

**CONNECTING THE ROLE OF SCHOOL SUPERINTENDENTS TO TEACHING  
AND LEARNING IN SCHOOLS: A RESEARCH SYNTHESIS OF THREE  
EDUCATIONAL ADMINISTRATION PEER REVIEWED RESEARCH JOURNALS  
BETWEEN 1983 – 2006**

A Dissertation

by

STEVEN PAUL SHIDEMANTLE

Submitted to the Office of Graduate Studies of  
Texas A&M University  
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2008

Major Subject: Educational Administration

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Approved by:

Chair of Committee,  
Committee Members,

John R. Hoyle  
Virginia Collier  
Richard Cummins  
James McNamara

Head of Department,

Jim Scheurich

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## ABSTRACT

Connecting the Role of School Superintendents to Teaching and Learning in Schools: A  
Research Synthesis of Three Educational Administration Peer Reviewed Research  
Journals between 1983 – 2006. (May 2008)

Steven Paul Shidemantle, B.S. Ed., Slippery Rock University

Chair of Advisory Committee: Dr. John R. Hoyle

This exploratory synthesis of research was the product of three years of dissertation research efforts that systematically reviewed 23 years of empirical articles between 1983 (or its inception) and 2006 from three of the most highly regarded educational administration journals. Specifically designed to collect investigative data and information from primary research contained within *Educational Administration Quarterly*, the *Journal of School Leadership*, and the *Journal of Educational Administration*; this research synthesis drew upon various research methods to propose pragmatic insights and proffer an empirically founded response to: *What has the educational administration profession learned from the research efforts that were independently conducted, presented, and published about the overall connections between school superintendents and education's technical core – teaching and learning in schools?*

Results from employing meta-analysis, descriptive synthesis, and thematic synthesis techniques to appropriately collect and analyze relevant data indicate that

school superintendents remain directly connected to the technical core; however, these connections have evolved from the traditional connections presently maintained by campus administrators and to new connections that meet the increased responsibilities and complexities of the superintendents' role. The thematic synthesis, reinforced by descriptive syntheses, indicated 15 separate superintendent – technical core constructs that promote new areas for investigation; however, the extent and strength of these constructs have yet to be determined.

The impact from the *next step* suggestions for future research indicate that effects could range from educational administration knowledge base contributions to refining in-practice standards and professional development programs. The possible knowledge base contributions, coupled with specific in-practice elements that demonstrate superintendents' direct impact on the technical core, may be the necessary raw materials from which a foundational framework that clearly redefines the superintendent – technical core connections may be forged by scholars and implemented by district leaders to improve teaching and learning in schools.

## ACKNOWLEDGMENTS

Each man is Captain of his Soul,  
And each man his own Crew,  
But the Pilot knows the Unknown Seas,  
And He will bring us through.

*John Oxenham*

There have been so many who have stepped aboard and have been such an influential part of my crew; it is difficult knowing that the names of most will not be mentioned, although they too have contributed to my success and the completion of this dissertation. I thank all of you who have stepped aboard as family, friend, colleague, mentor, or teacher in my life and encouraged me to achieve past myself.

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I would like to thank Dr. John Badgett; your constant understanding, mentorship, and encouragement throughout my undergraduate education reinforced my beliefs that risk taking is a necessary step on the path to success and achievement. My risk taking journey that moved my family and me half way across the nation to work with one of the finest scholars in education, Dr. John Hoyle, began with your words, “How would you like to become an *Aggie*?” I apprehensively replied, “Sure! What the *hell* is an *Aggie*?” You were right; I did find out! Thank you for unlocking the door that provided me the opportunity to follow and work with Dr. Hoyle as I pursued my doctoral education at one of the finest institutions with which I have ever been associated. What does being an *Aggie* mean (to me)? It’s the understanding that the true meaning of *being an Aggie* is filled with voices of integrity, excellence, honesty, achievement, loyalty, and family that echo their worth and commitment to the improvement of our society.

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## TABLE OF CONTENTS

		Page
ABSTRACT.....		iii
ACKNOWLEDGMENTS.....		v
TABLE OF CONTENTS.....		ix
LIST OF FIGURES.....		xi
LIST OF TABLES.....		xii
CHAPTER		
I	INTRODUCTION.....	1
	Problem Specification .....	4
	Intent of Inquiry .....	6
	Design of Inquiry .....	8
	Investigative Significance .....	17
	Organization of the Dissertation .....	19
	Assumptions.....	19
	Limitations.....	19
II	PHASE 1: SYNTHESIS POPULATION IDENTIFICATION AND DEFINITION .....	21
III	PHASE 2: IDENTIFICATION OF THEORETICAL FRAMEWORKS WITHIN THE SYNTHESIS POPULATION. ....	33
IV	PHASE 3: SYNTHESIS POPULATION CONSTRUCTS AND RESEARCH DESIGNS.....	45
V	PHASE 4: SYNTHESIS OF FINDINGS FOR QUANTITATIVE STUDIES .....	84

CHAPTER	Page
VI	PHASE 5: INTERPRETATION OF FINDINGS FOR QUALITATIVE STUDIES ..... 100
VII	CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH ..... 103
	Stepping Back to Progress Forward..... 104
	An Elusive Connection..... 106
	The Evolution of Progress ..... 107
	Conclusions ..... 109
	Suggestions for Future Research..... 110
	Impacts on Future Practice ..... 113
	REFERENCES..... 117
	APPENDIX A..... 130
	APPENDIX B..... 131
	APPENDIX C..... 133
	APPENDIX D..... 139
	APPENDIX E ..... 141
	APPENDIX F ..... 149
	APPENDIX G ..... 150
	VITA..... 154

## LIST OF FIGURES

FIGURE		Page
1	The accessible population of articles published in <i>EAQ</i> , <i>JSL</i> , and <i>JEA</i> from 1983 – 2006 that met the stage one selection criteria for inclusion in the general population of articles for further synthesis consideration. ....	25
2	The relationship between the general population of articles and the synthesis population of articles published in <i>EAQ</i> , <i>JSL</i> , and <i>JEA</i> from 1983 – 2006 that met stage one and two selection criteria for synthesis regarding a research connection between the role of school superintendents and the technical core.....	28

## LIST OF TABLES

TABLE	Page
1	Peer-reviewed journals selected for research synthesis regarding the connection between school superintendents and the technical core..... 8
2	Synthesis of Research - Sequential Stages Framework. .... 9
3	Research synthesis selection criteria for articles that present a research connection between the role of public school superintendents and the technical core. .... 11
4	Units of analysis within the general population ( $N_G = 87$ ) of articles that presented an initial connection with the technical core. .... 27
5	Investigative focus categories and the number of articles produced in the cyclic search for empirical articles that present a possible connection between the role of school superintendents and the technical core..... 29
6	Synthesis population of <i>EAQ</i> , <i>JSL</i> , and <i>JAE</i> articles ( $N_{syn} = 13$ ) that present a research connection between the role of public school superintendents and the technical core and meet all criteria for synthesis..... 30
7	The synthesis population of <i>EAQ</i> , <i>JSL</i> , and <i>JAE</i> empirical ( $n_e = 9$ ) articles that present a research connection between the role of public school superintendents and the technical core and meet all criteria for synthesis. .... 32
8	The quantitative articles' ( $n_{QN} = 4$ ) reference information and their associated synthesis population investigation number. .... 36
9	The qualitative articles' ( $n_{QL} = 4$ ) reference information and their associated synthesis population investigation number.. .... 38
10	The mixed methodology articles' ( $n_M = 1$ ) reference information and their associated synthesis population investigation number..... 39
11	The theoretical essay articles' ( $n_{TE} = 4$ ) reference information and their associated synthesis population investigation number..... 40

TABLE	Page
12 The primary technical core constructs within the synthesis population of articles, the specific core content, and the frequency of methodology within each theme.....	49
13 The technical core constructs of the overall synthesis population listed by general technical core construct category and methodology used.....	50
14 The target population of each identified empirical article in the synthesis population by methodology of investigation.....	52
15 Target population sample group abbreviations and their corresponding units of analysis. ....	53
16 The characteristics associated with the target population within the synthesized population of articles. ....	54
17 The research design of each article identified in the synthesis population. ....	65
18 The major classifications of threats to external validity and corresponding explanations. ....	66
19 Threats to internal and external validity of the identified quantitative articles identified in the synthesis population of articles.....	73
20 Major classifications of threats to internal validity and corresponding explanations. ....	74
21 General evaluative approach for assessing trustworthiness in qualitative studies and the associative quantitative approach. ....	79
22 Threats to trustworthiness and credibility within the identified qualitative articles in the synthesis population of articles. ....	83
23 Between study homogeneity of variance weighted effect size calculation information of the four quantitative investigations included in the quantitative synthesis population for systematic descriptive synthesis. ....	88

TABLE	Page
24 Homogeneity of variance weighted study effect size confidence intervals and their corresponding forest plot graphs of the four quantitative investigations included in the quantitative synthesis population for systematic descriptive synthesis. ....	89
25 Hart, A. and Ogawa, R. (1987) reported test statistics that specifically related to the amount of influence superintendents had regarding student performance on their state achievement tests.....	91
26 Impara, J. and Plake, R. (1994) reported test statistics that specifically investigated the degree of assessment knowledge and skills that superintendents have regarding student assessment.....	93
27 Petersen, G. (2002) reported descriptive statistics that investigated superintendents' instructional leadership influence on different organizational structures.....	95
28 Petersen, G. (2002) reported test statistics that specifically related superintendents' instructional leadership influence on different organizational structures.....	96
29 Newton, R. (2006) reported test statistics that specifically investigated perspective superintendents' likelihood to apply (gender-based) for a superintendent position when instructional leadership qualities were exemplified. ....	98
30 Major supportive constructs from thematic synthesis results that provide connections between superintendents and teaching and learning in schools. ....	102
31 Superintendent efforts to directly impact technical core issues through their positions as revealed through the systematic research synthesis of <i>EAQ</i> , <i>JSL</i> , and <i>JEA</i> between the years 1983 – 2006. ....	108
32 Major areas of possible in-practice impact from the synthesis of research results of superintendent efforts to impact technical core issues. ....	114

## CHAPTER I

### INTRODUCTION

Superintendents in the United States are charged with overseeing the design of curriculum focused on the instruction and learning in multiple school contexts (Hoyle, 2002). Björk (1993) contended that educational reports that burst on the scene beginning in 1983 identified superintendents as pivotal to the success of school improvement and highlighted their role as instructional leaders to enhance student learning. Hoyle (2002) and Björk (1993) extended that researchers have gained insight into the tacit knowledge of school superintendents; Nestor-Baker & Hoy (2001) further refined this position by adding, little empirical evidence that directly links these instructional leadership responsibilities of superintendents to actual student performance on a variety of measures has been revealed. As the Chief Educational Officer the school district who have been charged with a multiple roles to ultimately ensure the success of each student, instructional leadership has become a primary indicator of a superintendent's executive performance (Björk, 1993; Bredeson, 1996). Instructionally Effective School Districts (IESD) research identified instructional leadership skills to be an instrumental influence to improve the overall learning and teaching quality of instructional programs (Cuban, 1984; Hoyle, Bjork, Collier, & Glass, 2005; Murphy & Hallinger, 1986; Murphy, Hallinger, Peterson, & Lotto, 1987).

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The style and format for this dissertation follows that of *Educational Administration Quarterly*.

Teaching and learning – education’s *technical core* – constitute the axis upon which education systems revolve (Hoy & Miskel, 2001). Education’s technical core consists of those structures, strategies, processes, and applications of teaching and learning throughout one’s educational experience. Hoyle (1991) asserted that the school superintendent must be competent in the technical-core processes, coupled with effective leadership and management processes, which “transmit a common core of knowledge and skills indigenous to the role of district CEO” (p.23). This responsibility of ensuring and maintaining a highly refined technical core is reflected in the AASA superintendent standards. The standards were first developed by Hoyle, Glass, and Oates (1992) and adapted by the American Association of School Administrators (Hoyle & AASA Commission on Standards for The Superintendency, 1993). Later, the AASA Standards were adopted by the Council of Chief State School Officers (1996) to create the Interstate School Leaders Licensure Consortium (ISLCC) standards. The ISLCC standards were then added to the National Council for the Accreditation of Colleges of Education (NCATE) requirements (2002). The *Professional Standards for the Superintendency* reflects the high level of responsibility that is placed on the superintendent concerning teaching and learning. The standards that directly address the technical core demonstrate this priority by stating that superintendents will:

- Standard 5: Design curriculum and a strategic plan that enhance teaching and learning in multiple contexts; provide planning and future methods to anticipate occupational trends and their educational implications; identify taxonomies of instructional objectives and validation procedures for curricular units, using theories of cognitive development; align and sequence curriculum; use valid and



reliable performance indicators and testing procedures to measure performance outcomes; and describe the proper use of computers and other learning and information technologies. (p. 9)

- Standard 6: Exhibit knowledge of instructional management by implementing a system that includes research findings on learning and instructional strategies, instructional time, advanced electronic technologies, and resources to maximize student outcomes; describe and apply research and best practice on integrating curriculum and resources for multicultural sensitivity and assessment strategies to help all students achieve at high level. (p. 10)
- Standard 7: Develop a staff evaluation and development system to improve the performance of all staff members; select appropriate models for supervision based on adult motivation research. (p. 11)

Efficacious leadership of school executives is at the center of American school restructuring and reform (Petersen & Short, 2001). A key factor that indicates the effective nature of educational reform is the school superintendent's direct emphasis on the technical core (Björk, 1993; Bredeson, 1996; Bredeson & Johansson, 1997; Coleman & LaRocque, 1988; Cuban, 1984; Herman, 1990; Petersen, 1999; Petersen & Short, 2001). The school superintendent historically has been known to be the instructional leader of the school system (Bredeson, 1996). Although the role has clearly expanded over the past 150 years, Björk (1993) maintained that instructional leadership of the technical core continues to be an essential factor in district success. The superintendent's connection with classroom learning, though somewhat removed and infrequent, is necessary for district success and improvement (Wimpelberg, 1988).

Rowan (1995) held that until 1985 issues surrounding the core work of learning and teaching were not central elements of preparation or practice in educational administration. In citing the National Policy Board for Educational Administration (1989), Rowan further reported that “after a decade of sustained efforts to reform instruction in American schools, administrator preparation programs ... rarely require extensive course work on learning, teaching, or instructional management” (p. 115). This gap, however, appears to be closing since the standards that have driven superintendent preparation programs place increased emphasis on instructional processes and student assessment (Hoyle, Björk, Collier, & Glass, 2005).

### **Problem Specification**

As of now, few empirical investigations have been completed that reviews and combines the efforts made by scholars in the field who have studied the connection between the role of school superintendents and the technical core. The core processes discussed and employed to empirically review investigations that meet the below search criteria and present sufficient information for analysis are meta-analysis and research synthesis. A third process, the thematic review is a recently developed process that is employed to synthesize qualitative studies. A detailed explanation is discussed later in this dissertation. Meta-analysis is the term, coined by Gene Glass in 1976, for statistical technique that is used combination of results from two or more separate quantitative investigations (Glass, 1976; Glass, McGaw, & Smith, 1981) Meta-analysts draw on statistical techniques to systematically combine and translate findings

from different, and sometimes conflicting, investigations into a common effect size statistic for comparison analysis. An effect size is an estimation of strength and magnitude of the relationship between two variables, usually dependent and independent variables (Dunst, Hamby, & Trivette, 2004). Similar to meta-analysis, a research synthesis is a study that uses one or more general research questions as the guide for collecting a set of studies for review (McNamara J. F., 1998), however, a research synthesis may also include articles that are empirically founded in qualitative methodologies.

Synthesizing results from studies within a professional body of literature is a highly complex and time consuming process (White, 1994). Cooper & Hedges (1994) and Lipsey (1994) purport that producing the most accurate and complete synthesis population, for synthesis or meta-analysis, involves the formulation of one or more research questions and constructing a guiding set of selection criteria; however, as Bangert-Drowns & Rudner (1991) emphasized, the synthesist will often discover that the synthesis data is embedded within other, more general, investigative constructs, which possibly possess framework or sampling concerns.

The Mid-continent Research for Education and Learning (McREL), lead by Dr. T. Waters, recognized the need to define *what works* in specific educational areas such as teacher effectiveness, effective school districts, and educational leadership. McREL completed a meta-analysis investigation that sought to conflate results from studies that investigated a link between school superintendents and student achievement

(Waters & Marzano, 2006). The meta-analysis revealed the following three key aspects of school superintendents that are likely to have significant impact on student achievement:

1. There is a direct correlation between school superintendents' leadership and student performance ( $r = .24$ ).
2. Effective superintendents have a highly developed and refined goal focus.
3. There is a positive correlation between tenure of a superintendent and student achievement.

Although Waters and Marzano's (2006) meta-analytic investigation statistically combined effect sizes from 27 independent investigations which produced key findings regarding the connection between the role of school superintendents and student achievement, their core focus targeted a specific facet of the overall connection between school superintendents and the technical core. What has the educational administration profession learned from the research efforts that have been independently conducted, presented, and published about the overall connection between school superintendents and education's technical core – teaching and learning? This dissertation was specifically designed to collect data and information from all empirical methodologies in an effort to propose pragmatic insights that present a potential response to the above unanswered question.

### **Intent of Inquiry**

The connection between the role of school superintendents and educational administration's technical core is an axiom that has been segregated into discrete

constructs that have been researched and published by various scholars in the profession (Shidemanle & Hoyle, 2004). These research efforts have produced a wide range of findings through multiple empirical methodologies.

To maximize the potential knowledge gained from the scholarly work in the above discussed, a research synthesis that collects, analyzes, and summarizes the research that surrounds the axiom was the foundational intent of this exploratory inquiry. If the technical core is central to the role of the school superintendent, then the body of research literature should reflect the gestalt nature and magnitude of this connection. This inquiry aimed to solidify somewhat diverse information, contribute to the further development of the educational administration knowledge base, and guide future research that targets this axiomatic connection.

This synthesis of research reviews three peer-reviewed research journals in educational administration published between 1983 (or its inception) and 2006. Table 1 contains the journal names, the volume range and time span, and the total number of articles published in each journal.

**Table 1****Peer-reviewed journals selected for research synthesis regarding the connection between school superintendents and the technical core**

<b>Journal</b>	<b>Volume and Time Span</b>	<b>No. Published</b>
Educational Administration Quarterly ( <i>EAQ</i> )	v.19, n 1 (1983) through v.42, n.5 (2006)	523
Journal of School Leadership ( <i>JSL</i> )	v. 1, n.1 (1991) through v 16, n. 5 (2006)	475
Journal of Educational Administration ( <i>JEA</i> )	v.21, n.1 (1983) through v.44, n 6 (2006)	547
<i>Total published articles</i>		<i>1545</i>

**Design of Inquiry**

The synthesis of research was conducted through five sequential phases that directly correspond to the five research objectives stated at the beginning of each phase explanation and included below in table 2. Each objective was completed through a series of research questions that pertain to the specific phase of inquiry. Research, as defined in this study, is a systematic targeted investigation that attempts to empirically review phenomena designed to develop or contribute to the educational administration knowledge base; the research investigation includes the selection of articles that employ quantitative, qualitative, or mixed methodologies for inclusion in the synthesis population and attempts to determine or explain the phenomenon. The five phases follow guidelines for the sequential stages model presented in McNamara (1998). Table 2 describes the research synthesis framework implemented in this dissertation.

**Table 2**  
**Synthesis of Research - Sequential Stages Framework**

Phase	Phase Objective Description
Phase 1	Identification and Definition of the Synthesis Population
Phase 2	Synthesis Population Theoretical Framework Identification
Phase 3	Synthesis Population Research Design Identification
Phase 4	Synthesis of Findings for Quantitative Studies
Phase 5	Interpretation of Findings for Qualitative Studies

### Phase 1

The objective of phase one is to define the research synthesis population of studies in *EAQ*, *JSL*, and *JEA*. Employing methodical electronic searches and manual analysis of search results are necessary to effectively synthesize all relevant articles within the body of literature (Hansen, 1986). Academic Search Premier and Educational Resource Information Center (ERIC), via EBSCO Information Services, are the two electronic research database engines that are used to complete the cyclic electronic database search in the initial search for selected articles. One complete cycle of a cyclic electronic database search consists of one complete search run of ERIC and Academic Search Premier per keyword, each, for *EAQ*, *JSL*, and *JEA*. This includes the recording of all information from each complete search run in a Microsoft Excel database file, reviewing each article abstract produced (full text was used when electronically available).

This objective is accomplished in two stages. The first stage consists of (a) a cyclic electronic database search of the three peer-reviewed educational administration journals within the previously defined inclusive dates and (b) a review of their collective content. The studies are then either excluded from or selected for inclusion in the general population through the use of the research synthesis article eligibility criteria outlined below in table 3. Eligibility criteria present a logical framework, based on an investigation's primary research questions and consistent with the professional knowledge within the area of study (Khan, Khalid, Gerben, Glanville, Sowden, & Kleinjnen, 2001). The eligibility criteria used for the selection of articles in this investigation were constructed through the guiding technical core-related superintendency competency framework in the above defined AASA superintendent standards. This stage utilizes eligibility criteria 1 – 5a in the table. The general inclusionary nature of the stage one criteria served as a safeguard against excluding relevant articles due to the general characteristics of article abstracts and preliminary content reviews.

Stage two refines the general population of articles produced in stage one through the incorporation of selection criterion 6 in table 3 and completes phase one of the research synthesis by defining a population of articles that present a genuine research connection between the role of public school superintendents and the technical core. This population is referred to as the synthesis population throughout remainder of this investigation.



**Table 3**

**Research synthesis selection criteria for articles that present a research connection between the role of public school superintendents and the technical core**

Criteria description
<i>General population selection criteria (stage 1 identification)</i>
1 The study is a product of the cyclic database search.
2 The study has been published in <i>EAQ</i> , <i>JSL</i> , or <i>JEA</i> .
3 The study was published between 1983 and 2006 (inclusive).
4 The study was conducted in the United States.
5 The study at least partially focused on the role or actions of public school superintendents.
<i>Synthesis population selection criteria (stage 2 identification)</i>
6 At least a portion of the study's core focus was public school superintendents and/or the role of public school superintendents and a direct impact on teaching and learning
7 The study contained at least one hypothesis, research question, or purpose statement that centered upon public school superintendents' focus or their efforts to impact the technical core.

The following research questions guide the process of phase one:

1. What is the synthesized population of articles that addressed a connection between school superintendents' role and the technical core has been published in the three peer-reviewed journals between 1983 and 2006 (or their inception)?
2. How many articles in the synthesized population presented empirical findings that connect the role of school superintendents and the technical core?

Findings for phase one are reported using categorical tables and graphs. A discussion that explains the methods and procedures used to define the synthesized population of articles are included.

## Phase 2

The objective in phase two is to identify the theoretical framework and superintendent/technical core constructs of each article in the synthesized population. This phase defines whether the research design is quantitative, qualitative, or uses mixed methodologies. A theoretical framework organizes and focuses an investigation about a set of conditions. Constructs are operational concepts that provide a connection between theory development and validation (Thompson, 1993). They are used to formulate research hypotheses and specify the operational measures to gather empirical evidence in research hypothesis testing (Kerlinger, 1986). The following research questions guides the process of phase two:

3. How many articles in the synthesis population of articles presented quantitative findings that connect the role of school superintendents and the technical core?
4. How many articles in the synthesis population of articles presented qualitative findings that connect the role of school superintendents and the technical core?
5. How many articles in the synthesis population of articles used a mixed-methods approach in the research investigations that connect the role of school superintendents and the technical core?
6. How many articles in the synthesis population of articles theoretical-type essays that connect the role of school superintendents and the technical core?

Findings for phase two are reported using categorical tables and graphs. A discussion of them is included to explain the findings.

### Phase 3

The objective in phase three is to identify the research design of each article in the synthesized population as identified in the previous phases. Quantitative research designs are classified as experimental, quasi-experimental, controlled observation, cohort studies frameworks, and case control (non-experimental) designs (Khan, Khalid, Gerben, Glanville, Sowden, & Kleinjnen, 2001).

The identification of investigative research designs, as Khan, et.al. (2001) emphasized, is necessary for synthesists to appropriately evaluate the methodology employed to answer the research questions proposed in the study. Qualitative research designs are classified as ethnographical, phenomenological, narrative, or case study in nature. This research methodology makes inquiry into subjective nature of phenomena (Kahn, et.al., 2001) In recent years, there has been an increasing development and acknowledgment in qualitative synthesis, although it continues to be met with highly admonished debate by others (Campbell, et al., 2003; Sandelowski & Barroso, 2007; & Thorne, et al., 2004). A more detailed explanation of qualitative synthesis is discussed in phase five.

Mixed-methodology research designs employ a combination of qualitative and quantitative methodologies. This type of empirical investigation is classified by the nature of the specific research and design frameworks employed by the researcher conducting the study. Mixed-method articles are included in the synthesis population

for analysis using the appropriate methods to review their respective qualitative and quantitative sections.

Threats to research validity and reliability, which may have influenced the investigation results in each article, are also identified in this phase. Threats that were stated in the published article by the researcher, either as a noted comment or a stated study limitation, are accounted for in the research synthesis. Each article in the synthesis population is evaluated for its quality and resistance to validity and reliability threats. Each article is also evaluated for investigative biases (systemic errors) so that a quality assessment, as outlined by Khan, et al. (2001) in *Phase four: Study Quality Review* could be completed as part of this research synthesis. The following research questions guides the process of phase three:

7. What were the primary technical core constructs / themes in the synthesis population of articles that connect the role of school superintendents and the technical core?
8. What is the target population of each identified empirical article in the population of articles that connect the role of school superintendents and the technical core?
9. What characteristics are associated with each target population of each identified article in the synthesis population of articles?
10. What research design was implemented in each article of the identified synthesis population of articles that connect the role of school superintendents and the technical core?
11. What are the threats to external validity of the quantitative articles identified in the synthesis population of articles that connect the role of school superintendents and the technical core?

12. What are the threats to internal validity of the quantitative articles identified in the synthesis population of articles that connect the role of school superintendents and the technical core?
13. What are the threats to the trustworthiness and credibility of the findings within the qualitative articles identified in the population of articles that connect the role of school superintendents and the technical core?

Findings for phase three are reported using categorical tables and graphs. A discussion of them is included to explain the findings.

#### Phase 4

The objective in phase four is to discuss the synthesis of findings for the quantitative articles. As previously indicated, a research synthesis uses one or more general research questions as the guide for collecting a set of studies for review (McNamara, 1998). This phase of the synthesis of research attempts to employ meta-analytic methods of analysis to combine quantitative findings from several studies that address the same research problem (McGaw, 1988).

Studies that are identified through related research and statistical hypotheses were categorized by their hypothesis framework and subjected to meta-analytic analyses. McNamara (1998) defines an effect size as the primary quantitative measure that describes the degree to which a phenomenon exists in a target population; the effect size statistics were calculated using quantitative measures from the published investigation and estimations of expected relationships or differences for research hypotheses were determined. McNamara further explained that the presence of moderator variables have a systematic, rather than random, effect on variation in the

observed effect sizes. Moderator variables yield possible explanations for differences in the relationship between variables (Borg, 1987) and are discussed as part of phase three. Predictor constructs, concepts from which organizational behavior variables are used in relational hypotheses (i.e. time spent, level of importance), target population characteristics (i.e. age, gender, or experience), or in mean difference hypotheses are created (Thompson, McNamara, & Hoyle, 1997) and also determined through meta-analytic processes. The following research questions guide the process of phase four:

14. Why was the decision made to perform a descriptive synthesis, in conjunction with a statistical synthesis, for the quantitative articles within the target population and produce a true population effect size?
15. What specific effect sizes, and/or test statistics needed to calculate effect sizes, were reported for each statistical hypothesis?

Findings for phase four are reported using descriptive statistics and statistical graphics. The units of analysis for reporting these findings are determined through meta-analytic measures. A discussion of them is included to explain the findings.

#### Phase 5

The objective in phase five is to discuss the synthesis of findings for the qualitative articles. Thematic synthesis, as coalesced from Thomas and Harden (2007), is a methodological process used in systematic reviews to evaluate and analyze data from primary qualitative research, develop descriptive themes from the analyzed data, and generate analytical themes that answer a specific research question. Layered within the thematic synthesis processes are the rigors of quality assessment of

potential target population articles and thematic analysis to assist in descriptive theme development. The integration of findings from the reported qualitative investigations within the synthesis population will follow thematic synthesis guidelines and procedures. The process of thematic synthesis, as Thomas and Harden (2007) describe, involves three distinct stages:

1. Line-by-line coding of individual article findings
2. The organization of findings into descriptive themes
3. The translation of descriptive themes for the generation of analytical themes.

The following research questions guide the process of phase five:

16. What constructs were found that support the connection between superintendents and the technical core through the thematic synthesis of the qualitative studies within the synthesis population?

Findings for phase five are reported using categorical tables and graphs to show major themes and constructs. A discussion of them is included to explain the findings.

### **Investigative Significance**

Again, as of now, few investigations have been completed that attempt to synthesize the efforts made by scholars in the field who have studied various facets of the connection between the role of school superintendents and teaching and learning. The completion of this study will contribute to the rather limited literature and body of knowledge regarding the connection between the role of school superintendents and

the technical core by attempting unifying the knowledge that has been gained through 23 years of scholarly research. As a quantitative, qualitative, and mixed-model synthesis examination, this study will assist in increasing the educational administration knowledge base from multi-analytic perspectives and bridge an identified void in research literature.

Throughout the evolutionary histories of research and practice in medicine, law, and theology, the core attention on the patient, the client, and the parishioner have remained steadfast in these respective professions (Shidemantle & Hoyle, 2004). Researchers in educational administration continue their activities regarding development and refinement of knowledge about teaching and learning and educational leadership. Practicing and aspiring superintendents need a stronger research base to expand their expertise in curriculum theory and purpose and to add to their skill base in the delivery, assessment, and value of what is taught and tested. Tools forged in scholarly research enable school superintendents to construct and maintain an active vision that answers the *whats*, *hows*, and *whys* of school administration (Achilles, 2001) and ultimately keep student improvement in the spotlight. If researchers jointly concentrate on forging the right tools to connect school superintendents with the technical core of the profession and reinforce education administration's knowledge base, then increased student learning could become an expectation rather than an exception.



## **Organization of the Dissertation**

The inquiry is organized into seven chapters. Chapter I provides the problem specifications, the purpose of the inquiry, and the research design of the study. Chapter II will document the first phase of the inquiry by defining the research synthesis population of studies. Chapter III will expand phase one by identifying the theoretical framework of each article in the research synthesis in phase two. Chapter IV will discuss the identification of the research design of each article in the research synthesis in phase three. Chapter V will explain the synthesis of findings for all identified quantitative articles in phase four. Chapter VI will explain the synthesis of findings for all identified qualitative articles in phase five. Chapter VII will summarize and conclude the purpose, design, findings, and recommendations for future studies discussed in the research synthesis.

## **Assumptions**

1. The interpretation of the data accurately reflects the intent of the publishing researchers.
2. The methodology proposed and described herein offers a logical and appropriate design for this particular research project.
3. The researcher was impartial in collecting and analyzing the data gathered.

## **Limitations**

1. The theoretical framework guiding this synthesis is limited to the information acquired from the empirical literature reviewed throughout each chapter.
2. The empirical evidence analyzed in this synthesis is limited to the information acquired from the specified peer reviewed journals.

3. Correlations encountered in this synthesis do not necessarily represent causal relationships.
4. The findings put forth in this synthesis are limited to the conclusions drawn by this dissertation researcher.

## CHAPTER II

### PHASE 1: SYNTHESIS POPULATION IDENTIFICATION AND DEFINITION

This chapter documents the findings from phase one investigations. The objective of phase one was to define the general population of studies in *Educational Administration Quarterly (EAQ)*, *Journal of School Leadership (JSL)*, and the *Journal of Educational Administration (JEA)* that investigated a connection between the role of school superintendents and the technical core. The three peer-reviewed educational administration journals were subjected to electronic database searches using Academic Search Premier and Educational Resource Information Center (ERIC).

The production, review, and selection of the synthesis population of articles for synthesis were initiated through the completion of two complete cyclical electronic database searches. This was performed to ensure the stability of electronic searches and the accuracy of the general population of articles for synthesis (McNamara, Campbell, Moore, & Sivo, 1996). One complete cycle of a cyclic electronic database search, as mentioned above in Chapter I, consists of one search run of the ERIC and Academic Search Premier search engines per keyword, each, for *EAQ*, *JSL*, and *JEA*. The first cyclic database search was completed using relevant keywords obtained through previous research efforts by the author regarding the literary connection between school superintendents and the technical core (Shidemantle & Hoyle, 2004). The initial keywords used in the first cyclic database search to identify the general population of articles that connect school superintendents' role with the technical core were:

*effective schools, teacher effectiveness, student outcomes, curriculum, instructional leadership, learning communities, curriculum development, and accountability.* The term, *superintendent*, was used as a persistent descriptor in all search cycles.

Drawing upon the 2006 meta-analysis investigation conducted by Mid-continent Research for Education and Learning (McREL) on the relationship between superintendent leadership and student achievement (Waters & Marzano, 2006), a second database search was conducted that incorporated the keywords used in the McREL study. The initial keywords drawn from the McREL study and used in the second database search to identify the general population were: *leadership, district leadership, effective [superintendents], effective districts, instructional leadership, and curriculum development.* The term, *superintendent*, was again used as a persistent descriptor in all search cycles. Appendix A lists the steps required to complete the cyclic electronic database search.

A total of six search cycles were conducted to produce the general population of articles that connect school superintendents' role with the technical core. The general population articles were further evaluated for inclusion in the synthesis population using stage two of the general population selection criteria as described in the above in the *Intent of Inquiry* section of Chapter I.

Both electronic database search cycles were conducted using the above process to complete search for articles in *EAQ, JSL, and JEA.* However, only the second

electronic database search cycle was used and discussed in this synthesis of research. The reasons for this decision have been explained below in research question one.

*Question 1:* What is the synthesized population of articles that addressed a connection between school superintendents' role and the technical core has been published in the three peer-reviewed journals between 1983 and 2006 (or their inception)? Synthesizing the general population of superintendency related articles was attained through six search cycles. First, a cyclical keyword search methodology was employed to identify articles for possible inclusion. Article abstract and content reviews were then conducted to select articles for inclusion in the synthesized population. A total of 1545 articles were published, not including published book reviews, editorials, and authors' notes, in *EAQ*, *JEA*, and *JSL* between January 1983 (or the journal's inception) and December 2006. Of the 1545 articles published in the three peer-reviewed articles, during this time span, a total of 87 general population articles were produced through descriptor/keyword cyclic search efforts (see Appendix C). The general population ( $N_G = 87$ ) of superintendency related articles from the cyclical keyword search produced 32 articles from *EAQ*, 39 articles from the *JSL*, and 16 articles from *JEA*.

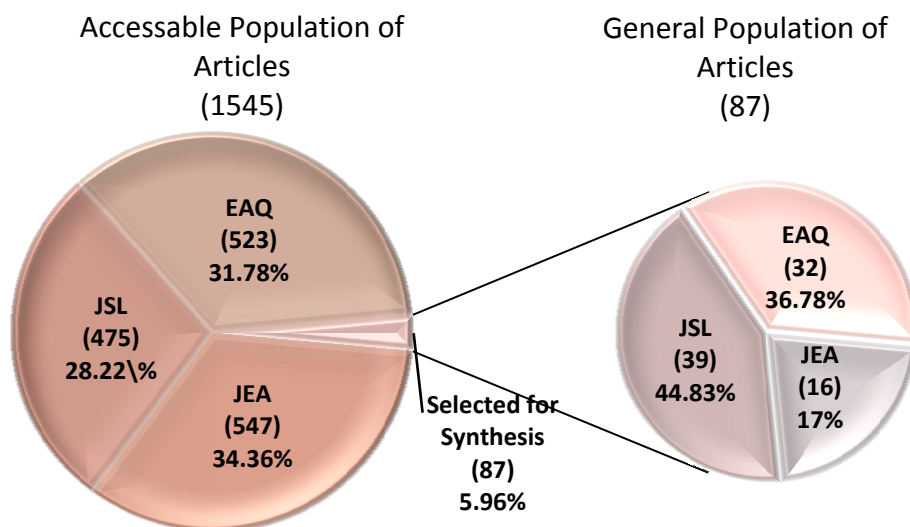
As discussed earlier in this chapter, two complete cyclic database searches were performed to ensure the stability of electronic searches and the accuracy of the general population of articles for synthesis. The integration of the initial keywords from the recently published meta-analysis review by Waters and Marzano, through the McREL

sponsorship, served to reinforce the foundational systematic search and review framework upon which this synthesis of research was developed. The Waters and Marzano (2006) study employed a confirmatory meta-analysis to investigate the research connection between school superintendents and student achievement. Although the study was conducted with a refined focus on one attribute of the technical core, student achievement is the axiomatic purpose of teaching and learning and a key construct within this exploratory research synthesis.

Upon review of both cyclical electronic database searches, it was found that both yielded congruent general populations and identical synthesis populations. The first cyclic search produced a much larger general population ( $N_{G1} = 167$ ), as opposed to the second search's production of a general population ( $N_{G2} = 87$ ). Substantively, each article that was included in the second cyclical search results was also included within the first cyclical search production. Furthermore, the resulting synthesis populations were identical ( $N_S = 13$ ). For these reasons, only the second cyclic database search was discussed throughout the remainder of this document.

The keywords used to complete the six cycles of the electronic database search, which produced the general population of articles for synthesis, are listed in Appendix B. The first cycle ( $C_1$ ) produced 21 initial population articles that met the stage one criteria for general population selection. The articles produced from this cycle were reviewed for appropriate inclusionary content, via stage one, logged into a Microsoft Excel database, and reserved for further content review and analysis for final inclusion

in the synthesized population. The six cycles individually produced the following quantity of articles for inclusion in the general population of articles:  $C_1 = 21$ ,  $C_2 = 35$ ,  $C_3 = 22$ ,  $C_4 = 2$ ,  $C_5 = 7$ ,  $C_6 = 0$ . Each investigation within the established general population of articles ( $N_G = 87$ ) indicated at least a partially linked connection between the role of school superintendents and their impact on the technical core. The relationship between the accessible populations of articles published in *EAQ*, *JSL*, and *JEA* between 1983 – 2006 and the general population of articles that have met stage one criteria for inclusion and further analysis is shown below in figure 1.



**Figure 1:** The accessible population of articles published in *EAQ*, *JSL*, and *JEA* from 1983 – 2006 that met the stage one selection criteria for inclusion in the general population of articles for further synthesis consideration.

A final content analysis of the synthesized general population ( $N_G = 87$ ) was completed to ensure that no article was overlooked for inclusion and to effectively

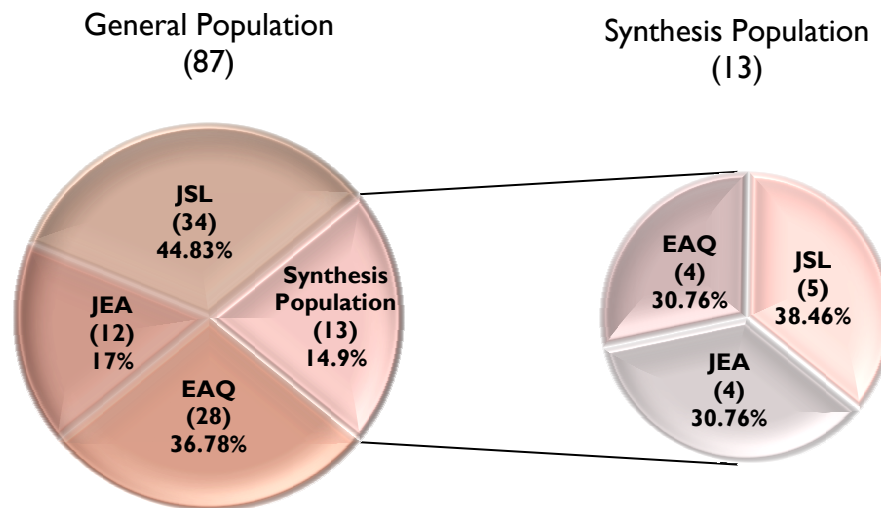
confirm the synthesis population. Each article was closely examined and foundational information such as the purpose of study, hypotheses or research questions, units of analysis, synthesis population size and location, research design, and theoretical / conceptual framework were recorded in an Excel database. The closer analysis revealed that, although the newly delineated general population of articles investigated an educational role that could be considered a connection between the superintendents' role and the technical core, the specific role of school superintendents was not the central focus of the investigation or theoretical discussion. Many of the articles mentioned one or more superintendent – technical core connections; however, the connections were not the focus nor were they purpose of the investigation. Rather, they were often sourced from a loosely-coupled research base or founded on implied conjecture by laying citations from the work of scholars in practice as groundwork to reconceptualize a theory or foundational construct to opine a particular belief. The rejected articles were largely related to the connection between the principalship and the technical core, but inferred the rudimentary underpinnings to the role of school superintendents. The analysis showed that school superintendents were one of nine units of analyses and core foci within the general population. The list of educational roles that were primarily investigated within the general population articles are listed in table 4.



**Table 4****Units of analysis within the general population ( $N_G = 87$ ) of articles that presented an initial connection with the technical core**

<b>Educational Roles</b>	<b>No. of Articles</b>	<b>Educational Roles</b>	<b>No. of Articles</b>
Superintendents	53	* Ella Flagg Biography	1
* Principals	20	* School Boards	3
* Central Administration	2	* Higher Education	3
* Schools	2	* Search Consultants	1
* Teachers	1	* Research Concerns	1

Of the 87 synthesized general population articles, 13 articles specifically focused on the role of school superintendents and at least a partial connection with technical core issues. The 13 articles were retained for the synthesis portion of this study (Appendix D). The relationship between the number of general population articles published in *EAQ*, *JSL*, and *JEA* between 1983 – 2006 and the synthesis population of articles that have met stage one (general population) and stage two (synthesis population) selection criteria for inclusion and further analysis is shown below in figure 2.



**Figure 2:** The relationship between the general population of articles and the synthesis population of articles published in *EAQ*, *JSL*, and *JEA* from 1983 – 2006 that met stage one and two selection criteria for synthesis regarding a research connection between the role of school superintendents and the technical core.

The 87 superintendent related articles were analyzed and categorized regarding their connection with the technical core to produce a true synthesized population of articles. Table 5 contains the investigative categories and the number of articles produced in each category as determined by the author of this dissertation.

**Table 5**

**Investigative focus categories and the number of articles produced in the cyclic search for empirical articles that present a possible connection between the role of school superintendents and the technical core**

<b>Investigative Focus</b>	<b>Number of Articles</b>	<b>Investigative Focus</b>	<b>Number of Articles</b>
Administrator Role	26	Administrative Behavior	25
Administrator Effectiveness	7	Administrator Qualifications	7
Technical Core	6	Boards of Education Relations	4
Career Path	3	Administrative Selection	2
Organizational Change	2	Change Agents	1
Organizational Culture	1	Gender Issues	1

The final synthesis population consisted of four articles from *Educational Administration Quarterly*, five articles from *Journal of School Leadership*, and four articles from the *Journal of Educational Administration*. Each synthesis population article contained at least one hypothesis, research question, or theoretical framework that focused on a connection between school superintendents and the technical core. The research synthesis population ( $N_S = 13$ ) articles' fundamental bibliographic information and their associated investigative focus are listed in table 6.

Table 6

**Synthesis population of *EAQ*, *JSL*, and *JAE* articles ( $N_{syn} = 13$ ) that present a research connection between the role of public school superintendents and the technical core and meet all criteria for synthesis**

Year	Lead Author	Title	Volume	Issue
<i>Educational Administration Quarterly</i>				
1987	Crowson, R.L.	The local school district superintendency: A puzzling administrative role.	23	3
2002	Grogan, M.	Defining preparation and professional development for the future.	38	2
2006	Newton, R.M.	Does recruitment message content normalize the superintendency as male?	42	4
1987	Peterson, K.D.	Superintendents' perceptions of the control and coordination of the technical core in effective school districts.	23	1
<i>Journal of School Leadership</i>				
1993	Bjork, L.G.	Effective schools-effective superintendents: The emerging instructional leadership role.	3	3
1995	Bredeson, P.V.	Superintendents' roles in curriculum development and instructional leadership: Instructional visionaries, collaborators, supporters, and delegators.	6	3
1994	Griffin, G.	Superintendent behaviors and activities linked to school effectiveness: perceptions of principals and superintendents.	4	1
1994	Impara, J.C.	Student assessment tasks and knowledge: Comparing superintendents and elementary and secondary principals.	4	5
1993	Kowalski, J.	The evolving role of superintendents in School-based management.	3	4
<i>Journal of Educational Administration</i>				
1987	Hart, A.W.	The influence of superintendents on the academic achievement of school districts.	25	1
1986	Murphy, J.	The superintendent as instructional leader: Findings from effective school districts.	24	2
1987	Murphy, J.	The administrative control of principals in effective school districts.	25	2
2002	Petersen, G.J.	Singing the same tune: Principals' and school board members' perceptions of superintendent's role as instructional leader.	40	2

*Question 2:* How many articles in the synthesized population presented empirical findings that connect the role of school superintendents and the technical core? Each article in the synthesis population was prudently reviewed to determine the experimental nature and framework. The review revealed that 9 of the 13 articles in the synthesis population (69%) presented empirical findings. The remaining four articles were not experimental; however, they discussed a superintendent – technical core connection through a theoretical essay.

It was noted during the review of the synthesis population articles for empirical foundations that two of the synthesis population articles (15%) were published in *Educational Administration Quarterly*, three articles (23%) were published in *the Journal of School Leadership*, and four of the synthesis population articles (31%) were published in the *Journal of Educational Administration*. The nine empirical articles are listed under the specific research methodology that is employed within the literature of each article are found below in table 7.

The four non-empirical articles were determined to be high quality theoretical essays that focused on at least one facet of either how school superintendents impact the technical core or the theoretical history and underpinnings for these actions. The theoretical essays are discussed in a later phase of this dissertation.

**Table 7**

**The synthesis population of *EAQ*, *JSL*, and *JAE* empirical ( $n_e = 9$ ) articles that present a research connection between the role of public school superintendents and the technical core and meet all criteria for synthesis**

Year	Author	Title	Journal	Volume	Issue
<u><i>Qualitative Methodology</i></u>					
1994	Griffin, G.	Superintendent behaviors and activities linked to school effectiveness: perceptions of principals and superintendents.	<i>JSL</i>	4	1
1987	Murphy, J.	The administrative control of principals in effective school districts.	<i>JEA</i>	25	2
1986	Murphy, J.	The superintendent as instructional leader: Findings from effective school districts.	<i>JEA</i>	24	2
1987	Peterson, K.D.	Superintendents' perceptions of the control and coordination of the technical core in effective school districts.	<i>EAQ</i>	23	1
<u><i>Quantitative Methodology</i></u>					
1987	Hart, A.W.	The influence of superintendents on the academic achievement of school districts.	<i>JEA</i>	25	1
1994	Impara, J.C.	Student assessment tasks and knowledge: Comparing superintendents and elementary and secondary principals.	<i>JSL</i>	4	5
2002	Petersen, G.J.	Singing the same tune: Principals' and school board members' perceptions of superintendent's role as instructional leader.	<i>JEA</i>	40	2
2006	Newton, R.M.	Does recruitment message content normalize the superintendency as male?	<i>EAQ</i>	42	4
<u><i>Mixed Methodology</i></u>					
1995	Bredeson, P.V.	Superintendents' roles in curriculum development and instructional leadership: Instructional visionaries, collaborators, supporters, and delegators.	<i>JSL</i>	6	3

## CHAPTER III

### PHASE 2: IDENTIFICATION OF THEORETICAL FRAMEWORKS WITHIN THE SYNTHESIS POPULATION

This chapter documents the findings from phase 2 of the synthesis of research investigation. The objective of phase 2 was to identify the theoretical framework and superintendent/technical core constructs within each article in the synthesis population. This phase defined the research design as quantitative, qualitative, mixed methodology, or theoretical essay.

Quantitative articles are identified by a hypothesis testing framework or quantitative scaffolding. Referred to as research hypotheses, they are designed and constructed around a series of research questions. Statistical hypotheses are formal statements that specify expected relationships or differences (Borg, 1987). He continued by differentiating between statistical and research hypothesis by stressing that research hypotheses, conversely, are theoretical statements that project outcomes and relationships between two or more variables. Although a direct relationship does exist between research hypotheses and statistical hypotheses; there are corresponding statistical hypotheses that identify expected outcomes for specific parameters for every research hypothesis that identifies construct expectations.

Qualitative methodologies are identified by the nature of their inquiry. Qualitative inquiry is research that focuses on the means to understanding social phenomena. It is primarily based on in-depth interviews and open-ended

questionnaires that draw upon experiences, interpretations, impressions and motivations of an individual or individuals that seek to describe how people view things and why.

Similar to a literature review, a theoretical essay is a body of scholarly work that draws upon critical points from the current research or professional knowledge base on a particular issue within the profession. However, while a literature review tenders a synopsis of significant research literature on a subject and does not serve to purport new core scholarship itself (Cooper, 1998); a theoretical essay presents an acute focus on a specific issue. Theoretical essays predominantly have a higher developed theoretical framework; this involves a higher level of empirical analysis and a deeper foundation in order for the researcher to effectively advocate a confirmatory proposition. Theoretical essays are characterized by a logical progression that usually begin with a review of current and relevant references, from which a deeper study and discussion of empirical findings is evolved.

*Question 3:* How many articles in the synthesis population of articles presented quantitative findings that connect the role of school superintendents and the technical core? Each of the nine articles, that presented empirical findings, were reviewed and analyzed to determine the empirical methodology used in each study. This analysis revealed that four articles presented sufficient quantitative data for synthesis and possibly employing meta-analytic techniques to formulate study effect sizes. The data



and information were amassed from each study review and were logged into a formatted Microsoft Excel spreadsheet and reserved for future analysis.

After each article was reviewed and relevant data was logged into the spreadsheet. A coding form was created to assist in organizing the quantitative data onto a coding sheet. The code form was specifically designed and created using Microsoft Excel Template Creator for use in this synthesis investigation. Using the 16 research questions as a fundamental guide, the code form included information such as basic demographics, investigation methodology, population characteristics, type of study, hypotheses or research questions, research design, sampling design, validity and reliability threats, type of test, synthesis population characteristics, specific test statistics, specific data required to perform meta-analytic procedures, and calculated effect size estimates. A copy of the created coding form can be found in Appendix E.

Each professional journal contributed at least one quantitative article for inclusion in this dissertation. The number of quantitative articles ( $n_{QN} = 4$ ) published, the associated journal within the synthesis population of articles, the publishing year, and the number of articles suitable for quantitative synthesis are listed in table 8.

**Table 8**

**The quantitative articles' ( $n_{QN} = 4$ ) reference information and their associated synthesis population investigation number**

<b>Investigation</b>	<b>Year</b>	<b>Author</b>	<b>Title</b>	<b>Jnl.</b>	<b>V.</b>	<b>No.</b>
<i>Quantitative Methodology</i>						
QN <sub>1</sub>	1987	Hart, A.W.	The influence of superintendents on the academic achievement of school districts.	<i>JEA</i>	25	1
QN <sub>2</sub>	1994	Impara, J.C.	Student assessment tasks and knowledge: Comparing superintendents and elementary and secondary principals.	<i>JSL</i>	4	5
QN <sub>3</sub>	2002	Petersen, G.J.	Singing the same tune: Principals' and school board members' perceptions of superintendent's role as instructional leader.	<i>JEA</i>	40	2
QN <sub>4</sub>	2006	Newton, R.M.	Does recruitment message content normalize the superintendency as male?	<i>EAQ</i>	42	4

*Question 4:* How many articles in the synthesis population of articles presented qualitative findings that connect the role of school superintendents and the technical core? Each of the nine articles were reviewed and the content analyzed to determine the empirical methodology used in each study. The qualitative review portion of the analysis confirmed that the four articles presented sufficient qualitative data for systematic research synthesis ( $n_{QL} = 4$ ). The method used to organize and maintain data while reviewing the research studies in the review of the quantitative studies was again used for the qualitative portion of the synthesis population review. The data and information needed for synthesis were culled from each study reviewed and logged into a formatted Microsoft Excel spreadsheet. Due to the similar informational needs

for research and thematic syntheses, the code form that was developed for quantitative data was adapted to collect and record the required qualitative information into the code forms.

The process of systematically reviewing qualitative articles for synthesis has recently gained recognition for providing valuable contributions that can further research and practice (Gough, 2004; Newman, Thompson, & Roberts, 2006; & Popay, 2006). As Gough (2004) and Thomas & Harden (2007) have indicated, few guidelines exist regarding the application of systematic research syntheses; this is, perhaps, one of the underlying reasons for this potential methodology has taken on several different names such as qualitative synthesis, narrative synthesis, thematic review, systematic review, etc... However, as Thomas and Harden continued, strides of progress continue to be made to further develop and refine systematic qualitative synthesis.

The synthesis of the selected qualitative articles in the synthesis population followed the guidelines outlined in the Economic and Social Research Council (ESRC) National Centre for Research Methods' article, *Methods for The Thematic Synthesis of Qualitative Research in Systematic Reviews* (Thomas & Harden, 2007). The reference information for the qualitative articles that met the synthesis population selection criteria are listed in table 9.

**Table 9****The qualitative articles' ( $n_{QL} = 4$ ) reference information and their associated synthesis population investigation number**

Investigation	Year	Author	Title	Jnl.	V.	No.
QL <sub>1</sub>	1994	Griffin, G.	Superintendent behaviors and activities linked to school effectiveness: perceptions of principals and superintendents.	<i>JSL</i>	4	1
QL <sub>2</sub>	1987	Murphy, J.	The administrative control of principals in effective school districts.	<i>JEA</i>	25	2
QL <sub>3</sub>	1986	Murphy, J.	The superintendent as instructional leader: Findings from effective school districts.	<i>JEA</i>	24	2
QL <sub>4</sub>	1987	Peterson, K.D.	Superintendents' perceptions of the control and coordination of the technical core in effective school districts.	<i>EAQ</i>	23	1

*Question 5:* How many articles in the synthesis population of articles used a mixed-methods approach in the research investigations that connect the role of school superintendents and the technical core? Each of the 9 articles, that presented empirical findings, were reviewed and analyzed to determine the empirical methodology used in each study. This analysis revealed 1 article of the 9 empirically founded articles (11%) that presented sufficient mixed methodologies to substantiate further meta-analytic analysis and thematic review analysis. Closer analysis showed that the mixed-methodology article was published in *EAQ*. No other mixed methodology article that successfully met the full population selection criteria in stage one (general) and/or stage two (synthesis) for inclusion in the synthesis of research. The numbers of mixed methodology articles ( $n_M = 1$ ) published, the journal within the

synthesized population that the article was published, the publishing year, and the number of articles suitable for mixed methodology synthesis are listed in table 10.

**Table 10**

**The mixed methodology articles' ( $n_M = 1$ ) reference information and their associated synthesis population investigation number**

Investigation	Year	Author	Title	Jnl.	V.	No.
MM <sub>1</sub>	1995	Bredeson, P.V.	Superintendents' roles in curriculum development and instructional leadership: Instructional visionaries, collaborators, supporters, and delegators.	<i>JSL</i>	6	3

*Question 6:* How many articles in the synthesis population of articles theoretical-type essays that connect the role of school superintendents and the technical core? The theoretical essays were defined through the same detailed article review of the synthesis population articles for empirical methodologies. The review resulted in identifying two theoretical essay articles published within *Educational Administration Quarterly* and two theoretical essay articles published in the *Journal of School Leadership*. No theoretical essay articles in the synthesis population were published within the *Journal of Educational Administration*. The theoretical essay articles published represent elements within the fundamental framework for the connection between the role of school superintendents and teaching and learning. Although the theoretical essays were included in the synthesis population, no attempt at

synthesizing them will be made; however, the concepts presented in these articles will be discussed in conjunction with the balance of the synthesis population articles in later chapters of this dissertation. The number of theoretical essay articles ( $n_{TE} = 4$ ) published in the three peer-reviewed journals, the publishing year, and the number of articles suitable for inclusion as a related theoretical essay are listed in table 11.

**Table 11**  
**The theoretical essay articles' ( $n_{TE} = 4$ ) reference information and their associated synthesis population investigation number**

Investigation	Year	Author	Title	Jnl.	V.	No.
$TE_1$	1987	Crowson, R.L.	The local school district superintendency: A puzzling administrative role	EAQ	23	3
$TE_2$	1993	Bjork, L.G.	Effective schools-effective superintendents: The emerging instructional leadership role	JSL	3	3
$TE_3$	1993	Kowalski, J.	The evolving role of superintendents in School-based management. <i>Journal of School Leadership</i>	JSL	3	4
$TE_4$	2002	Grogan, M.	Defining preparation and professional development for the future	EAQ	36	1

*Investigation  $TE_1$* : In his theoretical essay regarding the evolution of the instructional leadership role of school superintendents, Björk (1993) asserted that the role of school superintendents has made some progress in directly influencing teaching and learning. He posits that superintendents' instructional leadership role has waxed and waned in prominence and importance over the past 100 years; however, three

waves of educational reform in the 1980's have had great impact on the instructional leadership roles of school and district administrators. Björk's findings were consistently tied directly to, drew from, or branched off of the effective schools research (Cuban, 1984; Murphy & Hallinger, 1986; Murphy, Hallinger, Peterson, & Lotto, 1987; & Peterson, Hallinger, & Murphy, 1987); a number of the articles cited were included in the synthesis population within this research synthesis and are discussed in a later phase.

However, as consistent throughout superintendent research conducted since the 1980's, Björk (1993) asserted:

Our understanding of the effects of superintendents' leadership on instruction and student learning in individual schools and classrooms is limited. Studies indicate that the chief executive officer in most organizations remains far removed from core production activities and instead focuses on issues such as corporate planning, external relations and finance ... If we expect superintendents to act as instructional leaders in school districts, it is crucial that we better understand the contextual constraints of their work, as well as the opportunities for how their leadership and management activities can be reframed to more effectively support the instructional efforts of principals and classroom teachers at the opposite end of the education hierarchy.

The above quote from Björk, written in 1993, reflects a prominent conclusion of this research synthesis. This conclusion is discussed in below in Chapter VII.

*Investigation TE<sub>2</sub>*: Reaching back five years, Crowson (1987) cited Cunningham and Hentges (1982) to lead off The Superintendent's Impact section of his theoretical essay; he cites Cunningham and Hentges in stating:

One of the most surprising observations about the superintendency is the relative lack of inquiry into how these executives manage the internal organizational affairs of their school districts. In their survey of superintendents, Cunningham and Hentges (1982, p. 41) asked respondents what new skills or information they felt they needed to continue to be effective. Topping the list was "general management skills." ... the general [leadership and] management behavior of superintendents, including, of course, the nature of their "impact" upon the schools, is poorly understood.

Crowson (1987) continued through his theoretical collective and points out that school superintendents and the district central office staff have little impact on the activities and functions of individual schools. When district leaders do have impact, it seldom falls within the curriculum and instruction areas. The findings that reflect this type of superintendent role construct is not surprising when considering that the primary research from which Dr. Crowson drew was completed during the beginning stages of school reform after *A Nation at Risk: the Imperative for Educational Reform* was published in 1983.

However, Crowson (1987) asserted that investigations into the superintendency indicate that school superintendents do directly impact local schools through strategic controls placed on school activities and direct supervision of campus principals. He further stated that research also indicated that the supervision of campus principals was loosely coupled and also needed reform structures developed to improve this control mechanism.



*Investigation TE<sub>3</sub>*: The theoretical essay published in Grogan (2000), although discussed aspects of a connection between school superintendents and the technical core and therefore included in the synthesis population, the essay was constructed, controlled, and guided through a feminist post-modern framework. The history of the school superintendency from the 1950's through the end of the 1990's was discussed in a tightly woven tapestry of scholarly research, but was first immersed in a post-modernistic wash before the investigative citations were put to the cloth.

Grogan (2000) then asserts a feminist post-modern perspective of the superintendency. Although her argument encompassed connections between school superintendents and the technical core in appearance, its underlying core focus, however, targeted the promotion of the re-conception of the role of school superintendents through a feminist perspective and therefore distorting the usefulness of her essay in this dissertation.

*Investigation TE<sub>4</sub>*: In their theoretical essay regarding the evolution of the school district superintendent's role, Kowalski and Oates (1993) discussed the key factors that brought about the need for this evolutionary change. They initiated their discussion with an explanation of school superintendents' traditional role involving district management, the primary task of the district budgeting process, and other nonteaching roles such as hiring personnel and policy recommendations. Kowalski and Oates then argued that the tipping point in which the superintendency role began to evolve was the onset of school-based management systems. School-based

management forced the leadership within the school district organization to decentralize and reorganize decision-making structures to be employed at the most appropriate [campus] level.

A result of this decentralization meant a corresponding reorganization of the roles, functions, and competencies of school superintendents. Kowalski and Oates (1993) explained the instructional leadership role change of superintendents through citing Herman's (1990) interpretation of superintendent related competencies and skills associated with their role as an instructional leader. These cited skills and competencies are:

1. The allocation of instructional personnel.
2. The organization of the district's instructional program.
3. The support of instructional programs.
4. The professional development of instructional personnel.
5. Instructional program planning.

The above conclusions, written and published in 1993 by Kowalski and Oates, reflect important conclusions posed within dissertation. The conclusions are discussed in below in Chapter VII.

## CHAPTER IV

### PHASE 3: SYNTHESIS POPULATION CONSTRUCTS AND RESEARCH DESIGNS

The results of phase three of this research synthesis are discussed in this chapter. The objective in phase III was to identify the target population, the target population characteristics, and the research design of each article in the synthesized population as identified in the previous phases. The target population is the population to which research findings are generalized (Borg, 1987). The design of a research study is directly linked to the depth and breadth of the research question being asked or hypothesis stated. In secondary research investigations such as research reviews, syntheses and meta-analytic studies, as Slavin (1995) pointed out, the research design of such studies can result in the loss of valuable information revealed through primary research efforts due to the limiting criteria of the design. He further indicated that a study's design can also be too inclusive; hence, formulating conclusions may be a rather difficult task.

Quantitative research designs present systematic objective methods that are employed to test, describe, and explain a phenomenon. For the purpose of this dissertation the general classifications for quantitative research designs were: randomized and quasi-experimental research designs. The specific randomized research designs included pre-test – post-test, post-test only, and the factorial research

designs. The specific quasi-experimental designs included the non-equivalent and the time series research designs.

Golafshani (2003) quoted Strauss and Corbin (1990) to define qualitative research in general terms as, “any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification” (p. 17). There are numerous differences between qualitative and quantitative research methods. The basic goal of quantitative research is based more on causality and statistical reference; whereas qualitative research is based more on understanding phenomenon and the experiences of those who are exposed to it (Cook & Reichardt, 1979).

Qualitative research designs present systematic experiential methods that are employed to describe insights and perceptions of a phenomenon. For the purposes of this dissertation the general qualitative research designs were classified as ethnographical, phenomenological, narrative, or case study research designs.

Ethnographical designs attempt to describe the relationship between organizational culture and the behavior of the organizational members. Data is collected primarily through observation and individual or panel interviews. Phenomenological designs are employed in an attempt to gain insight and understanding of a specific experience or phenomenon that occurred. Data is collected through interview-type dialogues with people who shared the same phenomenon. Case study designs attempt to gain an understanding of the characteristics of a particular phenomenon or change experience (i.e. school reform). Data is collected through multiple in-depth interviews with

participants and organizational observations during a concentrated fieldwork experience. In contrast to quantitative research designs, it is common to draw upon more than one qualitative design in a single inquiry.

Because of rather large differences in method and purpose of conducting quantitative and qualitative, constructs also dictate that the approaches used to ensure the accuracy and consistency of empirical investigations using qualitative methods would foundationally differ from its quantitative cousin. Quantitative foundations make the distinction between validity (internal and external) and reliability. In contrast, qualitative foundations use both the measures of validity and reliability together to explain the quality of the inquiry and have been defined as the trustworthiness of the study (Lincoln & Guba, 1985; Johnson, 1997; & Winter, 2000). For the purposes of continuity within this dissertation, trustworthiness was the soul term used as the qualitative measure of validity and reliability. The broad array of terms, as Winter (2000) posited, used to describe qualitative study consistency and trustworthiness in positivistic, feminist, modern, post-modern, and other multi-faceted constructs was limited to the terms used within the synthesized qualitative article population only.

Mixed-methodological research uses both qualitative and quantitative research designs, described above, during a single research investigation. Mixed-method research designs are constructed by the researchers involved in the study and select

the specific research designs employed that appropriately suite the investigative purpose, conceptual framework, and research questions asked through the research.

This phase also identified research threats that may have influenced the investigation results in each article. Specific article discussions regarding these threats were noted and accounted. Quantitative articles were evaluated for internal and external threats to validity and reliability. Qualitative articles were evaluated for the trustworthiness; specifically, the credibility and dependability of each article and are further discussed through questions 7 – 12.

*Question 7: What were the primary technical core constructs / themes in the synthesis population of articles that connect the role of school superintendents and the technical core?* The primary technical core constructs in the synthesis population of articles were defined by two approaches. In first approach, each article construct was identified through the stated theoretical or conceptual framework and by the presented hypotheses or research questions asked. This approach evaluated each empirical article independent of the core focus of this investigation (not in relation to the superintendent / technical core connection) and was an integral part of synthesis population selection process. The primary technical core constructs associated with each synthesis population article is located below in table 12.

The second approach evaluated each empirical article core construct as it related to the connection between school superintendents and the technical core. As in the above discussed, articles were selected for synthesis population inclusion if they

at least partially presented a direct connection between school superintendents and the technical core. This approach revealed a clearer picture of the core construct of this connection. This approach was also used to evaluate the rudimentary potential for the synthesis of studies discussed in a later chapter of this dissertation. The technical core constructs of the 13 synthesis population articles in table 12, below, lists each article construct by the specific investigation. Directly following table 12 is a second table in which the technical core constructs of the 13 synthesis population articles are again listed; however, the technical core construct categories listed in table 13 have been categorized by the methodology employed in the study.

**Table 12**

**The primary technical core constructs within the synthesis population of articles, the specific core content, and the frequency of methodology within each theme**

<b>Investigation Number</b>	<b>Article Constructs</b>
<i>Qualitative Investigations</i>	
QL 1	Organizational Management Organizational Outcomes Role Definition
QL 2	Instructional Leadership Instructional Leadership Role Definition
QL 3	Administrative Control Organizational Performance
QL 4	School Effectiveness Instructional Leadership Student Achievement

**Table 12 (Continued)**

<b>Investigation Number</b>	<b>Article Constructs</b>
<i>Quantitative Investigations</i>	
QN 1	Instructional Leadership Academic Achievement Influence
QN 2	Superintendent Task Knowledge, Superintendent Instructional Leadership Skills
QN 3	Instructional Leadership & Role Definition Organizational Structures Feminist conceptual framework
QN 4	Instructional Leadership Role Attractiveness District Size
<i>Mixed-model Investigation</i>	
MM 1	Educational Leadership Instructional Leadership Type Instructional Leadership Characteristics

**Table 13**

**The technical core constructs of the overall synthesis population listed by general technical core construct category and methodology used**

<b>Technical Core Construct/Theme</b>	<b>QL</b>	<b>QN</b>	<b>MM</b>	<b>TE</b>	<b>Total</b>
<i>Actions &amp; Behaviors</i>					
Systemic Impact	1	1			2
Control & Coordination	3				3
Bureaucratic Influence				1	1
Use of Vision & Mission		1			1
<i>Role Definition &amp; Requirements</i>					
Leadership Strategies				1	1
Leadership Characteristics				1	1
Leadership Types			1		1
Role Definition & Preparation				1	1
Job Attraction		1			1
Prof. Knowledge & Skills		1			1
Total per category =	<b>4</b>	<b>4</b>	<b>1</b>	<b>4</b>	<b>13</b>



*Question 8:* What is the target population of each identified empirical article in the population of articles that connect the role of school superintendents and the technical core? The results of the synthesis population analysis revealed the target population with each study and are shown below in table 14. As a result of the synthesis population selection criteria, all target populations within each article were superintendents. However, there was differentiation with regard to the regional locations of the target populations. The analysis revealed that 5 of 9 (56%) studies targeted western regions of the United States. All qualitative studies targeted western regions of the United States; specifically, two studies (22%) targeted California superintendents, one study (11%) targeted Oklahoma superintendents, and one study (11%) was non-specific about which western state that superintendents were targeted.

Analysis of the quantitative studies indicated that 3 of the 4 investigations specified a more generalized target as an investigative focus by stating or inferring that the target population was all superintendents. One of the four quantitative investigations did specify California superintendents as the target population. Finally, the mixed-methodology article specified Wisconsin superintendents as the investigation target population.

**Table 14****The target population of each identified empirical article in the synthesis population by methodology of investigation**

<b>Investigation Number</b>	<b>Target Population</b>
<u><i>Quantitative Methodology</i></u>	
QN <sub>1</sub>	California Superintendent
QN <sub>2</sub>	Superintendents
QN <sub>3</sub>	Superintendents
QN <sub>4</sub>	Superintendents
<u><i>Qualitative Methodology</i></u>	
QL <sub>1</sub>	California Superintendents
QL <sub>2</sub>	Western State Superintendents
QL <sub>3</sub>	California Superintendent
QL <sub>4</sub>	Oklahoma Superintendent
<u><i>Mixed-Methodology</i></u>	
MM <sub>1</sub>	Wisconsin Superintendents

*Question 9:* What characteristics are associated with each target population of each identified article in the synthesis population of articles? Population characteristics, for the purpose of this synthesis of research study, are the descriptive qualities and parameters under which the target population for each synthesis population article was selected. These characteristics include: sample size, group sizes, units of analysis, and target population location (previously discussed). The identification of the target population characteristics assisted in the identification of possible moderator variables (Hunter & Schmidt, 1990) within the quantitative investigations. The list of sample groups and their corresponding abbreviation

definitions are listed, below, in table 15. Moderator variables, as Wilson and Lipsey (2006) define, variables that influence variations of effect size estimates will be discussed in further detail in Chapter V.

**Table 15**  
**Target population sample group abbreviations and their corresponding units of analysis**

Sample Group Abbreviation	Abbreviation Definition	Sample Group Abbreviation	Abbreviation Definition
$N_M =$	Male Principals	$N_S =$	District Superintendents
$N_F =$	Female Principals	$N_{SB} =$	School Board Members
$N_{EL} =$	Elementary School Principals	$n_{AASA} =$	American Association of School Administrators
$N_{MS} =$	Middle School Principals	$n_{NASSP} =$	National Association of Secondary School Principals
$N_{HS} =$	High School Principals	$n_{NAESP} =$	National Association of Elementary School Principals
$N_P =$	Campus Principals		

The analysis of the quantitative articles within the target population revealed that the sample sizes range from  $N = 78$  participants in the 2002 study to  $N = 1685$  participants in the 1994 study. The group sizes within each target study were relatively balanced, with the exception of the three groups surveyed in the 2002 study. The largest group size in this study ( $n_{NAESP} = 836$ ), which represented members of the National Association of Elementary School Principals (NAESP) was overwhelmingly the

largest group in the target study. This sample group was almost twice the size of the respondents from the American Association of School Administrators (AASA) members and more than twice the size of National Association for Secondary School Principals (NAESP) members. These rather stark differences in sizes are discussed further in research question 11. The units of analysis used in the quantitative used to infer information about the target population included: principals, superintendents, school board members, and school districts. Table 16 (below) summarizes the target population characteristics so between and within study attributes may be clearly compared.

**Table 16**

**The characteristics associated with the target populations within the synthesized population of articles**

<b>Investigation Number</b>	<b>Sample Size</b>	<b>Sample Groups &amp; Sizes</b>	<b>Unit of Analysis</b>	<b>Target Population</b>
<i>Quantitative Methodology</i>				
QN <sub>1</sub>	N = 131	n <sub>eIP</sub> = 65      n <sub>hsP</sub> = 66	School Districts	California Superintendent
QN <sub>2</sub>	N = 1685	n <sub>AASA</sub> = 473    n <sub>NAESP</sub> = 371    n <sub>NAESP</sub> = 836	Principals & Superintendents	Superintendents
QN <sub>3</sub>	N = 78	n <sub>p</sub> = 46      n <sub>sb</sub> = 32	Principals & board members	Superintendents
QN <sub>4</sub>	N = 180	N <sub>MP</sub> = 90      n <sub>fp</sub> = 90	Principals	Superintendents

**Table 16 (Continued)**

<b>Investigation Number</b>	<b>Sample Size</b>	<b>Sample Groups &amp; Sizes</b>			<b>Unit of Analysis</b>	<b>Target Population</b>
<i>Qualitative Methodology</i>						
QL <sub>1</sub>	N = 22	n <sub>s</sub> = 6	n <sub>p</sub> = 16		Superintendents & Principals	Oklahoma Superintendent
QL <sub>2</sub>	N = 12	n <sub>elP</sub> = 5	n <sub>msP</sub> = 3	n <sub>hsP</sub> = 4	Superintendents	California Superintendents
QL <sub>3</sub>	N = 12	n <sub>elP</sub> = 5	n <sub>msP</sub> = 3	n <sub>hsP</sub> = 4	Superintendents	California Superintendents
QL <sub>4</sub>	N = 12	n <sub>elP</sub> = 5	n <sub>msP</sub> = 3	n <sub>hsP</sub> = 4	Superintendents	Western State Superintendents
<i>Mixed-Methodology</i>						
MM <sub>1</sub>	N = 326	--	--	--	Superintendents	Wisconsin Superintendents

The analysis of the qualitative studies within the target population with comparatively smaller sample sizes than the quantitative studies. One study, published in 1994 and conducted in Oklahoma, stated a sample size of 22 interviewees. This sample consisted of six superintendents and sixteen campus principals, all of whom were employed in the same six school districts within the investigation. Five of the six school districts had a reported population range of 2,840 – 10,000 and the sixth school district was reported to have a population of 26,874. Furthermore, the study reported that for a superintendent to be selected for inclusion in the study, they must have had a minimum of three years of experience as a superintendent; whereas, the campus level principals needed a minimum of one year as the principal for their present campus. The three remaining studies within the synthesis population each reported sample sizes of 12 interviewees. The sample groups were also identical in their size and

educational position of the personnel interviewed. These sample groups and respective positions are: elementary principals ( $n_{el} = 5$ ), middle school principals ( $n_{ms} = 3$ ), and high school principals ( $n_{HS} = 4$ ). Furthermore, the selection of the six districts in each study were based upon achievement score data from state tests and aggregated at the district level. Two of the three regional locations of the three target population investigation, as previously mentioned, was California and the third was a western state.

Through comparative appraisal, as Sandelowski and Barroso (2007) asserted, studies that are included in a thematic review are summarized and compared for common links and key factors that assist in the integration of the qualitative studies. They continued by emphasizing that comparative reviews also provide the opportunity to reveal any duplicate studies that “overweight a finding contained in two or more reports from the same group of participants” (p. 82). However, different reports may be drawn from the same sample for the purpose of conducting a different investigation. The comparative appraisal of these findings, as indicated above, strongly infer that all three articles (Murphy & Hallinger, 1986; Murphy, Hallinger, Peterson, & Lotto, 1987; Peterson, Hallinger, & Murphy, 1987) were generated from the same investigation, or at least, from the same qualitative data source. The common findings revealed in these articles were treated as if they were generated through a single investigation so that over emphasis of these findings may be avoided. Findings that appear independently in each article were treated as they were independently

revealed. By approaching this issue in this manner, a form of bias that can occur in systematic reviews was attempted to be minimized (Andrews & Harlen, 2006).

There was one mixed-methodology article published between 1983 and 2006 that met the inclusionary criteria for this synthesis of research. The investigation, surveyed the superintendent population of the state of Wisconsin, less the 30 superintendents who were interviewed to generate the initial questionnaire and also members of the review panel who piloted the mixed method questionnaire. Of the 397 eligible respondents 326 (82%) viable questionnaires were returned for inclusion and analysis. Quantitative data that was generated through the questionnaire were descriptive (demographic) statistics, rank order (ordinal and frequency) data regarding superintendent task importance and frequency, and Likert scale questions (ordinal) about superintendents' involvement in curriculum and school board expectations. Qualitative data was culled through open-ended survey questions that queried superintendents about their instructional role as superintendents and to identify the major themes that described the work of the chief educational officer in a school district.

A major concern, however, was brought to light as the mixed-methodological study was reviewed and then more cautiously analyzed. As Bredesen (1996) states,

It is important to point out that when rankings (ordinal data) are reported as arithmetic means (interval level data) the researcher has violated a major assumption about the population and its characteristics. Further, the use of rank-order means in parametric tests of differences (one-way analysis of

variance) among instructional leader types violates the assumption of interval data, and thus the findings must be viewed with these limitations.

In light of the synthesist's analysis, coupled with Dr. Bredesen's own recognition of the statistical assumption violations, the quantitative data that could be utilized for meta-analytic combination will not be integrated for effect size measures. Instead, the descriptive, frequency, and rank-order data was combined with the qualitative data gathered from the open-ended survey questions and included with the qualitative articles for discussion and review purposes throughout the rest of this synthesis of research.

*Question 10:* What research design was implemented in each article of the identified synthesis population of articles that connect the role of school superintendents and the technical core? As previously discussed, quantitative research designs are, in general, classified as experimental, quasi-experimental, controlled observation, cohort studies frameworks, and case control (non-experimental) designs (Khan, Khalid, Gerben, Glanville, Sowden, & Kleinjnen, 2001). The research design that investigators construct may assist synthesists and meta-analysts with the article review, study purpose, methodological quality and identification, and the type of synthesis one is able to apply to the data within the investigation. A resulting benefit of systemic research review development in recent years has been the creation and refinement of quality assessment measures and



checklists that are readily available to researchers (Khan, Khalid, Gerben, Glanville, Sowden, & Kleinjnen, 2001).

The researchers, who guided the first investigation discussed below, used a randomized experimental research design that drew upon historical California state testing data from 1982 (Hart & Ogawa, 1987). The investigators drew upon inferential techniques in business, similar to the methods used in analysis of variance, which examined the sales and profits portion of the industry and whilst controlling for extraneous variables such as organizational and environmental factors that would ordinarily confound the data. Hart and Ogawa (1987) utilized this same statistical technique, termed a decomposition of variance, in which a percentage of the resulting variation becomes attributed to specified factors or variables. Similar to the variables controlled in business research, Hart and Ogawa controlled for environmental and school district factors. In this investigation, the percentage of variation was attributed to district superintendents' influence on student achievement as indicated by the California Assessment Program (CAP) results for the 1981 – 1982 school year. The technical core issue that connects with school superintendents in this study is the systematic influence that school superintendents have as they impact the technical core regarding student achievement.

The balance of the four quantitative investigations employed itemized questionnaires to collect the necessary data needed for the completion of their investigation. Surveying the National Association of Elementary School Principals, the

National Association of Secondary School Principals, and the American Association of School Administrators, Impara et al. (1994) used a 47 item questionnaire that randomly surveyed principals and superintendents from the above organizations regarding their personal knowledge of required student assessment tasks and the knowledge of how and why the tasks are performed by teachers and administrators. Technical core issues associated with school superintendents in this study indicate the systematic impact of superintendents' professional knowledge and skills on student assessment and achievement.

A different facet of the superintendent – technical core connection was explored by Petersen (2002) as he non-randomly surveyed six school board members and sixteen campus principals in five separate districts regarding their perceptions of superintendents as they fulfill their role as an instructional leader. The Instructional Leadership Personnel Survey (ILPS) was developed from existing instructional leadership literature and integrated with in-depth ethnographic interviews with district superintendents, campus principals, school board members. The culled interview data stemmed from the larger mixed-methodology parent investigation of which this article is a part. The final ILPS consisted of a 52 item questionnaire which was used to gather information from the respondents about their perceptions of the district superintendent's engagement with their instructional leadership role.

The fourth quantitative study that met the synthesis population criteria was conducted in 2006 in which the researcher examined Tallerico's (2000) feminist

conceptual framework as it applied the attractiveness of the superintendency through a hypothetical superintendent job posting. The three part questionnaire was centered on a superintendency position recruitment message. The first part of the questionnaire provided fundamental data, such as job title, application deadline, student population, and starting date, to provide need enough information that would potentially spark an interest in pursuing the open leadership position. The student population data varied (1,500, 3,000, or 12,000 students) between individual respondent's surveys to examine if student population (district size) influenced the decision-making processes of the applicant as a result of their gender. The second section contained the specific job description that varied through a construct shift that emphasized instructional leadership, political leadership, or managerial leadership. The variation in job description constructs was to enable the same type of gender analysis as the variations in district size, but instead regarded the specific leadership construct(s) that males and females gravitate to more strongly than the other possible paradigms. The third portion of the survey contained three Lickert-type questions, each of which consisted of five possible answer selections possibilities. These three questions were the sole source of data collection for the investigation and amassed specific data regarding the holistic attractiveness of the job description, the potential pursuit of the position if it were a true open position and job acceptance if it would have been offered. The technical core – superintendent construct in which this investigation focused was job attractiveness as it relates to instructional leadership

Qualitative research designs are typically classified as ethnographical, phenomenological, narrative, or case study in nature. More than one methodological design is often incorporated into the same study depending on the nature and needs for specific data, constraints and permissions of the organization in which the study is conducted, and requirements and limitations such as allotted time and resource availability.

As identified and explained above in research question five, three of the four qualitative articles in the synthesis population will be treated as if the combined information came from a single study. Unique findings revealed in a single study will be treated respectively with each individual study. Murphy and Hallinger (1986), Murphy, Hallinger, Peterson, and Lotto (1987), and Peterson, Hallinger, and Murphy (1987) each employed an ethnographic research design to investigate the 12 district superintendents as instructional leaders. The ethnographic portion of their study was in the form of 2 – 3.5 hour interviews with each of the 12 superintendents contributing to the investigation. The authors also mentioned that an additional two hours were needed after each superintendent interview to amass and organize the amount of data. Although the authors may not have named a second research design specifically, they did describe the actions and elements of a case survey. As all the studies describe, the time spent after interviews involved organizing, classifying, memoing, and streamlining notes so that the investigation team could differentiate the data accrued through the interviews. They further describe the methods utilized to reduce the data to a usable

form and display the data in an organized sensible manner. The case survey design (method) reduces, organizes, and streamlines qualitative data into artifact lists so that the data can be analyzed with greater ease. After the interview data was reduced and organized, the data was placed into descriptive matrices for display and continued analysis. Data were separated by and grouped by size and type of district.

Griffin and Chance (1994) surveyed and interviewed six superintendents and sixteen campus level principals, distributed throughout the six district focus of this investigation. Two forms of a Lickert-type questionnaire was developed, one for superintendents and the other for principals, and used in the study. The principal questionnaire was designed to gain insight into the perceptions that campus principals have about superintendent behaviors and activities during the districts' reform efforts while moving toward an effective schools design. The second questionnaire contained an open-ended question design and was given to superintendents to complete. The superintendent surveys guided each superintendent to reflect on their own behavior and activities as the district was progressing through school reform and moving toward the effective schools design framework. The surveys were cross-referenced with each other to enable an appropriate organizational system and for ease of respondent referencing in conjunction with other questionnaire. The districts that participated in the investigation were asked to give background and archival data to the study researchers. These data included student achievement data, policy and regulations, district goal and mission statements, and school improvement/school effectiveness

plan for the school years from 1988 – 1991. The technical core – superintendent construct that this investigation examined was leadership characteristics and professional knowledge and skills

Mixed-methodology research designs employ a combination of qualitative and quantitative methodologies. However, as previously explained, for the purposes of this synthesis of research, the data and information gathered from the mixed-methodology article, Bredeson (1996), will be discussed within the qualitative portion of the synthesis population. This article reported the findings from a three page open and close-ended questionnaire that assisted responding superintendents with describing the work that they perform. The survey questions were also designed to reveal what superintendents mean when they refer to their instructional leadership activities and engaged in curriculum development. The descriptive statistical data was collected, organized, and recorded for analysis. The written answers from the open-ended questions were coded, transcribed, and recorded. Major themes that described superintendent actions and behaviors were uncovered through a constant comparative method of qualitative data analysis. The research designs for each of the synthesis population articles discussed above are listed below in table 17.

**Table 17****The research design of each article identified in the synthesis population**

<b>Investigation Number</b>	<b>Research Design</b>	
<i>Qualitative Articles</i>		
QL <sub>1</sub>	Case survey / Ethnography	
QL <sub>2</sub>	Case survey / Ethnography	
QL <sub>3</sub>	Case survey / Ethnography	
QL <sub>4</sub>	Open-ended Survey / Ethnography	
<i>Quantitative Articles</i>		
QN <sub>1</sub>	Experimental: Randomized Post-test Only	
QN <sub>2</sub>	Randomized Survey	
QN <sub>3</sub>	Non-Random Survey	
QN <sub>4</sub>	Randomized Survey	
<i>Mixed-model Articles</i>	<i>Quantitative portion</i>	<i>Qualitative portion</i>
MM <sub>1</sub>	Open& Close-ended Survey	Ethnographic

*Question 11:* What are the threats to external validity of the quantitative articles identified in the synthesis population of articles that connect the role of school superintendents and the technical core? Burns and Grove (1993) defined external validity as the extent to which study findings can be generalized beyond the sample used in the study. With regard to systematic review standards, a study that has excellent external validity is most likely free of content or systematic biases. Conversely, a threat to external validity is defined as any interference that risks the

generalizability of a study. The major classifications of external validity threats and correlating the explanations are listed below in table 18.

**Table 18**

**The major classifications of threats to external validity and corresponding explanations**

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<i>Population/Sampling threat</i>	The sample does not represent or "mirror" the population – the target population does not come from the accessible population.
<i>Ecology Threat/Reactive Effects</i>	The study conditions (other than the treatment) cause subjects to react or behave differently than they would under normal conditions.
<i>Hawthorne Effect</i>	The fact that subjects <i>know they are being studied</i> affects the results.
<i>Novelty Effect</i>	This occurs when the responses of the study are partly a function of the newness or novelty of the experimental approach
<i>Time</i>	A historical event at the time of the study <i>that happens to all subjects</i> alters the results.

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During the review and analysis of the synthesis population articles, any threats to validity stated by the author were noted and included in the appropriate synthesis discussion phase as stated limitations by the author. Even though an author may justify the cause for the limitation, which also promotes credibility by stating these validity limitations are present, it does not alleviate or lessen the possible effects of the threat.

*Investigation QN<sub>1</sub>*: From the information that Hart and Ogawa (1987) published in the *Journal of Educational Administration* regarding the degree of influence that school superintendents have on student achievement, an external validity threat due to



sampling. No mention of any stratified sampling techniques that accounted for the differentiation of population between regional populations in CA. This was an important factor when student population, cultural, racial, socio-economic, and mobility differences between school districts and geographic regions needed to be considered to accurately represent the sample population.

Stratified sampling divides a population into strata in accordance previously determined criteria (i.e. district size, ethnicity make up, wealth). Probability samples are then proportionally drawn from each stratum so that appropriate representation is accomplished. Employing a stratified sampling method would have ensured appropriate representation of California public schools with regard to the differentiating factors in the above discussed. By using a randomized sampling technique in this investigation, population differences were not accounted for in this investigation.

*Investigation QN<sub>2</sub>*: Through the researchers' survey design, questionnaires were randomly sent to the members of the National Association of Elementary School Principals (NAESP), the National Association of Secondary School Principals (NASSP), and the American Association of School Administrators. Impara, et al. (1994) defined the differentiation of their sampling design as:

A target of 1200 responses was set with the expectation of receiving approximately 400 from each organization ... To achieve the target number of responses, 4,000 questionnaires were sent out to a random sample of 1000 members of AASA and NASSP and to 2000 members of NAESP.

The explanation offered to substantiate sending 4,000 questionnaires to achieve the target sample size was based upon the average response rate of each educational administration organization in the study; no empirical foundations from research literature was offered in the study to substantiate a sampling plan of this nature. Wang and McNamara (1997) asserted that probability sampling is based upon a defined survey population, followed by a sampling frame that is created through the research design, sampling strategies, available resources, and statistical procedures. For instance, if an organization has a total population of 60,000 members, using probability sampling at a 95% level of confidence, a calculated sample of 382 members is the appropriate sample size to survey the organization when simple random sampling techniques are employed.

Impara, et al. (1994) seriously overestimated the target sample ( $N_T = 1,200$ ) in their investigation when probability sampling procedures indicate that the calculated target sample size was approximately one-third of the studies target sample. Dillman (2000) provided a sample size calculation (01) where:  $N_s$  = the sample size needed for the desired level of precision;  $N_p$  = population size;  $P$  = the proportion of the population;  $B$  = predicted sampling error;  $Z$  = z statistic based on confidence level.

$$N_s = \frac{(N_p) \times (p) \times (1 - p)}{(N_p - 1) \times (B / Z)^2 + (p) \times (1 - p)} \quad (01)$$

This calculation is used in probability sampling to accurately estimate the number of respondents needed to estimate the characteristics of a population.

The researchers compounded the above sampling threat with a disproportionate stratified sampling structure. NAESP and NASSP members are primarily campus level administrators, whereas AASA members are primarily superintendents. Even through the principal organizations are independent organizations, they are both subsets of the total population of principals. As a result, 72% of the sample consisted of campus level administrators; an over-representation of principals in the investigation in comparison to school superintendents.

The sampling design, design procedures, and response rate information discussed above each presented serious threats to external validity due to sampling. External validity threats, including sampling threats, directly severely limit the generalizability possibility of the study results and conclusions. As a result, serious consideration was given with regard to the applicability and weight of this study as effect size estimates were calculated and combined.

*Investigation QN<sub>3</sub>*: In Petersen, (2002) the sample population consisted of principals ( $n_p = 46$ ) and school board members ( $n_{SBM} = 32$ ), which yielded  $N_T = 78$  (87% return rate). This quantitative investigation was part of a larger mixed-methodology study that involved the participation of campus principals, district superintendents, and school board members through in-depth ethnographic and survey measures to investigate instructionally centered superintendents. The Instructional Leadership

Personnel Survey (ILPS), a 52 question Lickert-type questionnaire, was mailed to each of the 78 participants. The central purpose of the ILPS was to derive information about principals' and school board members' perceptions of the district superintendent's behavioral characteristics and superintendent's efforts to sustain their focus on technical core issues.

Two concerns presented core issues with regard to any threat to external validity in the Petersen (2002) study. First, the original non-random sample of the five school districts selected, with district participation approval, most-likely presents a true threat to external validity due to sampling. The small sample size, five school districts, presented major reservations from researchers in the field about generalizing much past the population within the scope of the study. The study, although limited by the above sampling design, was not limited in the selection of principals and school board members through the criterion-based selection procedures outlined in the study. However, the ability to generalize beyond the five districts, and their superintendents, who participated in the investigation to a larger population of instructionally centered superintendents was not possible.

The second threat to external validity in this study was due to possible reactive effects such as, Hawthorne and novelty effects. The overall study was a large mixed-methodology study that involved multiple in-depth interviews and observations. The study's framework and involvement in each district, increases the likelihood of the Hawthorne effect and/or novelty effect influencing the study results. The Hawthorne

effect influences study results through participants' behavioral changes when they are aware that they are being observed as part of a study. Similarly, the novelty effect takes place when participants' behaviors or responses change due to the newness or uniqueness of the investigation. As a result, these external validity threats were considered when effect size calculation decisions were made during the quantitative synthesis phase in the next chapter.

*Investigation QN<sub>4</sub>*: In the most recently published article within the synthesis population, Newton (2006) investigated whether or not recruitment messages attract a particular gender over the other. The investigation was structured around the feminist conceptual framework found in Talerico (2000). Of the 360 randomly selected Alabama principals, 272 viable questionnaires (76%) were returned for analysis. The article author did not differentiate between the number of questionnaires that were returned by males and females. However, only 180 of the 272 returned questionnaires were used to complete the study. This constituted a major change in the research design structure of this investigation and greatly increasing the threat to external validity due to sampling. The restructured and selected sample of Alabama principals consisted of 90 male and 90 female participants (N=180). The sampling procedures are indicative a more complex sampling frame and not one of simple random sampling (Wang & McNamara, 1997). Based upon the sample equity regarding gender, educational level, and the techniques used to acquire equal sample sizes in accordance with their gender and organizational level, the sample cannot be defined as randomly

selected; hence, it is likely that the study sample is not reflective of the population from which it was drawn.

As Wang and McNamara (1997) stressed, estimations made from a higher complexity of design than from simple random sampling involves design efficiency, named design effects, because they impact research outcome measures. Although the authors state that the sampling procedure prevents generalizing to a larger population than Alabama, it is most likely that the unrepresentative nature of the sample also precludes the research findings from being generalized to the study's originating population. The sampling design issue in the above discussed produced another instance of an external validity threat due to sampling. Caution was taken when selecting article statistics for calculating effect size estimations. The revealed validity threats within the Newton (2006) study were considered when effect size calculation decisions were made during the quantitative synthesis phase in the next chapter.

A summary of the revealed threats to external validity in the above discussed are listed below in table 19. The summary of threats to internal validity is also presented in this table and is discussed in the next research question.

**TABLE 19**

**Threats to internal and external validity of the identified quantitative articles identified in the synthesis population of articles**

Investigation Number	Validity	
	Internal	External
QN 1	Instrumentation Threat	Sampling Threat
QN 2	Regression threat Selection threat	Sampling Threat
QN 3	Selection Threat Regression Threat	Sampling Threat Reactive Effects
QN 4	Regression Threat Selection-Mortality Threat	Regression Threat Sampling Threat

*Question 12:* What are the threats to internal validity of the quantitative articles identified in the synthesis population of articles that connect the role of school superintendents and the technical core? Internal validity is a facet of any research investigation and an indicator of the strength in the causal relationship between the variables under examination. Internal validity is the potency of a study that directly supports cause – effect or causal relationships within the core relationships within the study. Any alternative explanations or causal relations for the investigation results are explained through the research frameworks, study limitations, and occurrences due to chance. Hence, any alternative explanation or causal debate weakens the study’s potency and threatens the internal validity of the study. The opposing or alternative arguments in a study are classified into specific threats to internal validity; the major classifications of these threats are listed below in table 20.

**Table 20****Major classifications of threats to internal validity and corresponding explanations**

<i>History</i>	Events take place between the pre-test and the post-test that are not the treatment of research interest.
<i>Selection</i>	Difference between kinds of people in one experimental group as opposed to another.
<i>Maturation</i>	Observed effect is due to respondent growing older and wiser between the pre-test and the post-test when this maturation is not of research interest.
<i>Testing</i>	Familiarity with a test where items and error responses can be remembered at a later testing.
<i>Mortality</i>	Different kinds of people drop out and the experimental group are composed of different kinds of persons at the post-test)
<i>Instrumentation</i>	When the effect might be a change in the measuring instrument between pre-test and post-test and not to the treatment's differential impact at each time interval.
<i>Statistical Regression</i>	Movement of extreme scores toward the mean and the treatment may have not been the cause.
<i>Regression</i>	The tendency of persons with extreme high or low scores on the first test to have less extreme results the second time around.
<i>Selection interactions</i>	Selection-history; Selection-maturation; Selection-instrumentation

*Investigation QN<sub>1</sub>*: Do superintendents impact the academic performance of school districts? This was the core investigative question that Hart and Ogawa (1987) focused upon when designing and completing their investigation regarding the influence of superintendents on 6<sup>th</sup> and 12<sup>th</sup> grade student achievement in reading and mathematics. Data were collected from the California Assessment Program inclusively from 1975 – 1981. Randomization was achieved through the use of a table of random numbers and participants were assigned until 70 districts were selected for the study sample.



Lieberson and O'Connor (1972) investigated the influence of chief executive officers in industry on company profits and income and also controlling for extraneous factors such as environmental and organizational influences. Adapting this study design for use in an educational investigation, which was originally constructed for industry research, Hart and Ogawa substituted educational constructs for the original industry type constructs within the study design used by Lieberson and O'Connor (1972). The authors' attempts at logically reasoning each construct substitution gave rise to other questions that surfaced as a result of the substitutions. For instance, Hart and Ogawa (1987) write about the conversion justifications for using the Lieberson and O'Connor research design:

They reasoned that many environmental factors ... affect organizations in annual cycles. Similarly, they assumed that organizations often face environmental factors that have industry-wide effects. As all public school districts may be considered to be in the same industry, we chose to exclude this variable from the present study. Thus, we defined environment as "year" in order to control for the effect of general environmental factors.

It is likely that these changes in the instrument / study design as the attempt to control for specific variables produced changes that are not a result of the true experiment effects, which produces a potential threat to internal validity due to instrumentation (Wilson, 2002).

*Investigation QN<sub>2</sub>*: The investigation completed by Impara, Plake, and Merwin (1994), surveyed the three major educational administration organizations in the United States: the American Association of School Administrators (AASA), the National

Association for Secondary School Principals (NASSP), and the National Association for Elementary School Principals (NAESP). Their core focus was to gain insights as to what knowledge, skills, and abilities that administrators must have to instructionally lead during times of student assessment. More specifically, how do superintendents focus on student assessment through the knowledge and skills they possess?

The AASA membership is primarily district superintendents and other executive central administrative leaders. However, other professionals such as university professors, educational administration consultants, employment firms, and doctoral students make up a small portion of the AASA membership. The NASSP and NAESP, similar to AASA, memberships are primarily drawn from campus level administrators. These organizations also maintain a small portion of their members who are not campus administrators, but are involved with campus administrators in some kind of compactly or another. It can only be assumed that the investigators accounted for these auxiliary members in the planning stages of their study.

As previously discussed in research question 11, the researchers did not employ appropriate probability sampling techniques in obtaining the study sample population (Wang & McNamara, 1997). The population sample, taken from the three educational administration organizations, was not proportional with regard to campus and district level educational administration organizational members. The study over selected for the principal organizations (NAESP and NASSP) with regard to the proportion of the selection of superintendent organizational members (AASA). Accurate subsample sizes

could have been accomplished using stratified sampling techniques. When implemented, stratified sampling techniques do strengthen the validity of a study. The revealed validity threats within the Impara, Plake, and Merwin (1994) study were considered when effect size calculation decisions were made during the quantitative synthesis phase in the next chapter. The severity of this threat poses serious alternative explanations to the hypothesized treatment (Wilson, 2002).

A second threat to internal validity, regarding the possibility of regression is also a concern. Because of the excessive number (4,000) of questionnaires were mailed out to potential respondents. There is a tendency, within survey research, for data to become increasingly skewed towards more extreme scores; first respondents tend to be either supporters or opponents of the key issues outlined in the questionnaire, which produces extreme scores and an internal threat to validity due to regression.

*Investigation QN<sub>3</sub>*: The discussion of Petersen (2002) in research question 11 shed light on both external validity threats due to sampling and reaction effects (Hawthorne and novelty). When analyzing the article for possible internal validity threats, an external validity threat also surfaced. Due to the sampling plan involved in this investigation, an internal validity threat due to selection became apparent. Participants were selected for group inclusion by (1) a completed Instructional Leadership Personnel Survey (ILPS) and (2) their professional role in education. All principals ( $n_p = 46$ ) and all school board members ( $n_{SBM} = 32$ ) who completed the ILPS were include in the sample groups. This type of (*self*) selection criteria promotes non-

random assignment and a regression toward the mean concern. The severity of the validity threat due to selection and regression, according to Wilson (2002), is a serious alternative to the hypothesized treatment and needs consideration.

*Investigation QN<sub>4</sub>*: As previously mentioned, Newton (2006) investigated whether or not recruitment messages attract a particular gender over the other. The investigation was structured using the feminist conceptual framework found in Tallerico (2000).

The survey return rate of 76% raises the possibility of an internal threat due to regression. The 76% response rate, although it represents the actual number of questionnaire returned by respondents, is misleading and does not include the 98 questionnaires that were excluded by the investigator. Considering that 50% of the original sample were used in the study analysis and formed the results and conclusions, it is highly likely that an internal validity threat due to regression toward the mean exists. Moreover, due to the experimenter selection of studies to yield equal gender groups, as discussed above in the external validity issues within this investigation, a second internal threat due to selection-mortality interaction. The selection-mortality interaction occurs due to the biasness that is incurred when respondents select (the experimenter in this case) to either return or not return the survey for a variety of reasons. For instance, in Newton's survey, the random sample of respondents were asked to complete a questionnaire that was constructed through a feminist conceptual framework. Those who strongly agree in this framework are far more likely respond or

selected for inclusion. Those who strongly disagree in this framework will also be more likely to respond (negatively) to the survey or selected for exclusion. The responses in both cases bring bias into the investigation because of these beliefs, which results in questionable data and the internal validity threats. These internal validity issues were considered when effect size calculation decisions were made during the quantitative synthesis phase in the next chapter.

*Question 13:* What are the threats to the trustworthiness and credibility of the findings within the qualitative articles identified in the population of articles that connect the role of school superintendents and the technical core? Drawing trustworthiness assessment criteria from Lincoln and Guba (1985), below in table 21, are the general evaluative approaches for assessing the integrity of qualitative investigations.

**Table 21**

**General evaluative approach for assessing trustworthiness in qualitative studies and the associative quantitative approach**

<b>Trustworthiness Criterion</b>	<b>Qualitative Approach</b>	<b>Quantitative Approach</b>
Truth value	Credibility	Internal Validity
Applicability	Transferability	External Validity
Consistency	Dependability	Reliability
Neutrality	Confirmability	Objectivity

In order to meet the above criteria and establish the trustworthiness of the synthesis population's qualitative articles, an analysis of the research's strategies used to complete the inquiry must be considered. Krefting (1991) shed light on establishing the trustworthiness of qualitative research and presented a rather comprehensive list of strategies for researchers to employ to ensure the criteria are met. Krefting's list was used in the review and analysis of the synthesis population's qualitative articles to establish the trustworthiness of each investigation. This list can be found in Appendix F of this dissertation.

*Investigations QL<sub>1</sub>, QL<sub>2</sub>, & QL<sub>3</sub>*: Early leaders of learning and scholars of educational administration, Drs. William Payne and William Harris, though they diverged in both method and theory, agreed that superintendents must be masters of teaching and learning: i.e., technical core (Culbertson, 1988a). Building on the works of Payne and Harris, Cubberly (1927) continued to evolve the science surrounding the development of educational administration and its knowledge base.

Since the time when the role of the campus principal was created out of the district superintendent's position, building principals became the primary workmen and guardians of the technical core and its functions to impact learner-centered instruction in schools (Murphy & Hallinger, 1986; Murphy, Hallinger, Peterson, & Lotto, 1987; Peterson, Hallinger, & Murphy, 1987). At the very least, campus level educational administrators have been the leading research focus regarding this type of impact on teaching and learning in schools. The three combined articles, discussed below,

represent the findings from one California study of 12 district superintendents and their impact, control, and coordination of the technical core. As discussed in Chapter III, the two *JEA* (1986 & 1987) and the one *EAQ* (1987) have been treated as a single article because the researchers who conducted the qualitative investigation also published each article as part of the effective school research agenda conducted in the mid-1980s.

Each article described the investigators' efforts to establish and strengthen the trustworthiness of the study. Referential adequacy was achieved in each article by tape recording all interviews with the superintendents. Employing referential adequacy is associated with increasing the credibility of a qualitative investigation. The tape recordings, along with notes and memos that the researchers created during the interviews, assisted peer examination of data efforts in the study. The use of peer examination in the analysis of data portion of the study also reinforced the trustworthiness by increasing both the dependability and credibility of the investigation. Confirmability was met through the different researchers conducting and publishing the inquiry. Although no author mentioned triangulation within any of the articles, triangulation was achieved through the interview process of superintendents, on-site observations of superintendent activities, and two separate approaches to the analysis of the collected data.

Even though there was no apparent evidence to support the establishment of transferability, considerable efforts were made to establish credibility, dependability,

and trustworthiness to justify the overall establishment of trustworthiness for each article. Caution should be taken, however, when applying the results from this article to other situations because transferability criteria were not met.

*Investigation QL 4:* The data for this inquiry was culled from six districts who had implemented effective schools research improvement plans. The core focus of the study, as Griffin and Chance (1994) emphasis, was the investigation of the relationship between the actions and activities of school superintendents and the systemic process of a district as social adaptation of the effective schools research plan. The researchers specifically examined: the technical core actions of superintendents in facilitating students' academic achievement, superintendents' influence of macro-level social systems, superintendents' perceptions of their role in leading the technical core of the district, and principals' perceptions of superintendent actions.

Triangulation was accomplished through four modes of data collection: questionnaires to principals, interviews with superintendents, non-participant observation, and content analysis of district data for descriptive information. The researchers further strengthened the credibility of the study by implementing peer examination so that more than one researcher handled and analyzed the data. The Criterion for transferability was met through a nominated sample structure. Districts were nominated for inclusion in the study sample when the district superintendent had served the district in the position for a minimum of three years and the campus principal had served at least one year as the principal of their current campus. A slight



caution is present with regard to the overall trustworthiness of the study due to the third criterion for district selection. This selection criterion is the district approval for the researchers to conduct the study. This is a form of selection bias and likelihood exists that this bias may have affected the study's results. Overall trustworthiness Griffin and Chance (1994), however, was achieved through triangulation strategies meeting confirmability, dependability, transferability, and credibility criteria to achieve trustworthiness (see table 22). Peer examination also substantially impacted the establishment of study trustworthiness.

**Table 22**  
**Threats to trustworthiness and credibility within the identified qualitative articles in the synthesis population of articles**

Investigation Number	Trustworthiness Establishment	Trustworthiness Threats
QL 1	Triangulation*	Self-reported data*
QL 2	Peer examination	Amelioration attempted*
QL 3	Referential Adequacy	
QL 4	Referential Adequacy*	Self-reported data*
	Prolonged engagement/observation of informants*	District approval of selection
	Triangulation*	
	Cross (member) Checks*	
MM 1	Triangulation	Self-reported data*

\*Investigators identified the threat as a possible limitation to the study.

## CHAPTER V

### PHASE 4: SYNTHESIS OF FINDINGS FOR QUANTITATIVE STUDIES

Research syntheses, fostered through experience and resourcefulness, involves ardent judgment (Andrews & Harlen, 2006), whether the systematic process of combining empirical studies involves quantitative methods using meta-analysis, or as Deeks, et al. (2001) asserted a non-quantitative methodology that recounts the findings of synthesized quantitative investigations through a detailed description of synthesized articles. It is the researchers' intent to summarize the efforts from comparable primary research investigations and appropriately combine common elements from these studies so that greater meaning and understanding may be gained (Gough, 2004; Shidemanle & Hoyle, 2004). As Shidemanle and Hoyle (2004) contended, efficacious employment of empirical syntheses can provide critical insights that reveal the *whats*, *hows*, and *whys* that will authentically impact education's technical core (Achilles C. , 2000) and increase learning throughout all portions of the learning community.

However, as Gough (2004) asserts in describing the beginning of the systematic journey of research synthesis, one must be keenly aware of his or her purpose, practicality of completion, population access framework, theoretical underpinnings of primary research being accessed, and issues of questionable research and the data that it produces. Clarke and Oxman (2000) have stressed that, from the onset of any systematic data synthesis, it is imperative for synthesists to investigate the differences between studies and deal with issues such as publication bias, validity and reliability,

trustworthiness and credibility, homogeneity and heterogeneity, investigative design and sampling, and missing data. Neglecting to investigate these issues will feasibly lead to misleading and possibly foreboding results.

A fundamental concern that for research synthesists surrounds collecting, analyzing, and calculating quality data from primary research investigations so that the meta-analysis process can be effectively combine effect size estimates and draw meaningful suppositions. Deeks, et al. (2001) stressed that caution needs to be taken when the processes of meta-analysis are considered due to problematic issues surrounding the use of questionable statistics and the procedures from which they were derived. They continued by contending that, due to one or more various reasons for concern for the appropriateness regarding utilizing meta-analytic techniques, it doesn't make practical sense to attempt to combine data to form effect sizes within or between studies in the synthesis population. The data reported in some empirical articles may be so sparse that the process may not even be possible; similarly, studies within the quantitative synthesis population may contain data that are apparently too heterogeneous to sensibly continue with the process.

Quantitative synthesis methods do provide for such difficulties. As with traditional meta-analysis, the quantitative data synthesis method is based upon the formulation of effect size estimations, both within and between target population studies. Tests for heterogeneity and homogeneity, sensitivity analyses, internal and external validity analyses, and publication bias are all performed as part of the rigor of

meta-analysis procedures. If the target population incurs substantial issues in these analyses or if a different issue arises, such as the scarcity or heterogeneity of data examples previously discussed, then the descriptive data synthesis (non-quantitative synthesis) method can be selected.

As stated by Deeks, et al. (2001) when explaining the process of descriptive data synthesis, they described the fundamental necessity for this method as:

A non-quantitative synthesis of the collated evidence [is necessary] to assess the extent of the evidence and to plan the quantitative synthesis. It allows a qualitative [type] assessment of variation in study characteristics, quality and results. In some situations where there are numerous studies with consistent and large effects, it may be possible to discern effects solely from this synthesis.

Although not commonly heard of in higher education and research circles in the United States, Gough (2004) drew from his previous work in which Gough et al. (2003) illustrated that numerous descriptive syntheses have been completed in the United Kingdom with significantly fewer quantitative syntheses; yet the direct opposite is true in the United States. The synthesis of findings for quantitative studies is further detailed in questions 14 – 16.

Even though effect size estimates were calculated for the below investigations, they were not synthesized with effect size estimates derived from the other quantitative investigations within the synthesis population to derive overall study effect sizes. The calculated effect size estimates, instead, contributed to the overall description of the study within the synthesis of research. The grounds for not synthesizing the effect sizes were two-fold:

1. The threats to both internal and external validity prevent the inclusion of this study's effect size estimates.
2. Knowing student assessment requirements and possessing the skills to assess students are certainly included within the educational administration knowledge base and part of the technical core constructs; the investigation, however, does not examine any superintendent leadership actions or technical core impact, but rather whether or not they possess the knowledge and abilities to perform assessment tasks.

*Question 14:* Why was the decision made to perform a descriptive synthesis, in conjunction with a statistical synthesis, for the quantitative articles within the target population and produce a true population effect size? Considering the numerous issues that arose through the validity and design analysis portion of quantitative investigation within this research synthesis, the quantitative portion of this research synthesis was not subjected to the full meta-analysis process. The issues surrounding threats to both internal and external validity, the questionable sampling designs, and problematic research designs were the basis of this decision. However, individual and study effect sizes (Cohen's  $d$ ), weighted effect sizes, weighted within-study homogeneity tests, overall weighted between-study homogeneity tests, and effect size confidence intervals with correlating forest plots were derived for each quantitative investigation (see Appendix G). The meta-analytic analyses were conducted in an attempt to add credibility to individual investigations and statistically substantiate the completion of quantitative syntheses due to publishing requirements that frequently limit data reporting that possibly misled validity and design review decisions. However,

the null hypothesis was rejected in two of the four in both the within-study and between-study homogeneity tests. Therefore, it was concluded that the effect sizes in these investigations were not representative of the sample population and therefore must represent a different population. Moreover, the confidence intervals in the other two quantitative studies included zero in the interval, meaning that the possibility of no effect exists as a result of the investigation. Table 23 below, lists the study effect size calculation information. Table 24, also below, list the weighted study effect size confidence intervals and illustrates their corresponding forest plot graphs for each quantitative investigation.

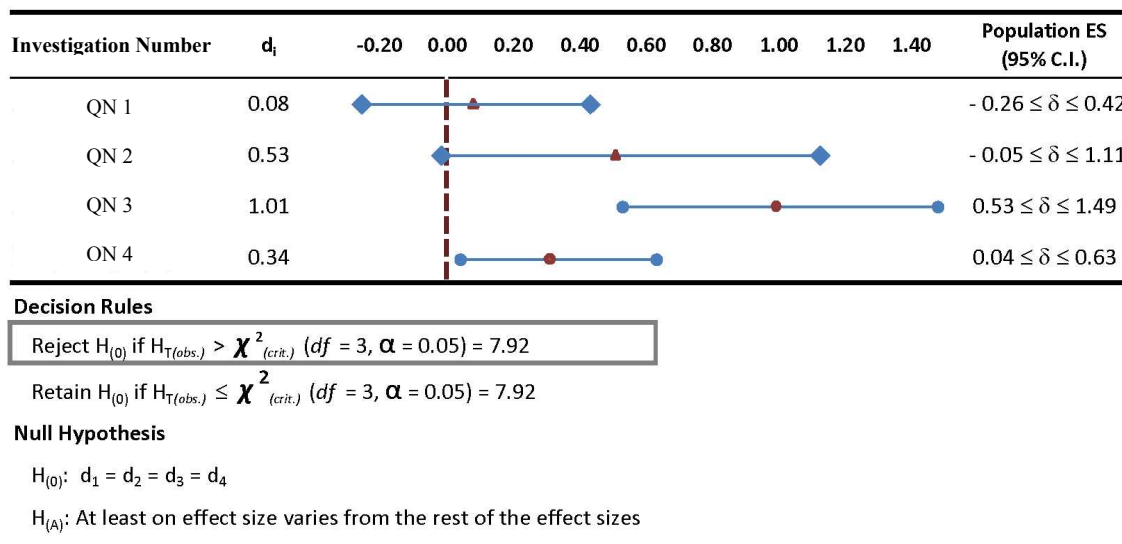
**Table 23**

**Between study homogeneity of variance weighted effect size calculation information of the four quantitative investigations included in the quantitative synthesis population for systematic descriptive synthesis**

Journal Article	N/n <sub>1</sub>	N/n <sub>2</sub>	Test Statistic/Framework			w <sub>i</sub>	v <sub>i</sub>
JEA/1987/25/1/QN	131/66	131/65	<i>N</i>	<i>% Variance</i>	<i>SD</i>	32.72	0.031
JSL/1994/4/5/QN	48/24	48/24	<i>N</i>	<b><i>X</i></b>		11.59	0.086
JEA/2002/40/2/QN	78/46	78/32	<i>N</i>	<i>r</i>		16.81	0.060
EAQ/2006/42/4/QN	180/90	180/90	<i>N</i>	<b><i>X</i></b>	<i>SD</i>	44.36	0.023

Table 24

**Homogeneity of variance weighted study effect size confidence intervals and their corresponding forest plot graphs of the four quantitative investigations included in the quantitative synthesis population for systematic descriptive synthesis**



*Question 15:* What specific effect sizes and/or test statistics needed to calculate effect sizes were reported for each statistical hypothesis? The test statistics reported in each quantitative article in the target population upon analysis were logged into a coding sheet for later use. The specific test statistics, the independent variables (IV), the dependent variables (DV), individual test effect sizes, and supplemental statistics and formulas needed to derive effect size estimates are located below in tables 25 through 30. It should be noted that, although the three core effect size estimate calculations ( $d_{Cohen}$ ,  $r$  correlation, and,  $g_{Hedges}$ ) used in mean difference estimation were

used. The  $d_{Cohen}$  effect size estimate was chosen as the primary estimator of effect size in this dissertation because of its sensitivity to sample sizes.

*Investigation QN 1*: Individual effect size estimates were derived from the overall sample size, group sizes, and percent variance explained as they related to the amount of influence superintendents had regarding student performance on their state achievement tests. The reported and calculated statistics from this investigation are listed below in table 25. The percent variance explained was produced through employing a decomposition of variance analysis procedure (Hart & Ogawa, 1987). Analogous to an analysis of variance (ANOVA), this form of statistical procedure systematically allocates the study variance by attributing it to the interacting variables submitted for analysis. However, considering the rather prominent external threat to validity due to sampling in the above explained, coupled with a rather sophisticated procedure, produced highly questionable data.

Even though effect size estimates were calculated for Hart and Ogawa's investigation, they were not synthesized with other study effect sizes to form an overall study effect size. The choice to not synthesize the study effect size from this investigation is due to both the threat to internal validity due to the instrumentation used and the threat to external validity due to sampling. The choice to not synthesize the data from this study was at least partially validated through the calculation of the individual test statistic effect sizes for the study (below in table 25).



Table 25

**Hart, A. and Ogawa, R. (1987) reported test statistics that specifically related to the amount of influence superintendents had regarding student performance on their state achievement tests**

Grade Level and Content Area		$N^1$	$n_1$	$n_2$	Standard Deviation <sup>(2)</sup>	% Variance Explained <sup>(1)</sup>	<sup>(2)</sup> $E\eta^2$	$d_{pooled}^{(2)}$	$F^{(2)}$	$ES^{(2)}$
6th	Reading	131	66	65	0.28	7.70	0.077	0.678	0.001	0.01
Grade	Math	131	66	65	0.31	9.40	0.09	0.685	0.001	0.01
12th	Reading	131	66	65	0.18	3.10	0.031	0.671	0.0002	0.002
Grade	Math	131	66	65	0.15	2.40	0.024	0.663	0.0001	0.002

$$S_{pooled} = se\sqrt{n-1} \quad F = \left(\frac{\eta^2}{1-\eta^2}\right)\left(\frac{df_{error}}{df_{means}}\right) \quad F = \frac{S^2_{means}}{S^2} \bullet n \quad ES = \sqrt{\frac{F(n_1+n_2)}{n_1n_2}}$$

<sup>1</sup> Statistics reported in the article

<sup>2</sup> Statistics calculated using the formulas below.

Investigation QN 2: The Impara, Plake, and Merwin (1994) survey-based study of the three national educational administration organizations (AASA, NASSP, and NAESP) investigated the degree of assessment knowledge and skills that superintendents possess in the area of student assessment. The questionnaire consisted of 37 Lickert scale type questions. The first 24 surveyed the frequency in which superintendents are required to deal with student assessment-type tasks and also the related prominence of these tasks to the superintendency. The remaining 13 questions focused on superintendents' required knowledge and skills that enable them to fulfill the responsibilities of the job. The respondents rated their knowledge and skills based on the whether they possessed the knowledge and skills or if there was a

degree of need in particular areas. An open-ended background and demographics section, consisting of 10 questions, was included at the end of the questionnaire.

Individual effect size estimates were derived from the overall sample size, group sizes, and the means for each of the 37 questions from each organization surveyed were provided in the article. Individual response rates were reported for the three individual organizations. The authors reported the following data regarding the returned questionnaires:  $N_{AASA} = 473$  (47.3%),  $N_{NASSP} = 376$  (37.6%), and from  $N_{NAESP} = 836$  (41.8%). These data were reported as the *overall response rate*. The derived overall response rate was 42.1% ( $N_T = 1685$ ).

The sampling design, as discussed in research question 11, a major threat to external validity due to sampling exists. Impara, Plake, and Merwin (1994) stated that a second mailing could not be accomplished due to lack of funds. However, over estimating and compensating for a historical non-response rate from each of the three organizations was most likely the reason for the shortage of funds. The initial mailing of 4,000 questionnaires to the three organizations could not have been calculated using a sample size formula. The sampling design concerns also bring other rather prominent concerns and statistical threats such as regression toward the mean and selection to the surface, both of which were discussed in research question 11.

Table 26

**Impara, J. and Plake, R. (1994) reported test statistics that specifically investigated the degree of assessment knowledge and skills that superintendents have regarding student assessment**

Student Assessment Requirements	Administrator Comparison	$N^{(1)}$	$\chi^{(1)}$	$^{(2)}r$	$g_{Hedges}^{(2)}$	$d_{Cohen}^{(2)}$
Task Frequency	Superintendents	473	2.70			
	Elementary Principals	836	3.13	0.41	0.86	0.89
	Superintendents	473	2.70			
	Secondary Principals	376	2.93	0.24	0.47	0.49
	Superintendents	473	2.70			
	Campus Administrators	1212	3.07	0.36	0.74	0.76
Task Importance	Superintendents	473	3.07	0.39	0.83	0.85
	Elementary Principals	836	3.49			
	Superintendents	473	3.07			
	Secondary Principals	376	3.28	0.21	0.42	0.44
	Superintendents	473	3.07			
	Campus Administrators	1212	3.42	0.34	0.69	0.72
Have Knowledge	Superintendents	473	3.61	0.03	0.05	0.05
	Elementary Principals	836	3.63			
	Superintendents	473	3.61			
	Secondary Principals	376	3.44	0.17	0.32	0.34
	Superintendents	473	3.61			
	Campus Administrators	1212	3.57	0.04	0.003	0.07
Need Knowledge	Superintendents	473	3.67			
	Elementary Principals	836	3.97	0.29	0.56	0.60
	Superintendents	473	3.67			
	Secondary Principals	376	3.79	0.11	0.22	0.23
	Superintendents	473	3.67			
	Campus Administrators	1212	3.91	0.24	0.46	0.48

$$\sigma_{pooled} = \sqrt{\frac{(\sigma_1^2 + \sigma_2^2)}{2}} \quad d = \frac{M_1 - M_2}{\sigma_{pooled}} \quad g = \frac{d}{\sqrt{\frac{n_1 + n_2}{df}}}$$

<sup>1</sup> Statistics reported in the article

<sup>2</sup> Statistics calculated using the formulas below.

Investigation QN 3: Petersen (2002) examined superintendents' instructional leadership influence on different organizational constructs. More specifically, Petersen investigated the extent that a school superintendent's vision, as an instructional leader, correlated with the organizational mission of the district, its program and personnel evaluation structures, the impact on campus level administrative decisions, and school board and learning community involvement in school activities.

The investigation centered upon the analysis of the 52 item Instructional Leadership Personnel Survey (ILPS). A total of 78 questionnaires (87% response rate) were completed and returned by 46 principals and 32 school board members for analysis. Although the ILPS was originally designed to investigate the responsibilities surrounding the principalship and school board member roles, it may also be used to examine the relationship with school superintendents as curricular and instructional goals are established, maintained, and evolved. The data from the survey was first subjected to factor analysis procedures. Petersen reported that the results of these preliminary analyses revealed that 34% of the variance within the data was attributable to one factor – superintendent [instructional] vision. Further analyses produced the five factors in the above discussed.

Once the above factors had been established, three types of analyses were performed on the survey data to complete the investigation. Descriptive statistics, listed below in table 23, were employed to yield the demographic background of the superintendents and their districts.

**Table 27**

**Petersen, G. (2002) reported descriptive statistics that investigated superintendents' instructional leadership influence on different organizational structures**

District Number	Number of Schools	Student Enrollment	Minority Student Population (%)	Superintendent Tenure (years)	Students Attending College/Tech (%)	District Dropout Rate (%)
1	15	9,174	28	6	51.4	13.2
2	9	6,069	20	5	60	4.5
3	11	5,541	12	15	44.6	13.2
4	10	9,108	31	6	32	15
5	15	9,527	41	6	80	11.4

Pearson product moment correlation coefficients were produced to determine the strength of the relationships between the independent variable (superintendent vision) and the four dependent variables: organizational mission, its program and personnel evaluation, the influence of building principal decision making, and school board/community involvement.

Individual effect size estimates were derived from the overall sample size, group sizes, means, Pearson product moment correlations, and standard deviations were provided and used in the synthesis process in the article. The correlation statistics were converted to  $d_{Cohen}$  effect size estimates due to the need for consistency in reporting and interpretation of effect sizes within this synthesis of research. The specific test statistics reported in Petersen (2002) and the corresponding derived effect size estimates ( $g_{Hedges}$  and  $d_{Cohen}$ ) are listed below in table 28.

Table 28

**Petersen, G. (2002) reported test statistics that specifically related superintendents' instructional leadership influence on different organizational structures**

<b>Superintendent Instructional Leadership Areas of Influence</b>	$N^{(2)}$	$^{(1)}n^p$	$^{(1)}n^{sb}$	$^{(2)}r$	$g_{Hedges}^{(2)}$	$d_{Cohen}^{(2)}$
Superintendent vision Organizational mission	78	46	32	0.65	1.69	1.71
Superintendent vision Program and personnel evaluation	78	46	32	0.41	0.89	0.90
Superintendent vision Principal influence on decision making	78	46	32	0.40	0.86	0.87
Superintendent vision School board/community involvement	78	46	32	0.49	1.11	1.12
Principal influence on decision making School board/community involvement	78	46	32	0.54	1.27	1.28
Principal influence on decision making Program and personnel evaluation	78	46	32	0.22	0.45	0.45
Organizational mission Principal influence on decision making	78	46	32	0.33	0.69	0.70
Organizational mission School board/community involvement	78	46	32	0.36	0.76	0.77
Program and personnel evaluation School board/community involvement	78	46	32	0.24	0.49	0.49
Program and personnel evaluation Organizational mission	78	46	32	0.60	1.48	1.50

$$d_{Cohen} = \frac{2r}{\sqrt{1-r^2}} \quad g_{Hedges} = \frac{d}{\sqrt{\frac{n_1 + n_2}{df}}}$$

<sup>1</sup> Statistics reported in the article

<sup>2</sup> Statistics calculated using the formulas below.

Investigation QN 4: Newton (2006) implemented the feminist framework that was originally structured in Tallerico (2000) and investigated a possible gender bias issue in the recruitment message for open superintendent positions. Conducting a recruitment simulation to test the hypothesis that superintendent recruitment messages are fundamentally gender biased which results in a selection pool that is predominantly male.

Individual effect size estimates were derived from descriptive statistics and a 2x2x3 fixed factor analysis of variance (ANOVA). The specific statistics used in effect size calculations from this study were: overall sample size, group sizes, means, and standard deviations. The specific test statistics reported in Newton (2006) and the corresponding derived effect size estimates ( $g_{Hedges}$  and  $d_{Cohen}$ ) are listed below in table 29. The specific formulas applied, given the reported test statistics, to calculate the effect sizes for each statistical test result are included below the reported results.

Table 29

**Newton, R. (2006) reported test statistics that specifically investigated perspective superintendents' likelihood to apply (gender-based) for a superintendent position when instructional leadership qualities were exemplified**

District Size	Position Attraction Construct <sup>(1)</sup>	Gender	N <sup>(1)</sup>	$\chi^{(1)}$	$\chi_{weighted}^{(1)}$	$\delta_{pooled}^{(2,3)}$	$g_{Hedges}^{(2)}$	$d_{Cohen}^{(2)}$
1,500	Instructional Leadership	Male	90	11.50	10.92	3.29	0.27	0.27
		Female	90	10.60				
3,000	Instructional Leadership	Male	90	12.2	10.50	3.86	0.44	0.44
		Female	90	10.5				
12,000	Instructional Leadership	Male	90	11.70	10.42	2.96	0.30	0.30
		Female	90	12.60				
Total	Instructional Leadership	Male	90	11.8	10.61	3.41	0.17	0.17
		Female	90	11.23				

$$\sigma_{pooled} = \sqrt{\frac{(\sigma_1^2 + \sigma_2^2)}{2}} \quad g = \frac{d}{\sqrt{\frac{n_1 + n_2}{df}}} \quad d = \frac{M_1 - M_2}{\sigma_{pooled}} \quad r = \sqrt{\frac{d^2}{d^2 + 4}}$$

<sup>1</sup> Statistics reported in the article

<sup>2</sup> Statistics calculated using the formulas below.

<sup>3</sup> Managurial and political leadership were also given as options to select from as a reason for attraction.  $\delta_{pooled}$  was calculated using all three leadership frameworks per district size.

As was previously discussed with the questions concerning external and internal validity, the 360 randomly selected Alabama principals, 272 viable questionnaires (76%) were returned for analysis. The article author did not differentiate between the number of questionnaires that were returned by males and females. However, only 180 of the 272 returned questionnaires were used to complete the study. This constitutes a major change in the research structure of this investigation by selecting



98 of the completed surveys (33.8%) for exclusion from empirical analysis and hence greatly increasing the selection bias of the research completed in Newton (2006).

Similar to the above studies, even though effect size estimates were calculated for this investigation, they will not be synthesized with effect size estimates that were derived from the other quantitative investigations within the target population using meta-analytic techniques. The calculated effect size estimates, instead, contributed to the overall description of the study within the synthesis of research. The grounds for not synthesizing the effect sizes are two-fold:

1. The threats to both internal and external validity prevent the inclusion of this study's effect size estimates.
2. The likelihood of investigator bias, and hence publication bias, exists throughout the findings reported in this investigation.

## CHAPTER VI

### PHASE 5: INTERPRETATION OF FINDINGS FOR QUALITATIVE STUDIES

The four qualitative studies and the one mixed methodology investigation that was previously included with the qualitative studies that met the selection criteria for inclusion in the synthesis population brought experiential insights from 344 school district superintendents (326 superintendents from the single mixed-methodology investigation). The triangulated data culled from approximately 50 hours of open-ended interviews with 18 superintendents and 326 superintendent completed questionnaires provided key descriptions of how superintendents are able to directly impact the technical core on the district campuses in spite of their exponentially expanded responsibilities and pressures of their role.

The results of the thematic synthesis of qualitative studies ultimately revealed indications that the traditional constructs that support the superintendent connection the technical core have evolved with the growing complexity of the superintendency. These indications were not apparent throughout the quantitative synthesis portion of this synthesis of research. Essential epistemological structures such as: research and sampling designs, theoretical frameworks, and research questions must be in place for statistical synthesis to take place. Qualitative methods, such as thematic syntheses, are not limited by these structures (Gough, 2004). This enabled the qualitative results to reveal the previously mentioned construct change indications and limited the quantitative measures from revealing the possible evolution of supportive constructs.

Shidemantle and Hoyle (2004) emphasized the need for employing *quanti-narrative* measures when conducting scholarly research.

*Question 16:* What constructs were found that support the connection between superintendents and the technical core through the thematic synthesis of the qualitative studies within the synthesis population? The thematic synthesis of the five qualitative based articles in the synthesis population that presented a connection between school superintendents and the technical core produced indications that superintendents' connection with the technical core may possibly be more prevalent than present research demonstrates. The collective efforts of these investigations produced 15 distinct constructs, listed below in table 30, were reported as a result of 18 superintendent interviews, through 5 empirical investigations, and 8 of the constructs listed were also revealed in the descriptive synthesis of quantitative studies. These findings do not purport that the keywords used in the cyclical search processes that were used to define the synthesis population of this dissertation were not accurate or lacked relevance. However, they do suggest that a keyword descriptors that are more closely aligned with the constructs listed below may have produced a more accurate picture of what educational research has investigated regarding superintendents' connection with teaching and learning in schools.

**Table 30**

**Major supportive constructs from thematic synthesis results that provide connections between superintendents and teaching and learning in schools**

Superintendent/Technical core supportive constructs	Total articles reporting the theme	Theme also included in quantitative descriptive findings
Direct supervision and evaluation of campus administration	3	QN
Technical core centered district vision, goal, and mission development	2	QN
Unified control and coordination of technical core support structures (P.D., textbook adoptions, vision/goal/mission development, etc...)	3	QN
Directly involved in the hiring of new administrators	3	
Employs effective instructional leadership and guidance	2	QN
Oversees the hiring of new faculty	2	
Teacher appraisal structure closely aligned to district goals and student achievement	3	QN
Involvement in curriculum and instructional program development	2	QN
Effective professional development centered on district and campus technical core processes	2	QN
Regular Campus Visits	3	
Well-established communication with faculty, parents, and community about relevant technical core issues.	2	
Community involvement in school district learning activities	2	QN
Budget allocations support technical core needs	1	
Superintendent decision-making process is driven by technical core needs	1	
Appropriate use of collaborative decision making	1	

## CHAPTER VII

### CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

This synthesis of research reviewed, targeted, and analyzed 23 years of scholarly work from three of most highly regarded educational administration journals. It was a substantial undertaking to complete; yet the entire process yielded few empirical studies that addressed a connection between school superintendents and the technical core. The empirical studies' technical core focus ranged from the traditional constructs that build superintendent/technical core connections in the education professional's mind, to the ostensibly inconsequential. For instance, the Petersen (2002) investigation had that keenly focused intention and took undaunted aim at the technical core connection through the instructional leadership construct. Newton (2006) however, as part of a larger study, took a broader stroke and enveloped three superintendency related constructs; managerial and political leadership, along with instructional leadership, were used to investigate the post-modern feminist theory-based framework which proposes that males are more attracted to superintendency positions as a result of the recruitment message for open positions. Although all three were relevant to the position of superintendents, instructional leadership was the only technical core structure that was presented to influence potential candidates and, because of the message attraction, motivated them to apply. However, the variation of content focus

gave indications that more meaningful information about the connection could still be evolved from the synthesis population.

### **Stepping Back to Progress Forward**

The knowledge base of educational administration has been developed, expanded, and matured from its birth in the mid-1800s. Practicing superintendents and scholars, William Payne and William Harris, developed the first scientific basis upon which the educational administration knowledge base was to be built (Culbertson, 1988a). Realizing that the education of students in school settings was dependent upon the development of educational organization and management, Payne drew from the social, political, and legal fields to propose that educational administration use the principles of these sciences to explain systems of education. These pioneers of educational administration agreed that superintendents must be masters of teaching and learning, i.e., the technical core.

The rise of the public school principalship took place in evolutionary steps that began soon after the formation of the school superintendent in 1855. Progressively named school master, head teacher, and then teacher principal; these titles reflected their expertise in teaching as well as rudimentary administrative functions. Concurrently, due to increasing responsibilities, the superintendent's position became equally complex and overwhelming. Historical research on the principalship indicates that official school documents began referring to building principals as the campus leader during the same time period. The above is important to note because until the

1930's, school superintendents were primarily responsible for upkeep of school facilities, student learning, personnel employment and training, teacher and staff assessment, and increasing district level responsibilities. A transition of responsibilities between the two positions rapidly progressed throughout public education; the building principal became increasingly viewed as the campus instructional leader and became more intimately involved in technical core functions than their supervising mentors in the superintendency. The building principal and the campus administrative team evolved to become the mavens of teaching and learning at the campus level, while school superintendents focused more of their efforts in addressing district and regional level management.

With the landmark publication of *A Nation at Risk: the Imperative for Educational Reform* in early 1983, school superintendents had come under increasing scrutiny in the effort to improve American education. These system executives were forced even further away from core functions, such as effective teaching strategies and authentic student engagement, to satisfy demands for managing budgets, personnel, politics, human resources, and long-range planning. Their role had indeed been greatly expanded beyond the instructional leadership roots established by scholars such as Payne, Harris, Rice, Dewey, and others. Yet the core of educational administration's knowledge base has been relatively unchanged throughout its history.

### **An Elusive Connection**

It is difficult to argue that a connection continues to exist between school superintendents and the technical core when historical evidence shows an apparent distancing and refocusing of school superintendents' roles and responsibilities. Calls for research agendas that strengthen and support the superintendent/technical core connection, as in the Rowan (1995) call for an educational administration research agenda, largely went unanswered. Moreover, the disconnection has also been supported through the lack of research evidence found in this synthesis of research. In fact, the cyclic article search that defined the synthesis population of this study indicates that if this study was repeated using the same keywords, but instead focused on the research connection between the principalship and the technical core, the synthesis population would include approximately 21 empirical articles that almost exclusively investigate this connection. This is considerably different from the 9 empirical articles that constituted the synthesis population in this study.

Great educational scholars such as Payne, Harris, Rice, Dewey, Cubberly, Culbertson, Sergiovanni, Achilles, English, Hoyle, Leithwood, McCarthy, Murphy, and numerous others have made lifetime commitments and contributions to the foundation, maturation, and progression of the educational administration knowledge base and its technical core. The latter mentioned have spent immeasurable time in research, publication, and professional debate in defense and protection of the knowledge base and its technical core (Culbertson, 1988b; Hoyle, 1991; Hoyle, Glass, &



Oates, 1992; Achilles, 1991; Achilles, 1994; Achilles, 2000; & Leithwood, 1994). The collective efforts by these scholars' contend that a discourse remains and persists in support of a continued connection between superintendents and the technical core. If the traditional structures and constructs that support the core connection, represented by the keywords used in this synthesis of research, no longer represent a superintendent connection, and yet a connection still exists, then what are the constructs involved in supporting a continued connection between school superintendents and the technical core?

### **The Evolution of Progress**

The principalship took its final steps during the 1930's and evolved into a newly defined profession with the full-time building principal at the instructional leadership helm. The superintendency also evolved between its infancy in the mid-1800's through the 1930's and continued to more intensely evolve beginning in early 1983. If the two chief leadership positions in public education have greatly evolved throughout the past century, then the relationships between the school superintendency and the traditional structures within public education would also have changed and evolved to more modern and relevant levels. The associative constructs that created the connection between school superintendents and the technical core have indeed changed and are presently used in research to describe methods of leadership and impact in the principalship role.

The descriptive information from the empirical investigations through this synthesis of research indicated that the connection between school superintendents and the technical core have evolved and at least a portion of them are presented as central themes, core concepts, or key findings within the empirical articles of the synthesis population. Listed below in table 31 are specific activities of school superintendents as they directly impact technical core issues.

**Table 31**

**Superintendent efforts to directly impact technical core issues through their positions as revealed through the systematic research synthesis of *EAQ, JSL, and JEA* between the years 1983 – 2006**

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1	The superintendent maintains and communicates an instructionally focused organizational vision.
2	The superintendent ensures that organizational goals are aligned with vision and Curricular goals.
3	The superintendent ensures that the organizational mission is focused on student achievement & success.
4	The superintendent, through program control and coordination, directs role influence to ensure commitment to technical core constructs.
5	The superintendent is directly involved in Curriculum and instruction and oversees the development of a high quality program.
6	The superintendent ensures that student assessment data is used as a learning tool for student learning and achievement.
7	The superintendent directly supervises and evaluates campus and districts administrators.
8	The superintendent works closely with the campus principal to ensure teacher appraisals reflect a tightly structured program and is closely aligned to district goals and student achievement outcomes.

**Table 31 (Continued)**

- 9 The superintendent ensures a highly aligned effective professional development that relevant to organizational and campus needs and district goals.
- 10 The superintendent involved in employee hiring process and directly contributes to the interview process and hiring structures.
- 11 The superintendent regularly visits all campuses in the district.
- 12 The superintendent makes budget allocation decisions based on technical core needs of the district.
- 13 The superintendent communicates effectively with district personnel, school board members, and the community.
- 14 The superintendent promotes an open district that invites community involvement.
- 15 The superintendent makes appropriate use of collaborative decision making and stresses the importance of collaboration throughout the district and campus administration.
- 

**Conclusions**

The findings produced from this synthesis of research demonstrate that, for quantitative research to effectively impact the connection between school superintendents and the technical core, greater detail must be given to the research design, sampling framework, and publication processes when conducting quantitative investigations. The quantitative data that was reported, described, and synthesized in this study, although potentially powerful, can be considered only as informational guidance for future investigations and not upon which to base educational decisions. However, the overriding procedures that were used to produce the synthesis population for study does suggest that a keyword list that had a closer alignment with

the constructs listed above in table 29 may have produced a more accurate picture of what educational research has investigated regarding the superintendent/technical core connection.

The qualitative studies that were included in the synthesis population were methodologically sound and produced rather valuable pieces of information upon which future qualitative and quantitative investigations could be based. The thematic synthesis of these articles demonstrates that the connection between school superintendents and the technical core has seemingly evolved with the roles and responsibilities of the superintendency. However, the extent and strength of the connection to the technical core was not determined through this investigation and has yet to be determined.

### **Suggestions for Future Research**

The results of this dissertation establish two essential needs regarding its duplication and future research investigations. First, results indicate a possible critical need for the duplication of the above synthesis of research; the newly structured constructs found within table 31 should be used to generate a new synthesis population of articles. The findings from the synthesized analyses and thematic synthesis reviews within the systematic research synthesis can then be individually refined and investigated through well-grounded empirical methodologies.

The *re*-establishment and definition of present-day superintendent connections with teaching and learning parallels the substantive exigency by highly regarded

educational administration scholars to compel the onset of the effective schools research agenda through the 1980s and 1990s. The empirical findings from this research agenda produced the widely accepted best practice guidelines -- the *Effective Schools Correlates*. The essential need to duplicate the research synthesis to more accurately define the connection between school superintendents and teaching and learning may reveal vital constructs that deepen our understanding and strengthen the foundations of the educational administration knowledge base.

Second, the results also reveal a need to explore the campus principalship – technical core connection. The school administration connection with teaching and learning constructs should be explored through duplicating using the same framework, methodology, and descriptor keywords as the above research synthesis. The single modification that needs to be made is the replacement of the persistent descriptor, *superintendent*, with the descriptor, *principalship*, to appropriately direct the search for the new synthesis population. Results from this synthesis could then assist research efforts in solidifying the transition of the axiomatically traditional connections between school superintendents and the technical core by re-coupling them with campus administrators as explained in the above conclusions section. A historical review may also be framed within the principal research framework to provide evidence that sheds light on the evolution of the campus principalship connection with technical core constructs.

The impact of these *next step* suggestions for research could result in effects that range from contributing to the educational administration knowledge base foundations to refining educational leadership standards such as the AASA leadership standards for superintendents and principalship competencies developed by state boards of education. Caution needs to be taken, however, to ensure that the research designs, theoretical framework, and sampling designs of these investigations are tightly aligned with best practice and grounded theory research methods. These vital requirements of empirical research yields a more solid foundation of validity and reliability of included investigations which promotes an elevated confidence in the directions that research syntheses may indicate. The completion of the empirical investigations may lead to new areas of growth which promote reform developments in educational leadership. Some of these areas are:

- The promotion of new educational administration research directions through a targeted research agenda that is centered upon a newly defined superintendent connection with teaching and learning.
- Assist in refocusing the structures of high quality professional development structures and programs to reflect the vital importance of superintendent – technical core foundations.
- Enhance university and school district administrative preparation programs with new curriculum that is based upon the fundamental relationships between the job of school superintends and processes of teaching and learning.
- Contribute to the further development of well-established educational administration leadership standards and competencies through exemplifying technical core connection constructs.

### **Impacts on Future Practice**

The foundational relationship between research and practice is an axiom upon which most progressions and reforms have been built throughout the last 150 years of American education history. Research demonstrates, indicates, shows, or reveals insights about *what works* and *what may not* in the practice of education. Education, within its schools, districts, regions, and state systems precipitate the *hows*, *whys*, *wheres*, and *whens* of what works and what may not to research scholars for further consideration. Whether strong and apparent from successful results or weakened from doubt and ridicule, this interdependent relationship continues to endure through the hills and valleys of progress towards our ultimate goal – improved student learning.

Although the results of this systematic synthesis of research bring closure to the final chapter of this dissertation, they potentially open new avenues for research agendas. The results may also precipitate widespread impact on the future practice of superintendents as they draw upon educational administration knowledge base advancements to improve teaching and learning in schools. Drawing upon the descriptive and thematic syntheses findings, table 32 organizes these superintendents' impact efforts into six constructs that may guide superintendents as they influence teaching and learning practices in their districts.

**Table 32**

**Major areas of possible in-practice impact from the synthesis of research results of superintendent efforts to impact technical core issues**

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***Organizational Foundations***

- 1 The superintendent maintains and communicates an instructionally focused organizational vision.
- 2 The superintendent ensures that organizational goals are aligned with vision and curricular goals.
- 3 The superintendent ensures that the organizational mission is focused on student achievement & success.
- 4 The superintendent, through program control and coordination, directs role influence to ensure commitment to technical core constructs.

***Assessment & Achievement***

- 5 The superintendent is directly involved in Curriculum and instruction and oversees the development of a high quality program.
- 6 The superintendent ensures that student assessment data is used as a learning tool for student learning and achievement.

***Supervision & Mentorship***

- 7 The superintendent directly supervises and evaluates campus and districts administrators.  
The superintendent works closely with the campus principal to ensure teacher appraisals reflect a
- 8 tightly structured program and is closely aligned to district goals and student achievement outcomes.

***Effective Professional Development***

- 9 The superintendent ensures a highly aligned effective professional development that relevant to organizational and campus needs and district goals.
- 10 The superintendent involved in employee hiring process and directly contributes to the interview process and hiring structures.
- 11 The superintendent regularly visits all campuses in the district.

***Budgeting***

- 12 The superintendent makes budget allocation decisions based on technical core needs of the district.

***Communication***

- 13 The superintendent communicates effectively with district personnel, school board members, and the community.
  - 14 The superintendent promotes an open district that invites community involvement.
  - 15 The superintendent makes appropriate use of collaborative decision making and stresses the importance of collaboration throughout the district and campus administration.
- 

The suggested constructs in table 32 may provide the essential keys that executive leaders require to lock in systematic reform developments that may be



applied to within any school district and unlock restraints such as district size, location, wealth, or social biases that prohibit progress. It is axiomatic that the ultimate goal for leaders of learning at all levels in the American educational system is to enable each student to achieve past their potential. When district leaders base educational development decisions on technical core foundations, they transcend these restraints to goal attainment. When negotiating with the architect who has been contracted to design and oversee the building of the new elementary school, for instance, this focus enables superintendents to make technical core-based decisions by ensuring that structural designs are based on teaching and learning efforts in the classrooms. For example, the kindergarten room that normally contained plain, educationally neglected, square and rectangular windows with factory-grey trim; instead, becomes outlined with windows in the shape of red-trimmed triangles, blue-trimmed circles, yellow-trimmed squares, green-trimmed octagons, and even purple-trimmed rhomboids. When educational decisions are founded upon teaching and learning activities in schools, even the apparently disconnected activity such as erecting a school building, they become concretely connected to the constructs that surround the technical core.

It is understood that a great deal of time, effort, and empirical research is required before the above suggestions, that resulted from a 23 year systematic research synthesis within this dissertation, may even partially evolve into educational theory or practice. However, the suggested in-practice constructs listed above, coupled

with specific variables or elements that demonstrate superintendents' efforts to directly impact the technical core, may be the necessary raw materials from which a foundational framework that clearly redefines the superintendent connection with the technical core may be forged by scholars and implemented by district leaders.

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**APPENDIX A****STEPS REQUIRED TO COMPLETE THE CYCLIC ELECTRONIC DATABASE SEARCH**

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<b>Step</b>	<b>Procedure Direction</b>
1	The initial keywords were individually entered into the electronic database search engine along with the term, superintendent, as the persistent descriptor.
2	The abstracts, reference information, and article descriptors from each article that each database search cycle produced were logged into a Microsoft Excel spreadsheet database.
3	Each article was reviewed for relevance using stage one of the general population selection criteria as described in the above in the Intent of Inquiry section of Chapter I.
4	The article descriptors from each selected article were pooled and logged into a separate Microsoft Excel spreadsheet database.
5	A new keyword list was then generated from pooled article descriptor list and logged into the database in step four.
6	Steps 1 – 5 were repeated with the completion of each consecutive electronic search cycle until no new articles were produced.

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## APPENDIX B

### RESEARCH SYNTHESIS SEARCH DESCRIPTOR LIST

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#### **First Search Descriptors**

Curriculum Development*	Effective Districts*	Instructional Leadership*
District Leadership	Effective Superintendents	Superintendent Leadership

#### **Second Cycle Descriptors\***

Administrator Role	Models	Social Structure
Beliefs	Organizational Theories	Social Systems
Change Agents	Participative Decision Making	Statistical Analysis
Community Relations	Personnel Management	Superintendents
Comparative Analysis	Predictor Variables	Surveys
Context Effect	Program Implementation	Year Round Schools
Decentralization	Public Schools	Administrator Characteristics
Educational Change	Role Perception	Administrator Effectiveness
Effective Schools Research	School Administration	Administrator Qualifications
Job Satisfaction	School Based Management	Administrator Responsibility
Leadership Qualities	School Effectiveness	Administrator Role
Leadership Styles	Social Influences	Behavior Patterns
Leadership Responsibility		

#### **Third Cycle Descriptors\***

Academic Achievement	Community Involvement	Performance Factors
Administrative Policy	Crisis Management	Program Evaluation
Administrator Attitudes	Differences	Promotion (Occupational)
Administrators	Educational Assessment	Questionnaires
Behavior Patterns	Educational Research	Research Needs
Behavior Problems	Excellence in Education	Rural Schools
Board Administrator Relationship	Individual Development	School Districts
Boards of Education	Knowledge Level	Skills
Career Development	Labor Turnover	Student Evaluation
Centralization	Norms	Supply and Demand
Communication Skills	Occupational Mobility	

#### **Forth Cycle Descriptors\***

Administrator Evaluation	Educational Administration	Public Opinion
Administrator Selection	Evaluation Criteria	School Size
Case Studies	Evaluation Methods	Suburban Schools

## APPENDIX B (Continued)

Conflict Resolution	Ideology	Supervision
Coordination	Norms	Urban Schools
Critical Theory	Professional Autonomy	Values
Curriculum Evaluation		
<b><i>Fifth Cycle Descriptors*</i></b>		
Elementary Secondary Education	Moral Behavior	Problem Solving
Ethics	Moral Values	Quality of Working Life
Inquiry	Organizational Culture	Reflective Thinking
Institutional Mission	Philosophical Thinking	Theory Practice Relationship
Interpersonal Competence	Practical Reasoning	Work Environment
<b><i>Sixth Cycle Descriptors*</i></b>		
Administrative Change	Decision Making	Incentives
Accountability	Doctoral Programs	Motivation
Achievement	Educational Practices	Periodicals
Administrative Problems	Graduate Study	Politics of Education
Affiliation Need	Higher Education	Presidents
College School Cooperation	Imagery	Small Towns
Declining Enrollment		

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\*The descriptor, "*Superintendent*" [and], was utilized as the first descriptor in each electronic database query so that superintendent-related articles would be pooled.

## APPENDIX C

### GENERAL POPULATION OF SELECTED ARTICLES FROM CYCLICAL DATABASE KEYWORD SEARCHES (N = 87)

Year	Author	Title	Vol	No
<i>Educational Administration Quarterly</i>				
1983	Bacharach, S. B., & Mitchell, S. M.	The sources of dissatisfaction in educational administration: A role-specific analysis	19	1
1984	Berger, M. A.	Predicting succession under conditions of enrollment decline	20	2
1985	Crowson, R. L., & Morris, V.	Administrative control in large-city school systems: An investigation in Chicago	21	4
1986	DeYoung, A. J.	Excellence in education: The opportunity for school superintendents to become ambitious	22	2
1986	Maienza, J., & Grow, J.	The superintendency: Characteristics of access for men and women	22	4
1987	Peterson, K. D., et.al.	Superintendents' perceptions of the control and coordination of the technical core in effective school districts	23	1
1987	Crowson, R. L.	The local school district superintendency: A puzzling administrative role	23	3
1990	Firestone, W. A.	Succession and bureaucracy: Gouldner revisited	26	4
1991	Button, H. W.	Vulnerability: A concept reconsidered	27	3
1992	Greene, K. R.	Models of school board policy-making	28	2
1993	Mitchell, D. E., & Beach, S. A.	School restructuring: The superintendent's view	29	2
1993	Leithwood, K. A., et.al.	Superintendents' group problem-solving processes	29	3
1994	Herrington, C. D.	Schools as intergovernmental partners: Administrator perceptions of expanded programming for children	30	3
1996	Tallerico, M., Burstyn, J.N.	Retaining women in the superintendency: The location matters	32	Sup.

### APPENDIX C (Continued)

Year	Author	Title	Vol	No
1996	Yee, G. Cuban, L.	When is tenure long enough? A historical analysis of superintendent turnover and tenure in urban school districts	32	Sup.
1997	Heslep, R. D.	The practical value of philosophical thought for the ethical dimension of educational leadership	33	1
1997	Young, I. P.	Dimensions of employee compensation: Practical and theoretical implications for superintendents	33	4
1998	Webb, L. D., McCarthy, M. M.	Ella Flagg young: Pioneer of democratic school administration	34	2
2000	Brunner, C. C.	Unsettled moments in settled discourse: Women superintendents' experiences of inequality	36	1
2000	Grogan, M.	Laying the groundwork for a reconception of the superintendency from feminist postmodern perspectives	36	1
2000	Skrla, L., Reyes, P., Scheurich, J.J.	Sexism, silence, and solution: Women superintendents speak up and speak out	36	1
2000	Tallerico, M.	Gaining access to the superintendency: Headhunting, gender, and color	36	1
2001	Petersen, G. J., & Short, P. M.	The school board president's perception of the district superintendent: Applying the lenses of social influence and social style	37	4
2002	Grogan, M., & Andrews, R.	Defining preparation and professional development for the future	38	2
2002	Brunner, C. C.	A proposition for the reconception of the superintendency: Reconsidering traditional and nontraditional discourse	38	3
2003	Alsbury, T. L.	Superintendent and school board member turnover: Political versus apolitical turnover as a critical variable in the application of the dissatisfaction theory	39	5
2004	Hoffman, L. P., & Burrello, L. C.,	A case study illustration of how a critical theorist and a consummate practitioner meet on common ground	40	2
2004	Mountford, M., & Riding, R. J.	Motives and power of school board members: Implications for school board-superintendent relationships	40	5
2005	Alston, J.A.	Tempered radicals and servant leaders: Black females persevering in the superintendency	41	4

### APPENDIX C (Continued)

Year	Author	Title	Vol	No
2006	Melnick, S.A. & Henk, W.A.	Researchers at the gate: Factors influencing districts' right of entry decisions	42	4
2006	Mahitivanichcha, K. & Rorrer, A.K.	Women's choices within market constraints: Re-visioning access to and participation in the superintendency	42	4
2006	Newton, R.M.	Does recruitment message content normalize the superintendency as male?	42	4
2007	Evans, A.E.	School leaders and their sense making about race and demographic change	43	2
<i><u>Journal of Educational Administration</u></i>				
1983	Gerardi, R.J.	Superintendents: Movers or stayers?	21	2
1986	Murphey, J., & Hallinger, P.	The superintendent as instructional leader: Findings from effective school districts	24	2
1987	Hart, A. W., & Ogawa, R. T.	The influence of superintendents on the academic achievement of school districts	25	1
1987	Murphy, J., et.al.	The administrative control of principals in effective school districts	25	2
1991	Weller, L.D. et.al.	Superintendent turnover and school board member defeat	29	2
1991	Ziolkowsky, G.A. Willower, D.J.	School superintendents, crisis management and institutional organisations theory	29	2
1991	Kasten, K. L., & Ashbaugh, C. R.	The place of values in superintendents' work	29	3
1995	Lonardi, E., et.al.	Assessing motivational needs: The case of the school superintendent	33	3
1995	Myers, E., & Murphy, J.	Suburban secondary school principals' perceptions of administrative control in schools	33	3
1999	Nolan, B. C., & Nolan, C. R.	Gridlock at the gates	37	2
<i><u>Journal of School Leadership</u></i>				
1991	Dillon, R. R., & Halliwell, J. W.	Superintendents' and school board presidents' perceptions of the purposes, strengths and weaknesses of formal superintendent evaluations	1	4

### APPENDIX C (Continued)

Year	Author	Title	Vol	No
1992	Bratlien, M. J., et.al.	The professional studies doctorate	2	1
1992	Chance, E. W., et.al.	Long-term rural superintendents: Characteristics and attributes	2	4
1993	Hughes, L. W.	School-based management, decentralization, and citizen control--a perspective	3	1
1993	Björk, L. G.	Effective schools-effective superintendents: the emerging instructional leadership role	3	3
1993	Lyons, J. E.	Perceptions of search consultants of qualities school boards seek in superintendents	3	3
1993	Kowalski, J., & Oates, A.	The evolving role of superintendents in school-based management	3	4
1993	Hirth, M. A.,	An investigation of school superintendents' views of school funding problems and school finance reform in Tennessee	3	6
1994	Griffin, G., & Chance, E. W.	Superintendent behaviors and activities linked to school effectiveness: Perceptions of principals and superintendents	4	1
1994	Grady, M. L., et.al.	Women's perceptions of the superintendency	4	2
1994	LaCost, B. Y., Grady, M. L.	Principals and superintendents: Perceptions of involvement in the budgeting process	4	3
1994	Schmieder, J.H. et.al.	Keys to success: Critical skills for novice principals: Voices from practitioners	4	3
1994	Impara, J. C., et.al.	Student assessment tasks and knowledge: Comparing superintendents and elementary and secondary principals	4	5
1995	Stein, R.F.	Superintendent evaluation: More than a technical process.	5	2
1995	Walker, K.D.	Perceptions of ethical problems among senior educational leaders	5	6
1996	Reid, J. H.	Context and perception: Implications for leadership	6	1
1996	Bredeson, P. V.	Superintendents' roles in curriculum development and instructional leadership: Instructional visionaries, collaborators, supporters, and delegators	6	3
1997	DeMitchell, T. A., & Carroll, T. S.	Mandatory drug testing of student athletes: A policy response to "Vernonia School District, 47j v	7	1

### APPENDIX C (Continued)

Year	Author	Title	Vol	No
1997	Brunner, C.C.	Working through the "Riddle of the Heart": Perspectives of women superintendents	7	2
1997	Nogay, K. B., & Beebe R. J.	Gender and perceptions: Females as secondary principals	7	4
1997	Ovando, M. N., & Troxell, D.	Superintendents' Multicultural competencies	7	4
1997	Petersen, G. J.	Looking at the big picture: School administrators and violence reduction	7	5
1999	Shields, C.M. Oberg, S.L., LaRocque, L.J.	The sole of district leaders in school reform: Implementing year-round schooling	9	1
1999	Mayo, R.	From outside In: Additional Conflict for the public school superintendent	9	2
1999	Brunner, C. C.	Taking risks: A requirement of the new superintendency	9	4
1998	Feuerstein, A., & Opfer, V. D.	School board chairmen and school superintendents: an analysis of perceptions concerning special interest groups and educational governance	9	4
2000	Davis, S. H.,	Why principals lose their jobs: Comparing the perceptions of principals and superintendents	10	1
2000	Grogan, M., & Mitchell, S. M.	The short tenure of a woman superintendent: A clash of gender and politics	10	2
2002	Mayo, C. R., & Zirkel, P. A.	School superintendents' choices of professional periodicals	12	4
2002	Petersen, G. J., & Short, P. M.	An examination of school board presidents' perceptions of their superintendent's interpersonal communication competence and board decision making	12	4
2003	Blount, J. M.	Homosexuality and school superintendents: A brief history	13	1
2003	Whitaker, K.S.	Superintendent perceptions of quantity and quality of principal candidates	13	2
2003	Fusarelli, L. D., Cooper, B. S., & Carella, V.A.	Who will serve? an analysis of superintendent occupational perceptions, career satisfaction, and mobility	13	3
2003	Glass, T., & Björk, L. G.	The superintendent shortage: Findings from research on school board presidents	13	3

### APPENDIX C (Continued)

<b>Year</b>	<b>Author</b>	<b>Title</b>	<b>Vol</b>	<b>No</b>
2003	Kowalski, T. J.	Superintendent shortage: The wrong problem and wrong solutions	13	3
2003	Natkin, G. L., Cooper, B. S., Alborano, J.A., Padilla, A., & Ghosh, S.	Predicting and modeling superintendent turnover	13	3
2003	Tallerico, M.	Policy, structural, and school board influences on superintendent supply and demand	13	3
2003	Björk, L.G., Grogan, M., & Johnson, B.C.	The reality and myth of the superintendent shortage: Implications for research and educational policy	13	4
2003	Björk, L., Keedy, J., & Gurley, D.K.,	Career patterns of American superintendents	13	4



## APPENDIX D

Investigation Number	Synthesis Population Bibliographic Information
QL <sub>1</sub>	Griffin, G., & Chance, E. W. (1994). Superintendent behaviors and activities linked to school effectiveness: perceptions of principals and superintendents. <i>Journal of School Leadership</i> ,4(1),69-86.
QL <sub>2</sub>	Murphy, J., Hallinger, P., Peterson, K.D., & Lotto, L.S. (1987). The administrative control of principals in effective school districts. <i>Journal of Educational Administration</i> ,25(2),161-192.
QL <sub>3</sub>	Murphy, J., & Hallinger, P. (1986). The superintendent as instructional leader: Findings from effective school districts. <i>Journal of Educational Administration</i> ,24(2),213-236.
QL <sub>4</sub>	Peterson, K. D., Murphy, J., & Hallinger, P. (1987). Superintendents' perceptions of the control and coordination of the technical core in effective school districts. <i>Educational Administration Quarterly</i> , 23(1),79-95.
QN <sub>1</sub>	Hart, A. W., Ogawa, R. T., & Bradley, G.. (1987). The influence of superintendents on the academic achievement of school districts. <i>Journal of Educational Administration</i> , 25(1),72-84.
QN <sub>2</sub>	Impara, J.C., et.al. (1994). Student assessment tasks and knowledge: Comparing superintendents and elementary and secondary principals. <i>Journal of School Leadership</i> , 4(5), 517-528.
QN <sub>3</sub>	Petersen, G.J. (2002). Singing the same tune: Principals' and school board members' perceptions of superintendent's role as instructional leader. <i>Journal of Educational Administration</i> . 40(2), 158-171.
QN <sub>4</sub>	Newton, R.M.(2006). Does recruitment message content normalize the superintendency as male? . <i>Educational Administration Quarterly</i> , 42(4), 551-577.

### APPENDIX D (Continued)

Investigation Number	Synthesis Population Bibliographic Information
MM <sub>1</sub>	Bredeson, P. V., & Hoy, W. K. (1995). Superintendents' roles in curriculum development and instructional leadership: Instructional visionaries, collaborators, supporters, and delegators. <i>Journal of School Leadership</i> , 6(3), 243-264.
TE <sub>1</sub>	Björk, L. G. (1993). Effective schools-effective superintendents: The emerging instructional leadership role. <i>Journal of School Leadership</i> , 3(3), 246-259.
TE <sub>2</sub>	Crowson, R. L., & Farkas, J. (1987). The local school district superintendency: A puzzling administrative role. <i>Educational Administration Quarterly</i> , 23(3), 49-69.
TE <sub>3</sub>	Grogan, M. (2000). Laying the groundwork for a reconception of the superintendency from feminist postmodern perspectives. <i>Educational Administration Quarterly</i> , 36(1), 117-142.
TE <sub>4</sub>	Kowalski, J., Oates, A. (1993). The evolving role of superintendents in School-based management. <i>Journal of School Leadership</i> , 3(4), 380-390.

## APPENDIX E

### Research Synthesis Coding Sheet

#### Publication and Coder Identification

**Research Questions Addressed:** Q1 - Q2

- |    |   |     |                          |
|----|---|-----|--------------------------|
| 2  | Source:   | (B) | <input type="checkbox"/> |
|    | 1. Educational Administration Quarterly                   |     |                          |
|    | 2. Journal of School Leadership                           |     |                          |
|    | 3. Journal of Educational Administration                  |     |                          |
| 3. | Was this an empirical study?                              | (C) | <input type="checkbox"/> |
|    | 1 = Yes   |     |                          |
|    | 2 = No  |     |                          |
| 4  | Coder:  | (D) | <input type="checkbox"/> |
|    | 1. Steven Shidemantle                                     |     |                          |
| 5  | Year of publication (last 2 digits):                      | (E) | <input type="checkbox"/> |
| 6  | Record the time (minutes) that it took to code the report |     |                          |

#### Subsample Identification

**Research Questions Addressed:** Q3 - Q14

- |   |                                 |     |                          |
|---|---------------------------------|-----|--------------------------|
| 7 | Research Methodology of Study:  | (F) | <input type="checkbox"/> |
|   | 1. Quantitative                 |     |                          |
|   | 2. Qualitative                  |     |                          |
|   | 3. Mixed-Model                  |     |                          |
|   | 4. Theoretical Essay            |     |                          |
| 8 | Core construct of the study     | (G) | <input type="checkbox"/> |
|   | 1. (Instructional) Leadership   |     |                          |
|   | 2. Student Academic Performance |     |                          |
|   | 3. Administrative Control       |     |                          |
|   | 4. Role Definition              |     |                          |
|   | 5. Curriculum and Instruction   |     |                          |
|   | 6. District Management          |     |                          |
|   | Other:                          |     |                          |

## APPENDIX E (Continued)

- |    |   |              |  |
|----|---|--------------|--|
| 9  | Characteristics of target population:<br>0. None<br>1. K-12 School District<br>2. Elementary School District<br>3. Secondary School Districts<br>4. Other: _____            | (H)          | <input style="width: 50px; height: 15px; background-color: #cccccc;" type="text"/>   |
| 10 | Target population of study:<br>0. None<br>1. Superintendent<br>2. Principal<br>3. District Administration<br>4. School Board Member<br>5. Outside Agency<br>6. Other: _____ | (I1)<br>(I2) | <input style="width: 50px; height: 15px; background-color: #cccccc;" type="text"/><br><input style="width: 50px; height: 15px; background-color: #cccccc;" type="text"/> |
| 11 | Research Design of the study:<br>0. None<br>1. Experimental Design<br>2. Survey Methodology<br>3. Case Study<br>3. Ethnography<br>4. Theoretical Essay                      | (J)          | <input style="width: 50px; height: 15px; background-color: #cccccc;" type="text"/>   |
| 12 | Sampling Design of the study:<br>0. Non-Empirical<br>1. (modified) Random<br>2. Non-Random<br>3. Judgment or convinced<br>4. Reported in another source                     | (K)          | <input style="width: 50px; height: 15px; background-color: #cccccc;" type="text"/>   |

## APPENDIX E (Continued)

- |    |                              |                   |   |
|----|------------------------------|-------------------|---|
| 13 | Threats to Internal Validity | (L <sub>1</sub> ) | █ |
|    | 0. None                      | (L <sub>2</sub> ) | █ |
|    | 1. History                   |                   |   |
|    | 2. Maturation                |                   |   |
|    | 3. Testing (reactivity)      |                   |   |
|    | 4. Hawthorne Effect          |                   |   |
|    | 5. Experimenter Expectancy   |                   |   |
|    | 6. Instrumentation           |                   |   |
|    | 7. Statistical Regression    |                   |   |
|    | 8. Selection Bias            |                   |   |
|    | 9. Attrition                 |                   |   |
|    | 10. Compensatory Rivalry     |                   |   |
| 14 | Threats to External Validity | (M <sub>1</sub> ) | █ |
|    | 0. None                      | (M <sub>2</sub> ) | █ |
|    | 1. Generalizability          |                   |   |
|    | 2. Sampling                  |                   |   |
|    | 3. Instrumentation           |                   |   |
|    | 4. Response Rates            |                   |   |
|    | 5. Regression                |                   |   |

### Subsample Identification

**Research Questions Addressed:** Q7 - Q14

- |    |  |                   |   |
|----|--|-------------------|---|
| 15 | What type of statistical test was performed for each statistical hypothesis? | (N <sub>1</sub> ) | █ |
|    |  | (N <sub>2</sub> ) | █ |
|    | 1. Mean  |                   |   |
|    | 2. S.D.  |                   |   |
|    | 3. t-test  |                   |   |
|    | 4. ANOVA   |                   |   |
|    | 5. ANCOVA  |                   |   |
|    | 6. Wilcoxin Rank Sum   |                   |   |
|    | 7. Chi-Square  |                   |   |
|    | 8. Correlation   |                   |   |
|    | 9. Conical Analysis  |                   |   |
|    | 10. MANOVA   |                   |   |
|    | 11. Other:   |                   |   |

*Record specific test statistic for each statistical hypothesis:*

## APPENDIX E (Continued)

### Effect Size Description

- 16 Test statistic framework reported for each hypothesis: (O)
0. None
  1. Decomposition of Variance; attributing % variance to IV (similar to ANOVA).
  2. Combined mean scores from combining survey responses.
  3. Descriptive Statistics
  4. Sum of Mean Ranks
  5. Qualitative Summation
- 17 Record the reported or derived specific effect size indicator:
- |                   |                      |                    |                      |
|-------------------|----------------------|--------------------|----------------------|
| (P <sub>1</sub> ) | <input type="text"/> | (P <sub>9</sub> )  | <input type="text"/> |
| (P <sub>2</sub> ) | <input type="text"/> | (P <sub>10</sub> ) | <input type="text"/> |
| (P <sub>3</sub> ) | <input type="text"/> | (P <sub>11</sub> ) | <input type="text"/> |
| (P <sub>4</sub> ) | <input type="text"/> | (P <sub>12</sub> ) | <input type="text"/> |
| (P <sub>5</sub> ) | <input type="text"/> | (P <sub>13</sub> ) | <input type="text"/> |
| (P <sub>6</sub> ) | <input type="text"/> | (P <sub>14</sub> ) | <input type="text"/> |
| (P <sub>7</sub> ) | <input type="text"/> | (P <sub>15</sub> ) | <input type="text"/> |
| (P <sub>8</sub> ) | <input type="text"/> | (P <sub>16</sub> ) | <input type="text"/> |
- 18 Record the formulas used to calculate effect size statistics and supporting statistical calculations (Q<sub>1</sub>)
- (Q<sub>2</sub>)
- (Q<sub>3</sub>)
- 19 Record the estimate of the variance for the observed effect sizes: (R)
- 20 Moderator variables associated with each hypothesis? (S)
- 0
  - 1
  - 2

## APPENDIX E (Continued)

- 21 Predictor constructs elaborated in the research hypotheses in each article: (T)
- 0  
1  
2
- 22 Below, list the subsamples for each predictor and give a brief verbal description. (U)
- 1 \_\_\_\_\_  
2 \_\_\_\_\_  
3 \_\_\_\_\_  
4 \_\_\_\_\_  
5 \_\_\_\_\_
- [Add more as needed]*

**Research Questions Addressed:** Q7 - Q14

- 29 What is the predictor variable involved in this effect size? (V)
- [An open-ended list, with new scales added and given a number as encountered in coding.]
- Reliability of Predictor Variable
- 30 Is reliability reported for the predictor on this occasion? (W)
- 1 = Yes  
2 = No
- 31 Record the estimated reliability. (X)

## APPENDIX E (Continued)

- |    |                                |     |   |
|----|--------------------------------|-----|---|
| 32 | Record the type of reliability | (Y) | <input style="width: 100%;" type="checkbox"/> |
|    | 1. alpha                       |     |   |
|    | 2. internal                    |     |   |
|    | 3. kappa                       |     |   |
|    | 4. percent agreement           |     |   |
|    | 5. split half                  |     |   |
|    | 6. test-retest                 |     |   |
|    | 7. other (specify below)       |     |   |

**Research Questions Addressed:** Q15 - Q21

- |    |  |      |   |
|----|--|------|---|
| 23 | Record the type of summary statistics from which the effect size was derived.        | (Z)  | <input style="width: 100%;" type="checkbox"/> |
| 24 | Actual number of people providing effect size information (i.e., if cases are lost): | (AA) | <input style="width: 100%;" type="checkbox"/> |
|    | <u>Measures</u>  |      | <input style="width: 100%;" type="checkbox"/> |
| 25 | What is the name of the scale?   | (AB) | <input style="width: 100%;" type="checkbox"/> |

[An open-ended list appears here. New scales are added and given a number as they are encountered during coding.]

### Specific Qualitative Data

**Research Questions Addressed:** Q22 - Q24

- |    |   |      |   |
|----|---|------|---|
| 33 | What are the specific major themes that can be synthesized from the population of qualitative articles? | (AF) | <input style="width: 100%;" type="checkbox"/> |
|    | 0. Not Applicable   |      |   |
|    | 1. Instructional Leadership   |      |   |
|    | 2. Administrative Control   |      |   |
|    | 3. Curriculum and Instruction   |      |   |
|    | 4. Learning Communities / School-Based Management   |      |   |



## APPENDIX E (Continued)

- 34 What qualitative methods produced the major themes? (AG)
0. Not Applicable
- 1
- 2
- 3
- 4
- 5
- 
- 35 What common trends emerged as a result of qualitative synthesis? (AH)
- 1
- 2
- 3
- 4
- 5
- 6

### Specific Mixed Methodology Data

**Research Questions Addressed:**           Q25 - Q27          

- 36 What were the shared findings between the quantitative and qualitative methods in each study? (AI)
0. Not Applicable
1. Instructional Leadership
2. Administrative Control
3. Curriculum and Instruction
4. Learning Communities / School-Based Management
5. Other:
- 
- 37 Do the mixed-methodology findings present convergent or divergent findings when compared to other findings? (AJ)
- 1 = Convergent
- 2 = . Divergent
- 3 = . Neither

**APPENDIX E (Continued)**

Below, give a brief description of convergent / divergent findings:


38 \_\_\_\_\_ (AK) 

\_\_\_\_\_

39 \_\_\_\_\_ (AL) 

\_\_\_\_\_

*[Add more as needed]*

40 What common trends emerged as a result of qualitative synthesis? (AN) 

1

2

3

4

5

6

Below, give a brief description of the common trends:

41 \_\_\_\_\_ (AO) 

\_\_\_\_\_

*[Add more as needed]*

## APPENDIX F

### CRITERIA AND STRATEGIES USED TO ESTABLISH THE TRUSTWORTHINESS OF THE QUALITATIVE ARTICLES WITHIN THE SYNTHESIS POPULATION

---



---

Criteria

Strategy

---

Credibility

Prolonged and varied field experience

Time sampling

Reflexivity (field journal)

Triangulation

Member checking

Peer examination

Interview technique

Establishing authority of researcher

Structural coherence

Referential adequacy

Transferability

Nominated sample

Comparison of sample to demographic data

Time sample

Dense description

Dependability

Dependability audit

Dense description of research methods

Stepwise replication

Triangulation

Peer examination

Code-recode procedure

Confirmability

Confirmability audit

Triangulation

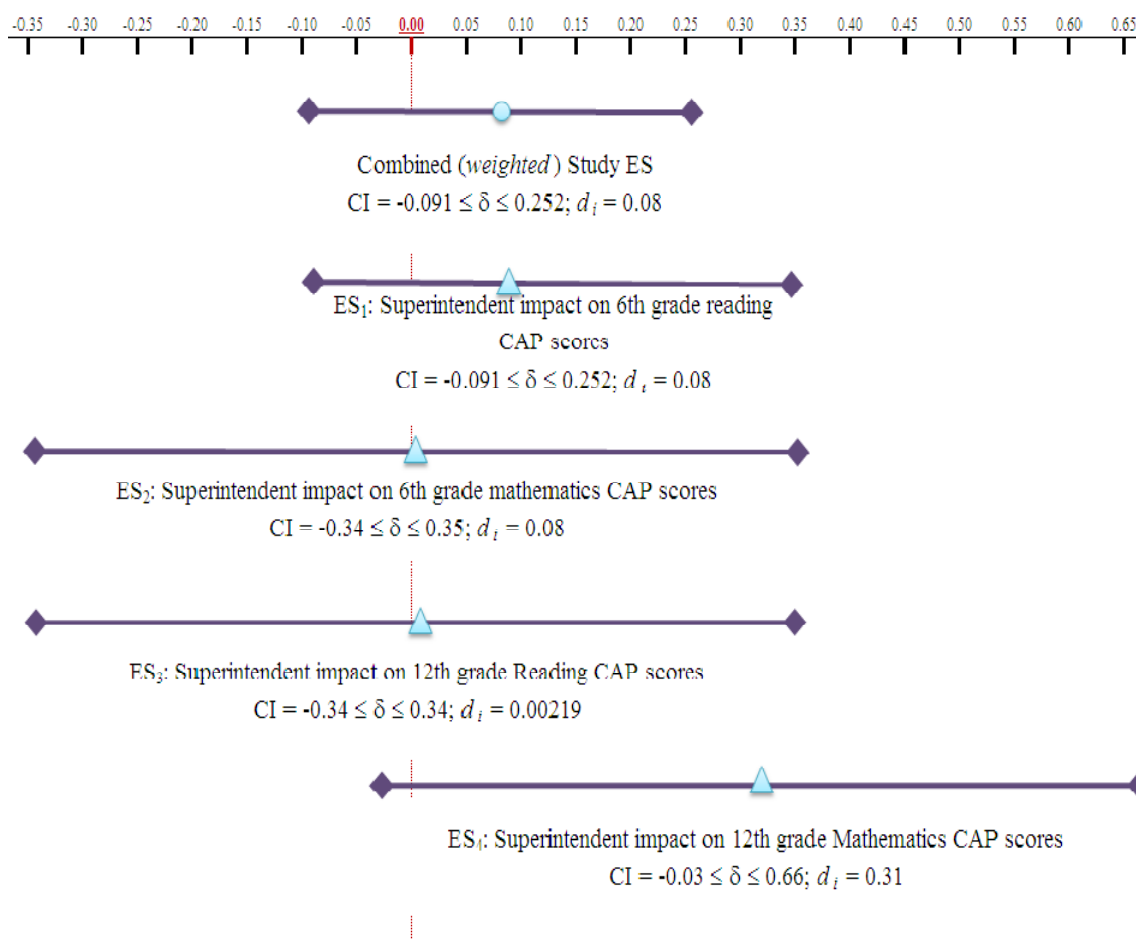
Reflexivity

---

APPENDIX G

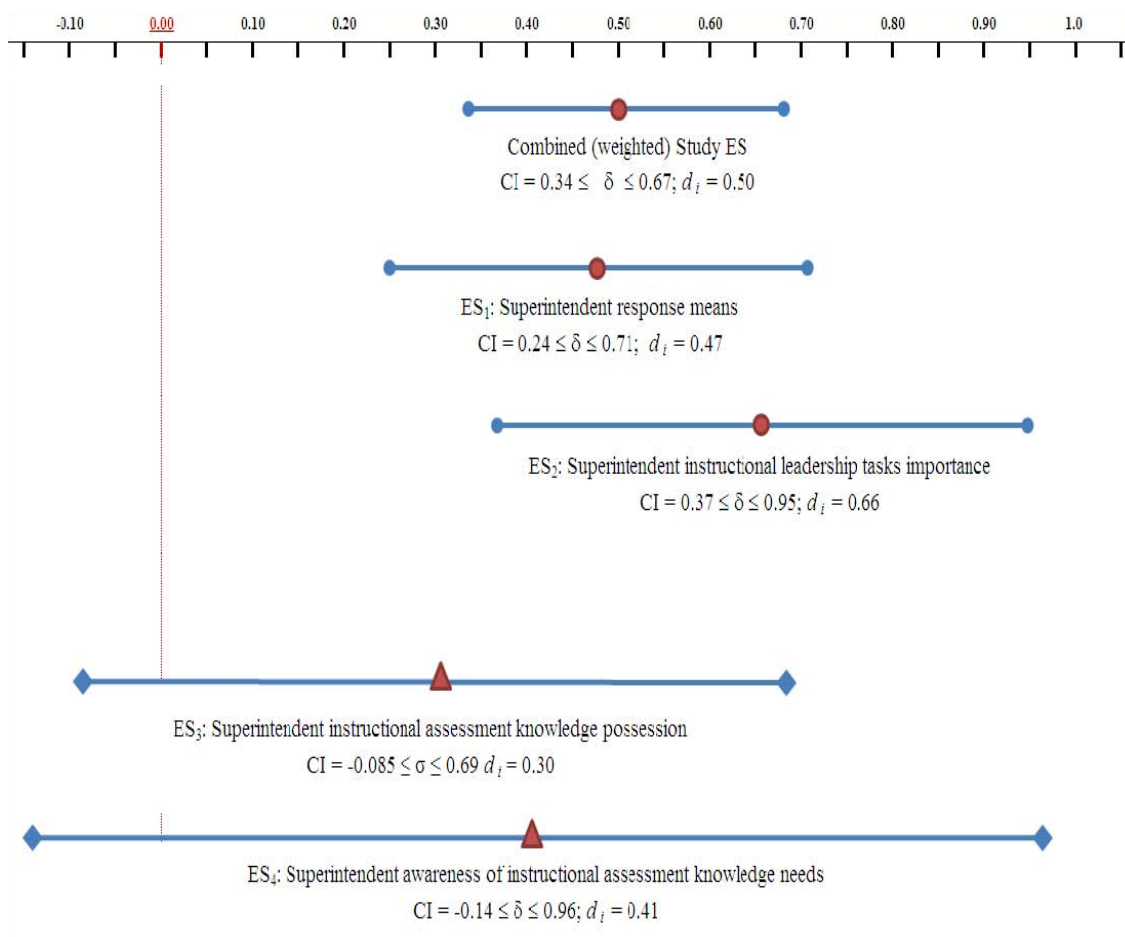
QUANTITATIVE WITHIN STUDY HOMOGENEITY TESTS OF VARIANCE  
 FORREST PLOTS FOR TECHNICAL CORE RELATED INVESTIGATIVE  
 CONSTRUCTS

QN<sub>1</sub> - Hart, A. W., Ogawa, R. T., & Bradley, G. (1987)



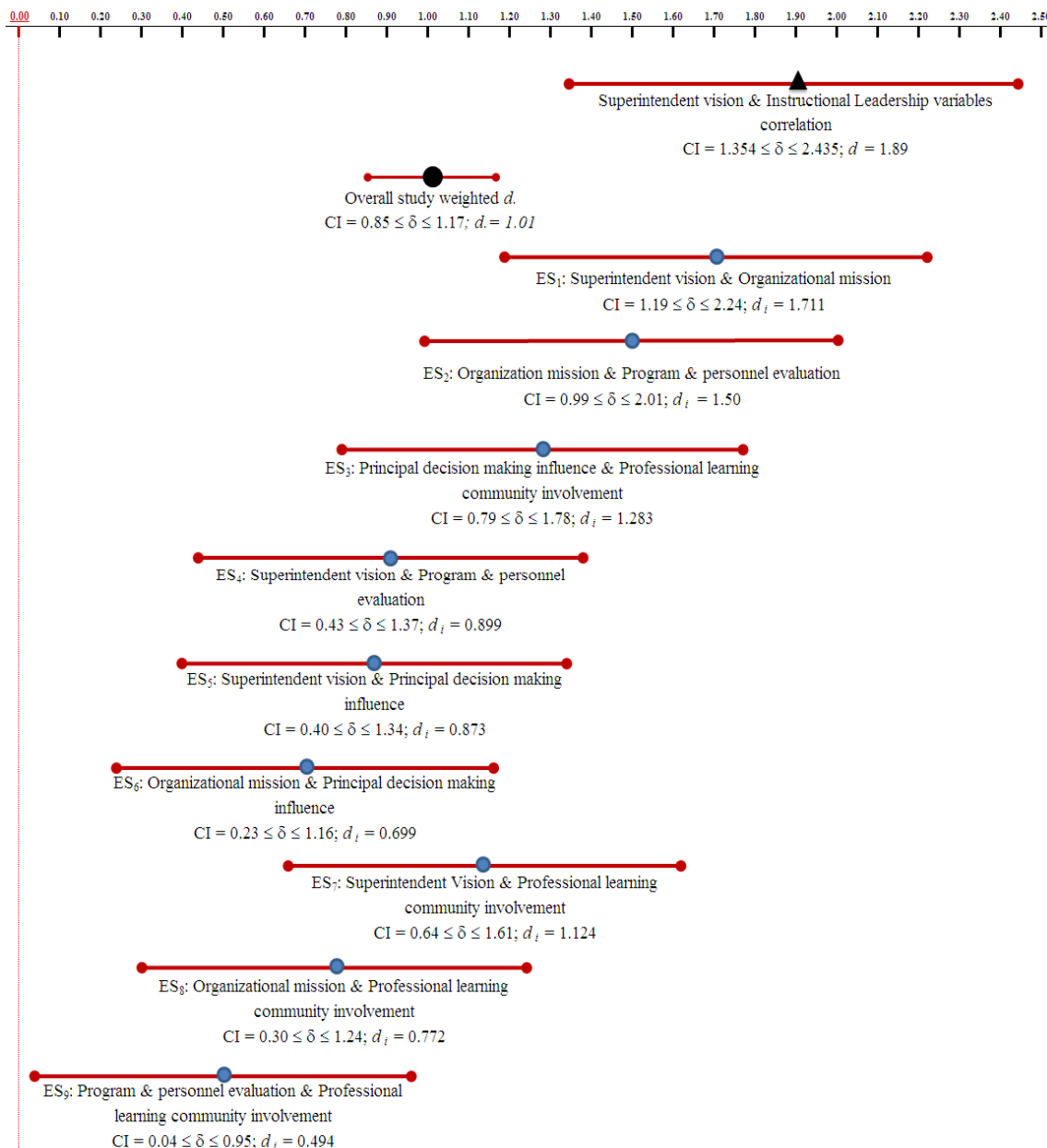
## APPENDIX G (continued)

QN<sub>2</sub> - Impara, J.C., et al. (1994)

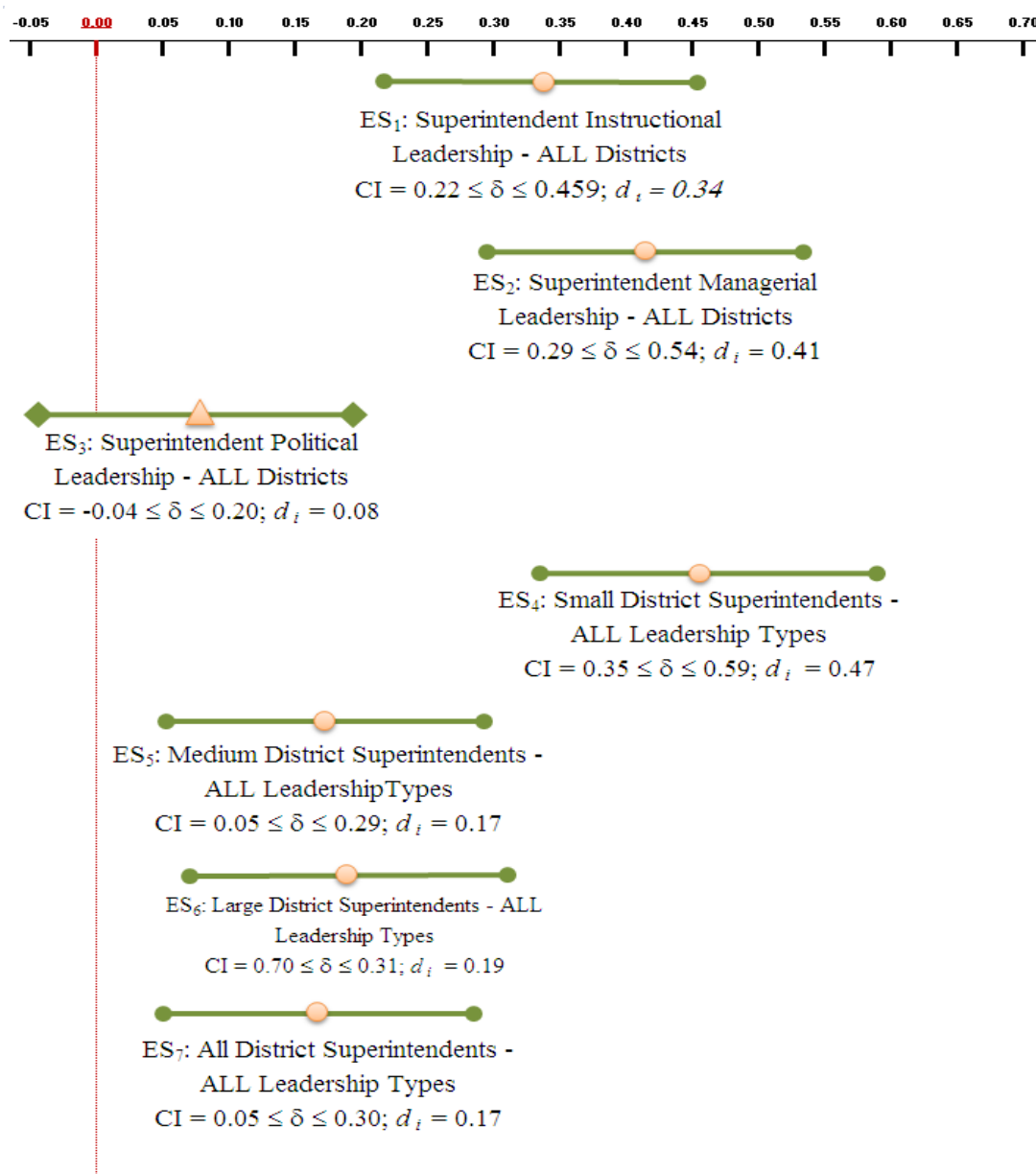


### APPENDIX G (continued)

#### QN<sub>3</sub> – Petersen, G.J. (2002)



## APPENDIX G (continued)

QN<sub>4</sub> – Newton, R.M. (2006)

## VITA

**Steven Paul Shidemantle**  
6017 South Fawnlake Drive  
Katy, TX 77493

### PROFESSIONAL APPOINTMENTS

- 2003 – Present Assistant Principal, Katy Junior High School, Katy ISD.
- 2001 – 2003 Research Assistant, Dept. of Educational Administration and Human Resources Development, Texas A&M University.
- 2002 – 2003 Houston Area Initiative Research Coordinator, Principals' Center, Department of Educational Administration and Human Resources Development, Texas A&M University.
- 2002 Assistant Program Evaluator, Tarleton University Educational Administration Ph.D. program.
- 2001 – 2002 Conference Coordinator, Administrative Leadership Institute. Texas A&M University and Texas Association of School Administrators
- 2001 – 2002 Member, Texas Future Superintendent Advisory Team

### EDUCATION

- B.S. Ed. Slippery Rock University, Slippery Rock, PA  
Content: Science Minor: Psychology Graduation: 1996
- Ph.D. Texas A&M University, College Station, TX  
Major: Ph.D. Educational Administration  
Minor: Educational Statistics  
Committee Chairperson: Dr. John Hoyle  
Graduation: May 2008

### HONORS AND AWARDS

- 2003 Forrest E. Connor Award – AASA.
- 2003 Member – 24<sup>th</sup> Annual David L. Clark National Graduate Student Research Seminar in Educational Administration and Policy.
- 2002 T.M. Stinnett Fellowship Award - Texas A&M University.
- 2001 Mance L. Park Memorial Fellowship – Texas A&M University.
- 1999 – 2000 Nominated - Pennsylvania Award for Teaching Excellence.
- 1998 – 2001 Nominated - Who's Who Among American Teachers.

### PROFESSIONAL PRESENTATIONS

- 2006 Presenter – Katy Junior High – Katy ISD.
- 2003 Presenter / Session Moderator – AASA.
- 2003 Presenter / Session Moderator – SERA.
- 2002 Presenter – NCPEA.
- 2001 Presenter – AASA.