. (p. 335).

In the social setting of the school, more specifically the individual classroom, Adam's a philosophy reasoned in a letter dated March 1, 1884, continues to hold true. Who are the keepers of the school's cognitive maps, if not the principals? What has become of the carefully developed curriculum documents this research has historically traced? Do they maintain the same place of importance as they were originally intended? And what of their implementation? It is time for districts to examine the disproportionate percentage of their resources spent on curriculum development and to allocate a greater portion to ensure its successful implementation (Mojkowski, 2000). Hord and Huling-Austin (1986) found that in addition to the principal, one or two additional persons, drawn from the following groups, played a major role in supplying implementation interventions: assistant principals, school-based resource teachers, teacher specialists, district level curriculum coordinators and consultants who functioned as second change

facilitators. They conclude that the "source of leadership in school improvement is a shared one involving persons with a variety of roles and functions"(p. 114).

This statewide research study was initiated to gather data regarding the practices of elementary principals throughout New Jersey with the goal of contributing to the body of curriculum monitoring research and improving future classroom implementation efforts. Several practices identified within the PCMS were found to be statistically significant and subsequently worthy of further study. Due to the fact that this survey was statewide, and in consideration of New Jersey's current emphasis on core curriculum content standards, professional development, and accountability, it is recommended that this study be replicated in New Jersey five years from now to determine if principals have increased their curriculum monitoring practices as a result of such mandates.

In addition to the previously stipulated recommendations for further study, it is recommended that this study be conducted in a another U.S. state for the purpose of replicating or refuting these findings. States with their own system of educational governance may present findings of great relevancy to this topic. "Ongoing monitoring and consultation and reinforcement have been missing links in the past. It now seems clear that these functions are associated with effective curriculum implementation" (Hord & Huling-Austin, 1986, p. 114).

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Appendices

Appendix A
Survey Instrument

Principal Survey
CURRICULUM MONITORING

Kindly complete the following biographical information before completing the survey.

Gender: Male Female --

Total Years of Experience in Principalship: _____
(Including the current school year.)

Your District Factor Group (DFG): _____

Your Highest Educational Degree: _____

Number of Students Enrolled in Your School _____

Please indicate the extent to which the following curriculum implementation elements as principal are operational within your elementary school.

Never Rarely Sometimes Often Always

District Curriculum

- | | 1 | 2 | 3 | 4 | 5 |
|------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|
| 1. You check annually to make certain that all teachers have current copies of district curriculum. | 1 | 2 | 3 | 4 | 5 |
| 2. You regularly (at least monthly) schedule time for teachers to map actual district curriculum content and the time spent teaching it. | 1 | 2 | 3 | 4 | 5 |
| 3. You regularly (at least monthly) schedule time for teachers to map actual time spent implementing the district curriculum. | 1 | 2 | 3 | 4 | 5 |

	Never	Rarely	Sometimes	Often	Always
4. You review teacher supply and material requisition forms for alignment with district curriculum.	1	2	3	4	5
Lesson Plan Review					
5. You cross reference lesson plans monthly to verify adherence to district curriculum.	1	2	3	4	5
6. You review lesson plan content to determine whether or not district curriculum goals and objectives are reflected.	1	2	3	4	5
Lesson Observation					
7. You observe instructional lessons checking for implementation of the teacher's written lesson plan.	1	2	3	4	5
8. You observe instructional lessons checking for documentation of district goal and objective implementation.	1	2	3	4	5
9. You speak with teachers to assess the outcomes attained of instructional lessons in achieving district curriculum goals and objectives.	1	2	3	4	5
10. You speak with students to assess their level of understanding of lesson objectives.	1	2	3	4	5
11. You look for use of instructional materials that support district goals and objectives.	1	2	3	4	5

Never Rarely Sometimes Often Always

District Testing Program

12. You play an active role in selecting the district testing materials. 1 2 3 4 5

13. You participate in aligning the district curriculum and the district testing instruments. 1 2 3 4 5

Teacher Supervision

14. You regularly refer to the district curriculum goals and objectives when supervising teachers. 1 2 3 4 5

15. You use curriculum mapping data in the teacher supervision process. 1 2 3 4 5

16. You use lesson observations to determine if curriculum implementation can be improved. 1 2 3 4 5

17. You include a statement regarding the teacher's coverage of the district curriculum in the teacher evaluation document. 1 2 3 4 5

Never Rarely Sometimes Often Always

Curriculum Implementation

18. You annually collect and evaluate data regarding actual curriculum implementation. 1 2 3 4 5

19. You require that teachers identify the extent to which they implement the district curriculum. 1 2 3 4 5

Staff Development

20. You require that all teachers develop a time line for teaching all curriculum content each year. 1 2 3 4 5

21. You require that teachers continually assess their implementation of district curriculum content. 1 2 3 4 5

22. You request that teachers assess the appropriateness of the district curriculum as an instructional guide in meeting student needs. 1 2 3 4 5

23. You make certain that teachers are trained in new district curriculum content. 1 2 3 4 5

Principal Role

24. Your job description includes a statement regarding the supervision of curriculum implementation. 1 2 3 4 5

	Never	Rarely	Sometimes	Often	Always
25. Your annual evaluation contains a statement regarding curriculum supervision.	1	2	3	4	5
26. Your daily work load and unanticipated events prevent you from engaging in activities related to curriculum as much you would like.	1	2	3	4	5

Please review the twenty-six survey questions, which each contain a curriculum monitoring practice, and select the five which you feel are the most important. Please indicate the number of the survey question on the lines below with 1 being the most important.

1. _____

2. _____

3. _____

4. _____

5. _____

Appendix B
Letters of Correspondence

Gayle M. Carrick
900 Fox Hill Lane
Scotch Plains, New Jersey 07076
Phone: 908 604-4999 Fax: 908 604-6633
E-mail: gcarrick@warrentboe.org

December 1, 2000

Dear Fellow Principals,

I am currently an elementary principal in Somerset county and engaged in doctoral study at Seton Hall University working towards an Ed.D. degree in Educational Administration and Supervision.

In this study, I am seeking to learn more from principals in schools throughout New Jersey about their practices regarding the implementation of district approved curriculum. Particularly, I am focusing my study on the elementary level. Through this study, I hope to identify activities that principals engage in regarding curriculum implementation as well as those most frequently employed. I am hopeful that this contribution to the research field will assist in redefining the role of the principal in these all-consuming times.

Enclosed you will find a copy of the *Elementary Principal's Curriculum Monitoring Survey*. Please, enjoy a cup of tea and complete the survey that should take no more than 10-15 minutes. Kindly return it to me in the self-addressed stamped envelope. Filling in the survey will insure that your input is in the study. I know that all of our schedules are so busy, but I ask for your help and hope that I have allowed your school year to begin to get into a routine prior to sending this survey to you. The more returns of this survey, the more data will be relevant to all of us practicing daily in the role of the principalship.

The information obtained from principals in this study will remain strictly confidential and the reporting of the results will be by group analysis only. No names will be used in any reporting of results. The four demographic questions that introduce the survey are benign and in no way reflect the identity of the respondent. The survey return envelopes are numbered for follow-up purposes only. I do reserve the right to publish the aggregated data in the future however I assure you that at no time will your right to confidentiality in this research in any way be violated.

This project has been reviewed and approved by the Seton Hall University Institutional Review Board for Human Services Research. The IRB believes that the research procedures adequately safeguard the subject's privacy, welfare, civil liberties and rights. The Chairperson of the IRB may be reached through the Office of Grants and Research Services. The telephone number of the Office is (973) 275-2974.

Please be assured that your participation is voluntary and that you may withdraw your participation at any time. If you have questions about this study, please do not hesitate to contact me at (908) 604-4999, Ext. 202.

Please return the completed survey by December 18, 2000. Your completion and return of the completed survey instrument indicates your understanding of this project and your willingness to participate. If you would like follow-up information regarding this research, please complete and mail the enclosed, stamped, addressed Follow-up postcard and you will receive information spring 2001. Thank you in advance for your anticipated cooperation in this research project.

Sincerely,

Gayle M. Carrick

Gayle M. Carrick
900 Fox Hill Lane
Scotch Plains, New Jersey 07076
Phone: 908 604-4999 Fax: 908 604-6633
E-mail: gcarrick@warrentboe.org

January 5, 2001

Dear Fellow Principals,

The fall months represent a very busy time of year for all of us in New Jersey's elementary schools. The preparation of educational programs, the development of school budgets, not to mention daily interactions with students, parents and teachers occupies the better part of our days. Even though I know that you have many things to do, I am asking you to take a few minutes of your time to complete this survey. Your input is important to me because the more responses that are received, the more valid the research on "Principals" curriculum monitoring activities.

Four weeks ago, I mailed the survey, Curriculum Monitoring Practices of Public Elementary K-6 Principals in New Jersey, which I hope you received, but I have not as yet received your reply. Perhaps you mislaid the survey or it may have gotten lost in the mail. In any case, I am enclosing another copy of the survey along with a self-addressed stamped envelope. Despite your busy schedule, could you please find the time to complete and return the survey so that I may include your valuable feedback as part of my data. The deadline for return of this questionnaire is January 20th.

This project has been reviewed and approved by the Seton Hall University Institutional Review Board for Human Services Research. The IRB believes that the research procedures adequately safeguard the subjects' privacy, welfare, civil liberties, and rights. The Chairperson of the IRB may be reached through the Office of Grants and Research Services. The telephone number of the Office is (973) 275-2974.

The information received from the principals in this project will remain strictly confidential and the reporting of results will be by group analysis only. They survey envelopes are numbered for follow-up purposes, if needed and all coded information will be destroyed after the completion of the study. I do reserve the right to publish the aggregated data in the future, however, I assure you that at no time will your right to confidentiality in this research in any way be violated.

Please be assured that your participation is voluntary and you may withdraw your participation at any time. If you have questions about this study, please do not hesitate to contact me at (908) 604-4999, ext. 202.

Please know that I am very appreciative of your time, attention, and cooperation. Your completion and return of the survey instrument indicates your understanding of the project and your willingness to participate. Thank you in advance for your anticipated cooperation in this research project.

Sincerely,

Gayle M. Carrick

Appendix C
Institutional Review Board (IRB) Approval Letter

SETON HALL UNIVERSITY
1 8 5 6

October 18, 2000

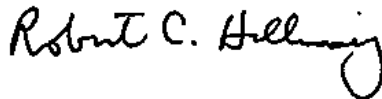
Ms. Gayle M. Carrick
900 Fox Hill Lane
Scotch Plains, NJ 07076

Dear Ms. Carrick :

The Institutional Review Board For Human Subject Research at Seton Hall University reviewed your proposal entitled "*Curriculum Monitoring Practices of Public Elementary K-6 Principals in New Jersey.*" Your project has been approved as amended by the revisions submitted to the Chair of the IRB. Enclosed please find the signed Request for Approval form for your records.

The Institutional Review Board approval of the project is valid for a one-year period from the date of this letter. Any changes to the research protocol must again be reviewed and approved by the committee prior to implementation. Thank you for your cooperation. Best wishes for the success of your research.

Sincerely,



Robert C. Hallissey, Ph.D.
Acting Chair
Institutional Review Board

/djk

cc: Dr. John Collins, Ed.D.

Office of Grants and Research Services
Presidents Hall
Tel: 973.275.2974 • Fax: 973.275.2978
400 South Orange Avenue • South Orange, New Jersey 07079-2641

Appendix D
Qualitative Data Comments

Qualitative comments submitted to open-ended question:

#26 Above and beyond all others.

At this point we have a new asst. supt & she is doing a wonderful job of having curriculum's reviewed, completed etc. She is establishing a 5 step curriculum review timeline – Facilitating committees, she is attempting to align 100 hr requirements, Inst curriculum w/ standards, training to implementation.

#26 What, why & how events prevent you from engaging in activities etc. This needs analysis to improve our time allocation.

All.

The Comer School Model also has a curriculum sub-committee.

We are in the process of converting our school to a Middle School. We are creating a 5-8 curriculum and implementing it in 2001-2002. Using the processes for alignment and implementation that you have surveyed. This instrument is a very good checklist for our own evaluation. May I use it. I'm doing the work with my staff of course, myself. May I use your survey.

This is my first year as principal. Some of the things, I am already doing; others I have not yet done.

Our district has a very scattered elementary curriculum. There are few, if any, clearly defined outcomes. In areas that we use a textbook (math, s.s.) the text is the guide. Therefore, a students instructional experiences vary greatly from one school (of 30 to the next. Even from one classroom to the next in the same building.

It might be of interest to compare how many administrators are at each building and whether or not that makes a difference.

Our district curriculum has essentially become the CCC standards. All subjects are being revised as they come up for revision. Constructivist practices are encouraged.

Alignment to NJCCC standards is more important than outdated curriculum currently under revision.

I am sorry that I cannot complete your questionnaire. I hold both positions of Elementary Principal and Director of Elementary Curriculum. It would be impossible to separate my responsibilities and that would probably contaminate the data.

Hiring teachers (never mentioned) Most important to seek/justify funds for budget. No funds no curriculum. More funds more curriculum related instruction – Fund driven.

Curriculum monitoring practice is not a very important activity to improve a school.

Assessment, observation, not listed – teacher reflections.

It is a teacher's job to implement the curriculum. I help them but they would have a fit if I used the command type supervision implied in this survey. None of this will get good education in my humble opinion.

Please note: This district has a K-12 Supervisor for Curriculum & Instruction. It would be great if I could do as much as I would like, however, our other needs demand attention as well. It would be easier with a vice-principal.

The poor quality of our curriculum guides and curriculum director impacts all of the above. If our district were serious about curriculum I would do more of the things mentioned in your questions.

Planning, observing, training, materials. The last should be a statement on action plan for teachers who do not follow curriculum.

I am also a curriculum supervisor in a K-5 district. I hope my answers help you, but I probably spend more time on curricular issues than most principals due to the nature of my job.

Please note, in practice we often substitute NJ Core Curriculum Standards for District Curriculum. For example, if your questions #1-5, 19 referred to NJ standards my response would have been 5. I do feel that supercedes District curriculum and I want my teachers to align their teaching with the standards.

My answers reflect those of a principal whose masters is in curr. & supervis. I served as a curriculum coordinator for 5 years prior to being a principal – My passion is curriculum.

Co-ordination district wide. Supervisors in K-8 for Math/L.A./SocSt/World Lang/Science are necessary!

All are important and are viewed as steps in a process that looks to improve student outcomes and the continuous improvement of teachers!

