

A DELPHI-BASED INVESTIGATION OF PRINCIPAL PREPAREDNESS FOR  
MANAGING SCHOOL FINANCE

by

Arthur Isaac Christian III

A dissertation submitted to the faculty of  
The University of North Carolina at Charlotte  
in partial fulfillment of the requirements  
for the degree of Doctor of Educational  
Leadership

Charlotte

2017

Approved by:

---

Dr. James J. Bird, Chair

---

Dr. David M. Dunaway

---

Dr. Robert F. Algozzine

---

Dr. Lyndon P. Abrams

---

Dr. Mark I. West

©2017  
Arthur Isaac Christian III  
ALL RIGHTS RESERVED

## ABSTRACT

ARTHUR ISAAC CHRISTIAN III. A Delphi-Based investigation of principal preparedness for managing school finance. (Under the direction of DR. JAMES J. BIRD)

Background. Research on principal preparedness for managing school finance is limited. Grounded in theory, principal preparation programs are without practical exercises for leadership readiness on budgets and finance. On its face, this topic is held the most responsible aspect of operations management, but the least studied in school leadership programs and sometimes the last facilitated in in-service professional development. Hence, a gap exists in both the theoretical and practical preparedness of developing effective financial stewards in school leadership.

Method. Using Delphi, this research design is a hybrid that offered both quantitative and qualitative results providing data collection and analysis on the opinions of experts. Through an iterative process, a panel of experts identified appropriate knowledge and competencies necessary to manage school finance. This method consisted of sequential questionnaires (e.g., beginning with open ended followed by a Ten-point Likert-Type Scale), quick feedback, and anonymity for its participants. This method was purposeful for building consensus among diverse professional experiences seeking agreement on this topic.

Findings. Upon converging agreements among panelists, there are nineteen (19) competencies that can be used as a baseline for developing effectiveness on managing school finance. Within these competencies are three domains as focal points, specifically (i.e., accounting, budgeting, and funding). Simply, principals do desire gaining knowledge and understanding. This study concludes that principal preparedness on school financial management is found to be without appropriate concentration within principal preparation programs as well as school district professional development. It validates previous theories in professional investigations and provides a contribution to this field of study.

## DEDICATION

To my Spiritual Father, Lord, and Savior Jesus Christ, I am so blessed to have been taught how to find the teachings "... on earth as it is in heaven ..."

(Matthew 6:10).

This body of work is dedicated to my Father, Arthur Isaac Christian, Jr., and his late Father, Arthur Isaac Christian, Sr., these men taught me by example how to endure and persevere without making excuses.

## ACKNOWLEDGEMENTS

Being that this study is dependent on the influence of diverse and expert opinions, the irony is that so many different people have influenced my pursuit for this degree. I would like to acknowledge those that have planted seeds and supported growth throughout my sojourn.

To my family: My wife, Dr. Christina Christian, I am grateful for your guidance on writing like a researcher, I love and admire you. Add to this, our sons Isaac and Isaiah. Each of you spent many hours with me at Starbucks while I prepared. I thank you for your love and patience.

To Dr. James E. and Marguerite Mitchell: Yours was the first dissertation I read in 1987. At the time, I did not know what I was reading, but knew it was something I wanted to pursue. You two were consummate role models to me. I thank you for being a “light” in the church and the educational community.

To Dr. James E. Lyons: I so appreciate the “call” and the many hours of mentoring with “Lyonisms.” The reason I come visit you so often is both intellectual and spiritual.

To Dr. James J. Bird: I appreciate you being my leader, teacher, and chair throughout the “changing of hands” process. I hope to represent this fraternity of educational leadership with the same sincerity, tenacity and vigor as you.

To Drs. David M. Dunaway, Robert F. Algozzine, Lyndon P. Abrams, and Mark I. West: Your collective wisdom and guidance have made me a stronger researcher. I expect to use this experience and make similar influences in the research profession as you.

## TABLE OF CONTENTS

LIST OF TABLES		xi
LIST OF FIGURES		xii
LIST OF ABBREVIATIONS		xiv
CHAPTER 1:	INTRODUCTION OF THE STUDY	1
1.0	Preparedness	1
1.1	Significance of Study	2
	1.1.1 Context	2
	1.1.2 Anne and Todd: Implications for this Study	5
1.2	Theoretical Framework	6
1.3	Areas of Research, Purpose, Influences, and Questions	6
	1.3.1 Area of Study	6
	1.3.2 Area of Focus	7
	1.3.3 Area of Need	8
	1.3.4 Research Purpose	8
	1.3.5 Research Influences	9
	1.3.6 Research Questions	10
1.4	Research Method	11
	1.4.1 Research Background	11
	1.4.2 Research Parameters and Terms	12
1.5	Summary	14
CHAPTER 2:	LITERATURE REVIEW	15
2.0	Introduction	15
2.1	Search, Organization, and Emerging Ideas	16
	2.1.1 Search	16
	2.1.2 Organization	19

2.2	Being Effective and Principal Preparation Programs	22
2.2.1	Problems with Preparation	22
2.2.2	Program Variations	28
2.2.3	Syllabi Critique	29
2.2.4	Limited Knowledge and Analyses	30
2.3	Being Effective in Managerial Leadership	30
2.3.1	Problems with Measuring	30
2.3.2	Systems of Expectations	32
2.3.3	Limited Knowledge and Analyses	34
2.4	Being Knowledgeable and Professional Development	34
2.4.1	Theories with Gaining Knowledge	34
2.4.2	Knowledge Management	35
2.4.3	Limited Knowledge and Analyses	37
2.5	Being Competent on School Financial Management	38
2.5.1	Problems with Gaining Competence	38
2.5.2	Principal Financial Responsibility	41
2.5.3	Limited Knowledge and Analyses	43
2.6	Research Considerations and Characteristics	49
2.6.1	Delphi Considerations	49
2.6.2	Delphi Weaknesses	50
2.6.3	Delphi Strengths	51
2.6.4	Delphi Characteristics	52
2.7	Summary	54
CHAPTER 3:	METHOD	55
3.0	Introduction	55

3.1	Research Purpose and Overview	56
3.2	Research Questions	57
3.2.1	What competencies are necessary for principals to become effective stewards in managing school finance?	57
3.2.2	To what extent are university principal preparation programs preparing students to manage budgets and financial matters?	57
3.2.3	To what extent is school district professional development providing principal training for managing school finance?	57
3.3	Research Design	57
3.3.1	General Delphi	57
3.3.2	Iterations	59
3.3.3	Measurement Scale	60
3.3.4	Data Analysis	61
3.4	Study Participants and Selection	62
3.5	Validity	65
3.5.1	Flaws	65
3.5.2	Instrumentation	66
3.6	Procedure	68
3.6.1	Level 1 - Delphi Pilot	68
3.6.2	Level 2 - Delphi I	70
3.6.3	Level 3 - Delphi II	75
3.7	Summary of Panelists and Diversity	78
3.7.1	Panel Participants	78
3.7.2	Professionally Diverse Expert Panel	79
3.8	Summary	80



CHAPTER 4:	PRESENTATION AND ANALYSIS OF THE DATA	81
4.0	Introduction	81
4.1	Research Questions and Results of Level 3 – Delphi II	81
4.1.1	What competencies are necessary for principals to become effective stewards in managing school finance?	82
4.1.2	To what extent are university principal preparation programs preparing students to manage budgets and financial matters?	88
4.1.3	To what extent is school district professional development providing principal training for managing school finance?	89
4.2	Delphi I and II Summary	90
4.3	Summary	92
CHAPTER 5:	DISCUSSION, IMPLICATIONS, RECOMMENDATIONS FOR FUTURE RESEARCH, AND CONCLUSIONS	93
5.0	Preparedness	93
5.0.1	What competencies are necessary for principals to become effective stewards in managing school finance?	94
5.0.2	To what extent are university principal preparation programs preparing students to manage budgets and financial matters?	94
5.0.3	To what extent is school district professional development providing principal training for managing school finance?	94
5.1	Discussions	94
5.1.1	School Finance	94
5.1.2	Statistical Agreement	97
5.1.3	Theoretical Agreement	97
5.1.4	Limitation	98
5.1.5	Gaps	99
5.2	Implications	100

5.3	Recommendations for Future Research	102
5.4	Conclusions	103
REFERENCES		104
APPENDIX A:	Anne's Internal Audit	117
APPENDIX B:	Institutional Review Board Approval	123
APPENDIX C:	Email Introduction to Study and Research Flyers	124
APPENDIX D:	Level 1 - Delphi Pilot Survey	131
APPENDIX E:	Level 2 - Delphi I Round One	142
APPENDIX F:	Level 2 - Delphi I Round Two	153
APPENDIX G:	Level 2 - Delphi I Round Three	159
APPENDIX H:	Level 3 - Delphi II Round One	173
APPENDIX I:	Level 3 - Delphi II Round Two	186

## LIST OF TABLES

TABLE 1:	Gathering and Collecting Research	16
TABLE 2:	Shared Standards for Educational Leadership and Administration	25
TABLE 3:	School Bookkeeper Managing Cash	39
TABLE 4:	Sample of a Ten-Point Likert-Type Scale	60
TABLE 5:	Percentage of Expert Panel Membership Participation for Delphi I and II by Rounds	79
TABLE 6:	Level 2 - Delphi I – Diverse Expert Panel Membership	79
TABLE 7:	Prioritized Summary of the Findings of Competencies Principals Need to Become Effective Stewards on School Financial Management with the Research Domain of Accounting with Percentage	83
TABLE 8:	Prioritized Summary of the Findings of Competencies Principals Need to Become Effective Stewards on School Financial Management with the Research Domain of Budgeting with Percentage	84
TABLE 9:	Prioritized Summary of the Findings of Competencies Principals Need to Become Effective Stewards on School Financial Management with the Research Domain of Funding with Percentage	85
TABLE 10:	Prioritized Results of Level 3 - Delphi II – Mean, Standard Deviation, Variance and Percentage on Panel of Experts Rating Statements Pertaining to What Competencies are Needed for Principals to Become Effective Stewards of School Financial Management	86
TABLE 11:	Prioritized Results of Level 3 - Delphi II – Mean, Standard Deviation, Variance, and Percentage on Panel of Experts Rating Statements Pertaining to What Extent are University or Principal Preparation Programs Preparing Students on School Financial Management	89

TABLE 12:	Prioritized Results of Level 3 - Delphi II – Mean, Standard Deviation, Variance, and Percentage on Panel of Experts Rating Statements to What Extent are School Districts Providing Professional Development for Principals on School Financial Management	90
TABLE 13:	Summary Average of Results of Delphi I and Delphi II by Research Questions with Mean, Standard Deviation, Variance, and Percentage	91

## LIST OF FIGURES

FIGURE 1:	Interlocking influences in building principal capacity	9
FIGURE 2:	Similar literature and learning levels on principal preparedness	18
FIGURE 3:	How principals gain knowledge on school financial management	20
FIGURE 4:	Principal performance expectations upon mastery	21
FIGURE 5:	Understanding the process of systematic reviews	46
FIGURE 6:	Gaps in the literature	48
FIGURE 7:	A general Delphi process	58
FIGURE 8:	Steps to analyze data for this study	62
FIGURE 9:	Level 1 – Delphi Pilot	69
FIGURE 10:	Level 2 – Delphi I	71
FIGURE 11:	Level 3 – Delphi II	76
FIGURE 12:	Standard 5 Managerial Leadership (School Finance) for North Carolina Principals Evaluation Instrument	95

## LIST OF ABBREVIATIONS

EBSCO	Elton B Stephens Company and Organization
GAAP	Generally Accepted Accounting Principles
ISLLC	Interstate Leadership Licensure Consortium
JSTOR	Journal Storage
MBA	Master of Business Administration
IRB	Institutional Review Board
MPA	Master of Public Administration
MSA	Master of School Administration
NCACPA	North Carolina Association of Certified Public Accountants
NCASA	North Carolina Association of School Administrators
NCDPI	North Carolina Department of Public Instruction
NCPAPA	North Carolina Principals and Assistant Principal Association
NCSL	National College for School Leadership
NPBEA	National Policy Board for Educational Administration
SPSS	Statistical Package for Social Sciences

## CHAPTER 1: INTRODUCTION TO THE STUDY

### 1.0 Preparedness

An overcast sky can represent the reality of being an unprepared school principal. In the same way that clouds hold evaporated water from rivers and streams, principals hold responsibilities to lead and manage aspects of schooling without foundation or knowledge. As clouds darken through water crystals, sunlight becomes obscured by shadows, changing temperature and weather. Equally, as responsibility for principals increase and complexity of duties deepen, a cloud of darkness begins to shift, “weather” changes, mistakes ensue, and inadequacy follows. To reduce possible inadequacies or overcast, it is necessary for principals to receive comprehensive preparedness in an effort to successfully hold the principalship together.

*“Success depends upon previous preparation, and without such preparation, there is sure to be failure” – Confucius*

There are elements of principal preparedness programs that have that dark cloud. Emphasis on instructional leadership overshadows managerial leadership. Managing staff effectiveness is obscured by the need to first address curriculum and instruction (Southern Regional Education Board, 2010). Principal decision making is driven by numbers on performance-based outcomes, while numbers used to fund instructional resources or its budget are not a factor (Wallace Foundation, 2012).

Although the primary focus of schooling is on ensuring proficient student learning, a highly researched topic, proficient leadership in managing school finance is

without research or practical exercise (Hess and Kelly, 2005). Without proper preparation to lead and manage school finance, this cloud darkens further by political and professional ramifications that follow a district and principal.

In the Chicago Public Schools, a 2012 annual report outlines over 100 cases of financial wrongdoing or mishaps (Dillon, 2012). Inadequacy falls to the responsibility of the principal, from misalignments of accounting procedures to monies inappropriately used in lining pockets of school employees. Whether individually at fault or found to be inadequate in supervising school finance, investigations, such as this report, often postulate lack of financial knowledge as the root toward mishaps. Theory and practice are nearly absent in principal preparedness and a study to further explore school financial management is needed.

## 1.1 Significance of Study

### 1.1.1 Context

The context for this study puts both principal preparation programs and school district professional development programs on notice. Because little prepares a principal for managing school finance, significance for this study is necessary. Any irresponsibility in money management deems a principal delinquent (Mobegi, Ondigi, & Simatwa, 2012). Loss of position and severe penalties follow a principal's career (Mestry, 2006). Two real-life experiences will put this assertion in context.



Anne

Anne received notice from the Superintendent's office that her contract as elementary principal was non-renewed. In the next sixty days, she would be re-assigned as an assistant principal and re-location would later be determined. Her evaluation claimed that Anne was ineffective at properly supervising and managing the school financial secretary (bookkeeper). This notice came on the heels of two failed internal financial audits within one school year. Even after firing the bookkeeper six months earlier for the first failed financial audit, Anne was still held responsible. This audit revealed that district and generally accepted accounting principles were replete with irregularities.

For example, the report revealed a violation towards internal controls. During summer months, the bookkeeper left for vacation and withdrew over \$800 in cash from the school bank account for personal use. Within a month of returning, the same amount was re-deposited. Although the monthly bank reconciliation statement correctly posted this transaction, the district's internal control procedures were clearly violated.

Each school bookkeeper is responsible for maintaining procedures by reconciling monthly bank statements and submitting this report to its central office. Although this monthly report does require a principal's signature before submittal, Anne placed accounting and finance knowledge in trust of her bookkeeper. Moreover, Anne did not know what to look for or examine while financial reports passed through her desk.

Next, the audit report revealed an irregularity towards the transfer of account reallocations. The bookkeeper used Title I (federal) monies to allocate funds as payments for office furniture. Although procurement of furniture was receipted from the correct

account, transfer allocations were not. Not only was Anne not familiar with the “chart of accounts,” she was not trained on internal or external concepts of Generally Accepted Accounting Principles (GAAP, 2015). Because Anne operated the school’s finances without a bookkeeper for several months, she was unable to properly prepare or rectify those issues with its first audit (see Appendix A); therefore, failing the second. Perhaps, a more trained principal in areas of managing school finance would have modified Anne’s principal experience? The bookkeeper joined Anne’s school with nine years of central office procurement experience. Therefore, Anne accepted that this bookkeeper knew more towards finance policy and procedures than most experienced principals.

#### Todd

The local newspaper headlined, “High School Principal Suspended with Pay Pending an Investigation.” Todd had to address the concepts of “discretionary funds.” A large comprehensive high school deals with money transactions that average between \$500,000 to \$1,000,000 or more per school year. Combined with co-curricular and extracurricular activities and events, (i.e., athletic competitions, parking lot sales, etc.) high schools have more options and flexibility in how to use those monies.

In Todd’s case, a fund used to assist students and families and what to use it for is left to the discretion of the principal. One student athlete’s family was in need of financial assistance in staying in their rental home. Particularly, if the rent due was not paid soon, family eviction procedures would follow. This would remove the student-athlete from Todd’s attendance zone. Todd’s school had a history of providing financial assistance to families prior to his arrival as principal. Todd received verbal approval from the bookkeeper, athletic director, and district financial officer. In addition, its

school Athletic Booster Club, which operates finances separate from school agreed to join in the financial gift on behalf of this student athlete's family. Pursuant to completion of this transaction, rumors followed and local news never questioned its Athletic Booster's use of money disbursement, instead, Todd was its target. Following board policy, the district's school executives deemed the principal's actions as worthy of an internal investigation.

Two years prior, Todd was honored by his district as its Principal of the Year. His record for service was considered by many, beyond reproach and well respected for service to its community as a former teacher, coach, and leader. Perhaps, continuous professional training in this area of school financial management and the political ramifications that followed would have modified these events?

#### 1.1.2 Anne and Todd: Implications for this Study

Both stories serve as microcosms of how "paperwork" tracking in school finance can hurt a principal. No school professional is immune to an internal or external audit. Judgments must consider micro and macro political ramifications to schools and their districts. Like Anne, many principals are unfamiliar with the necessary "look-fors" in supervising a bookkeeper. Due to a lack of knowledge and her resulting behavior, Anne was held up as an example for colleagues not taking school finance supervision seriously. Like Todd, many principals consider past practice or what is in the best interests of a particular student instead of fiduciary principles. Due to a lack of professional training and district updates on financial routines and best practices, Todd made a bad judgment call. Unfortunately, the examples of Anne and Todd are not

uncommon in American schools. Nevertheless, research, theory, and practice are limited to addressing school financial management for a principal.

## 1.2 Theoretical Framework

The purpose of adopting a theoretical framework is to establish foundations, boundaries, and linkage of this study to the broader research literature. Theoretical framing for this study has two elements suggesting that (a) adult learning is essential to improve and sustain professional effectiveness (Knowles, 1984), and (b) building foundational competence is necessary to avoid inadequacy in managing daily routines and procedures (Sanchez & Heene, 2004).

For example, Knowles (1984) explains that using andragogy is the best practice to engage adult learners. This researcher suggests strategies of sharing knowledge through collaboration, critique experiences, and formative analyses motivate adult learners to become more self-directed. Additionally, Sanchez and Heene (2004) seek to identify effective professional development through strategic management. These researchers suggest that competence-based strategic management explains how an organization can develop a systematic and structural set of skills. In turn, these skills will incorporate an ability to sustain high performance of staff for a significant period of time.

## 1.3 Areas of Research, Purpose, Influences, and Questions

### 1.3.1 Area of Study

Principal preparation programs have limitations (Sergiovanni, 2006). Grounded in theory, principal preparation programs are often without practical exercises on leadership readiness in exceptional children (Burdette, 2010), micro-politics (Spring, 2008), or budgets and finance (Grogan, 2013). These programs are without inclusive skill building

(Mitgang, 2012). Instead, programs build leaders for administering, facilitating, and managing theoretical concepts on school operations other than school finance (Williams & Szal, 2011). The Interstate Leadership Licensure Consortium (ISLLC, 2008) has published universally accepted standards based primarily on ideals and principles. There are six standard areas (e.g., vision, culture, management, collaboration, integrity, and context) steering the direction for training effective school leaders (Interstate Standards Leadership Licensure Consortium, 2008). Murphy (2003) argues these standards are vague and without specific competencies for knowledge or skill development. Murphy's (2005) critique states that specific skill development is necessary for building proficiency in managerial leadership. Only one standard, Standard III, addresses operations management. Within operations management, budgeting and finance are without clarity or focus (Murphy, 2005).

### 1.3.2 Area of Focus

This study's area of focus is school financial management for building principals. Hess and Kelly (2005) argue that little prepares a principal for managing school finance. Principals are not required to demonstrate competencies for supervising budgets or funds (Stoskopf, 2013). No foundational knowledge covers daily routines of accounting procedures in principals' internships (Gonzales, 1997). Held as the most responsible aspect of operations management, it is the least reviewed and assessed in principal programs, professional development programs, or evaluation effectiveness (Mestry, 2004). Derrington and Sharratt (2008) argue that although ISLLC defines operational management, it does not identify specific elements or competencies needed for financial management. Therefore, a gap exists between the theoretical and practical aspects of preparing and developing principal leadership in the area of school financial management.

### 1.3.3 Area of Need

The need for this research is (a) to add to the limited body of research on principal preparedness in managing school finance, and (b) to develop practical approaches that build capacity for principal knowledge and competence in managing school finance. Later, this study will discuss the results reported by opinions of experts on principal financial acumen.

### 1.3.4 Research Purpose

The purpose of this study is to build a consensus for school principal competencies in managing school finance. Stoskopf's (2013) study examines high school principals' perceptions of preparedness for financial responsibilities from Wisconsin. Gonzales' (1997) study examines how high school principals' learn to manage discretionary funds from Louisiana. Although fourteen years apart, each research discussion and recommendation identifies a need for further research on school financial management throughout the Americas. Stoskopf (2013) suggests the development of skill sets principals can use in becoming sound stewards of school finance. Clark (2007) claims that practical ways to increase the financial competence of principals are limited and require examination. Consistent with the works of Mobegi et al., (2012), a lack of knowledge and continuous training leaves principals vulnerable and further research is needed to address the topic. These studies lay a foundation related to this study (i.e., development of competencies principals need to be effective). Therefore, this study seeks to identify an appropriate knowledge base that is usable in principal preparation programs and school district professional development training.

### 1.3.5 Research Influences

Engaging adult learners require understanding the source(s) of principal knowledge. Below is a figure showing interlocking influences (i.e., research domains) for understanding. In Figure 1, each of the three gears represents an influence on one another as to how principals begin and continue to gain capacity in school operations. Hallinger and Lu (2013) argue that effective school leadership is a process. Leadership learning first comes by requiring learners to begin and complete what is known as principal preparation programs. Guided by various theories that include



FIGURE 1: Interlocking influences in building principal capacity

standards of learning, learners are oriented and exposed to concepts that build competence and effective leadership practices (Hess, 2005). Following completion of a principal preparation program, only one standard of learning expects performance to be carried forward from previous leadership learning - managerial leadership. Managerial leadership is a standard of learning that seeks to expose learners to the daily administrative and operational aspects of management that is the responsibility of a principal (LaPointe, Davis, & Cohen, 2007). However, Boyatzis (2008) suggests that areas not covered through preparation programs are followed by continuous training, commonly referred to

as professional development. Moreover, if a principal preparation program does not expose, teach, or link learning to specific areas of managerial leadership, the learners will expect to gain this knowledge while on the job (Abbott, 2001). As a result, a set of research questions arise and will guide these three influences as it interlocks with principal preparedness.

### 1.3.6 Research Questions

The following research questions guide this research:

1. What competencies are necessary for principals to become effective stewards in managing school finance?
2. To what extent are university principal preparation programs preparing students to manage budgets and financial matters?
3. To what extent is school district professional development providing principal training for managing school finance?

Using opinions from a panel of experts, professionals closely related to the topic will address the research questions (e.g., university professors, superintendents, deputy superintendents, directors of school finance, external school system accountants, principals, and secondary school bookkeepers). These independent categories represent those experts that (a) prepare principals to become stewards of schools and finance, (b) supervise principal effectiveness in managing school finance, (c) coordinate and facilitate school district professional development of school finance, (d) administrate and lead the daily operations management of schools and finance, and (e) practice daily accounting and financial protocols for keeping accounts and bookkeeping. The response to these



research questions can vary due to the independent opinions each professional expert possesses.

## 1.4 Research Method

### 1.4.1 Research Background

Using the Delphi method, this research will collect and analyze the opinions of experts for future applications. This collection of thoughts and building consensus is rooted back to the days of Greek Mythology. Delphi was known as the central location for King Zeus and his priests to retreat and meet with the Oracles. The Oracles were spiritual entities known to possess “all” knowledge which Zeus used to see beyond the futures. Zeus and his priests relied on the Oracles and considered them the database of spiritual knowledge. The more Oracles agreed (consensus) on a topic, the more decision making was affirmed. This affirmation became an advantage in wisdom and believed to be reliable truth. In the metaphysical realm, Delphi was considered sacred ground and said to have served its Deity well.

It is still true in the physical realm. The “oracles” in this study represent professional experts that are familiar with the topic. This place of “Delphi” will be remote and electronic in order to access these experts. Dalkey and Helmer (1963) posit the Delphi method as possessing five basic characteristics that are (a) focusing on research topics where little is known or forecasting has limited predictability, (b) relying on the opinions of experts (c) using remote groups to process a study, (d) adopting an iterative process to research topics, and (e) creating consensus through expert opinions.

#### 1.4.2 Research Parameters and Terms

##### Assumptions

There are four assumptions to this study. One assumption of this research considers that principals are responsible for supervising a school building's budgets and resources. Even when responsibilities are delegated to the school financial secretary, principals remain administratively and legally responsible. The second assumption of this research is that all school districts are required to follow federal, state, and local policies governing school finance. Therefore, all monies must be uniformly accounted for as a matter of public trust. The third assumption is that adult learners are motivated to gain professional competence (Spendor, 2008). As long as a relationship between training and expected promotion, distinguished performance rating, and perceptions of enhanced skill sets, learning becomes a pursuit. As long as continuous learning is accessible and convenient, adult learners will comply with university or district directives to attend with purposeful engagement. Lastly, an assumption is made that all administrators will learn more while on the job than process learning through a university preparation program (Murphy, 2005).

##### Delimitations

There are two delimitations to this study. One, this research will improve standards of the principal profession. Therefore, seeking the opinion of experts that coordinate principal preparation programs will evaluate the effectiveness of principal performance, and prepare professional development training. Two, this research method will not be limited to principals alone. Prior studies on this subject have been surveyed to just the insight of principals. Governing bodies manage these individual schools (e.g., Board of Governors, Board of Trustees, Ministry of Schools, etc.) and lack of knowledge

regarding school finance has resulted in fraud, theft, or mismanagement of instructional resources in large numbers (Mobegi et al., 2012).

### Operational Definitions

Prior to the development of an academic study, defining key terms are required.

These operational definitions are as follows:

- *Accounting* is a language of business that divides into several fields including financial accounting, management accounting, auditing, and tax accounting is generally the recording of financial transactions which summarizes reports known as bookkeeping or double-entry bookkeeping. These procedures are in accordance with Generally Accepted Accounting Principles (GAAP), which is a set of various standards within procedures and routines.
- *Andragogy* is a pedagogical technique used to teach adult learners that integrates personal and professional experiences, critical thinking, and synthesis.
- *Budgets* are an expression to define a planned period of time relating to receipts, costs and expenses, and cash flows that express strategic plans of business and organization units in measurable terms.
- *Competencies* are an ability of individuals to do a job properly - a set of clear behaviors that provide a structured guide enabling the identification, evaluation, and development of the behaviors in principals.
- *Financial management* is an efficient and effective management of money (funds) in such a manner that accomplishes specific objectives of the school district.

This includes the preparation of financial statements to external and internal users

- *Professional development* is a formal and informal learning opportunity situated in particular practice that is an intensive and collaborative facilitation of learning opportunities that include credentials with coursework, conferences, and evaluative stages.

### 1.5 Summary

This chapter provides a foundation that argues a need to study how school principals become competent in carrying out their responsibilities in school financial management. This research plans to investigate the perceptions of principal preparedness towards financial management and competencies necessary to be effective. Using the Delphi Method, consensus building is planned to achieve clarity and focus for university-based principal preparation and school district professional development programs.

## CHAPTER 2: LITERATURE REVIEW

### 2.0 Introduction

The purpose of this chapter is to enter an academic discussion and evaluate relevant literature that exists for principal preparedness on school financial management matters. This review allows the reader to understand how the search, organization, and emerging ideas evolve. This review provides insight on principal learning levels through principal preparation programs (university graduate school experiences), and professional development (district and self-directed). This review identifies overlaps and gaps in the research literature while examining what pertains to principal competence regarding funds and budgets. It identifies relations, contradictions, and inconsistencies. In addition, this review lists the problems, methods, and findings unearthed in the literature. Lastly, due to research evidence being limited, this review validates studying the topic of building consensus for what principals need to know and be able to do in the practice of managing school finance

## 2.1 Search, Organization, and Emerging Ideas

### 2.1.1 Search

Using professional resources from the university research-based library, this author pursues a series of advanced searches for relevant literature on this area of study. Table 1 shows the processes and results taken to find literature relating to both area of study (principal preparedness) and focus (school financial management). In searching for publications, this author uses research questions to develop the inclusion and exclusion criteria. An online database search using truncation, wildcard strategies, and Boolean (e.g., AND, OR, and NOT) search logic is part of the execution. Search progression follows from simplest (key terms) to most complex (longest search strings). This search is aggregated and within each database removing duplicates. Filtering through Elton B Stephens Company and Organization (EBSCO), Google Scholar, Journal Storage (JSTOR), ProQuest, and Google databases, search results from 2 to 151 while excluding non-peer reviewed results that are essentially found in a basic Google database. Beyond the research questions in particular, this author's search contributes to how this literature review is organized.

TABLE 1: Gathering and Collecting Research

Literature search source	Search results	Potentially relevant references
EBSCO	151	38
Google Scholar (by title)	58	27
JSTOR	30	4
ProQuest	33	5
Google		Exceeded max (over 22,000 results)

TABLE 1 – continued

Literature search source	Search results	Potentially relevant references
EBSCO	17	5
Google Scholar (by title)	19	5
JSTOR	12	1
ProQuest	7	1
Google		Exceeded max (over 25,000 results)

---

Literature search source	Search results	Potentially relevant references
EBSCO	0	n/a
Google Scholar (by title)	0	n/a
JSTOR	0	n/a
ProQuest	2	2

---

Next, this author compiles relevant references and removes additional duplicates within the past ten years. As a result, the literature review searches are as follows:

1. An advanced search for “principal preparation program(s)” results in nearly 70 peer-reviewed studies that may be potentially relevant for this search;
2. An advanced search for “principal professional development” results in only 12 peer-reviewed studies that may be potentially relevant for this research; and,
3. An advanced search for “principal financial responsibilities AND duties” results in 2 dissertations, but “high school principals AND financial responsibilities” generates this result.

### 2.1.2 Organization

Organizing this literature follows the search results (i.e., 70, 12, and 2) and principal learning processes. Figure 2 shows that each circle size represents both similar



FIGURE 2: Similar literature and learning levels on principal preparedness

learning process levels for principals as well as the amount of literature that exists. For example, the principal preparation program literature has more examinations than other areas of principal influence. The second circle is smaller because the amount of relevant literature available is less when principal preparedness overlaps with research on managerial leadership. The third smaller circle illustrates the limited literature for school district professional development opportunities. Furthermore, the smallest circle



represents the most limited of research literature relating to principal preparedness and learning on school financial management.

As a result, Figure 2 sets a stage for this author's emerging ideas. First, it illustrates that principals begin learning aspects of leadership through a principal preparation program. Guided by various theories that include Standards of learning, learners' orientation and exposure to concepts are built towards effective leadership practices (Orr, 2006). Second, only one Standard of learning focuses on managerial leadership (ISLLC, 2008). This Standard seeks to expose learners in daily administration and operational aspects of management (ELCC, 2006; and, ISLLC, 2008). However, areas not covered within preparation programs follow professional development or training (Reeves, 2010). Third, if principal preparation does not expose, teach, or link learning to specific areas of managerial leadership, learners may gain the knowledge while on the job (Reeves, 2010) – third largest circle in the figure. In addition to the limited research towards how principals gain knowledge while on the job (Reeves, 2010), less is known on how principals gain knowledge towards school financial management (Miriti, 2014).

Only Stoskopf's (2013) study discusses a few sources for principal knowledge regarding school financial management. One, a principal interacts with the school financial secretary (bookkeeper) who is primarily responsible for managing daily accounting and financial practices. Guided by Generally Accepted Accounting Principles (GAAP), the bookkeeper follows district policy and procedures for internal and external reporting that share this knowledge with a principal (Stoskopf, 2013). Two, self-directed and on-the-job experience gains knowledge for a principal also. Depending on the trust of the bookkeeper or interest a principal has towards school financial management, further

professional inquiry gain are made while on-the-job (Stoskopf, 2013). However, there is a disconnect between principal preparation programs and professional development (Reeves, 2010), Figure 3 illustrates this disconnection.

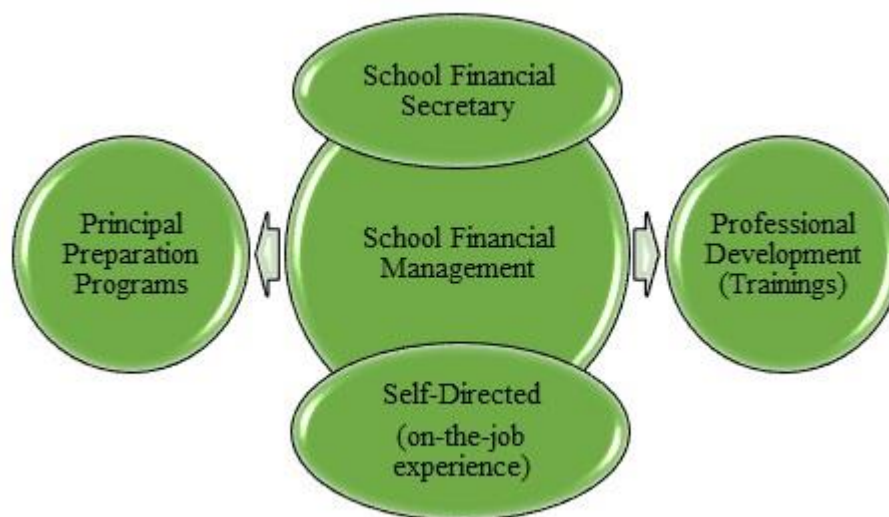


FIGURE 3: How principals gain knowledge on school financial management

Pursuant to gaining this knowledge on school financial management, a principal is vulnerable to the teachings from a subordinate. Instead of principal/secretary transference of sharing knowledge, Knowles' (1984) theory suggests andragogy as more useful for organizations. Andragogy works through leadership collaboration, critiquing experiences, and formative analysis, and adds within each component of learning expectations that represent mastery. In relation to principal preparation programs, Hallinger and Lu (2013) define principal expectations of mastery as being effective.

Equally, within leadership development, scholars like LaPointe, Davis, and Cohen (2007) define managerial leadership expectation as being effective. Together with Grogan (2013), these researchers suggest that although leadership and management are mutually exclusive, each seek principals to pursue effectiveness. Professional

development, Kirkpatrick (1975), followed by Reeves' (2010) work, defines the expectation of mastery as being knowledgeable. Hix (2013) adds that adult learners master effectiveness through professional settings sponsored by its district(s). This supports Knowles' (1984) theory that these efforts by districts are to infuse learning, and build strategic goal setting to follow.

This practice addresses Sanchez and Heene's (2004) theory on building strategic management by way of competence base skill development. In relation to principals gaining knowledge towards school financial management, Mutter and Parker (2004) define this expectation of mastery as being competent. In fact, Sergiovanni's (2006) principal handbook highlights that all aspects of managerial leadership require competence. Although this text does not emphasize school financial management specifically, researchers from business (e.g., Denison, Hoojberg, and Quinn, 1995; and,

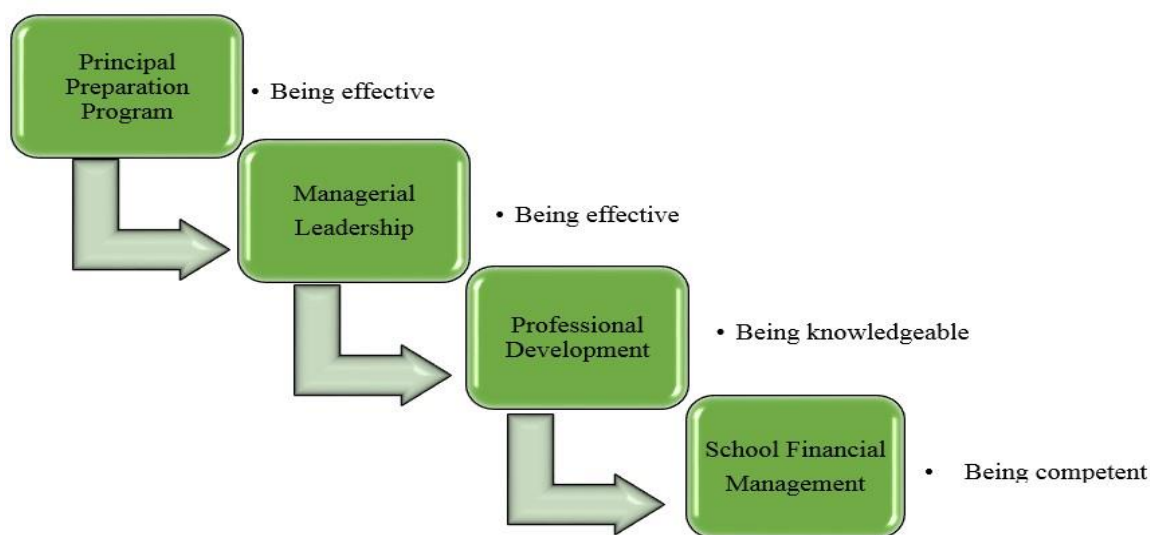


FIGURE 4: Principal performance expectations upon mastery leadership.

Yukl, 1989) expect competence for skill development with all levels of managerial leadership. Figure 4 illustrates the performance levels of principals seeking mastery within the context of leadership. This figure sets the stage for organizing a literature review and establishing this author's emerging ideas. The procedures for searching and gathering relevant literature towards the research questions, establishes how principals gain knowledge. A disconnect between principal preparation programs and professional development towards the research questions, establishes behavioral expectations of principals towards each level of skill development. Using Knowles (1984) and Sanchez and Heene (2004) as theoretical frameworks, this author provides a foundation for academic ideas that influence this study. This study's academic influences are as follows:

1. Being Effective and Principal Preparation Programs
2. Being Effective in Managerial Leadership
3. Being Knowledgeable and Professional Development
4. Being Competent on School Financial Management

## 2.2 Being Effective and Principal Preparation Programs

### 2.2.1 Problems with Preparation

Research highlights at least five issues that thwart principal preparedness. Notwithstanding research efforts to improve preparation, there are fundamental reasons that continue to interfere.

The first of the five issues considers that professional literature is not defining what is being effective for principals. Nor, is there a consensus that affirms university programs, professors, superintendents, or its administrators to what being effective looks













like beyond student performance outcomes. For example, being effective for a principal exists as long as adequate yearly progress of student performance outcomes are consistent. Being ineffective is only when principal struggles with improving student outcomes (i.e., poor test results become evident). Universally, this streamlining approach to measuring a principal being effective is only consistent pertaining to student learning and teacher instruction (Darling-Hammond, LaPointe, Meyerson, Orr, & Cohen, 2007). Moreover, the disparity exists in principal perceptions about being effective through arguing that more theory than practice is the primary learning structure during coursework (Lashway, 2006). Limitations in practical training and fieldwork experience interfere with principal candidates' comfort for clarity on being effective versus being ineffective in real-world school practices (Hess, 2005). Although scholars agree that preparing principals for being effective in school leadership is its primary goal, Adkins (2009) and Orr, (2006) offer assumptions on how leadership programs should be designed and facilitated.

The second issue considers that because principal roles and preparedness are evolving, Adkins' (2009) suggests addressing the political challenges within preparation programs. Political debates continue to seek making school leaders accountable for student learning using a business model. Specifically, "what" and "how" to accomplish this goal using government resources continues to be without common ground. However, Adkins' (2009) work offers that program designs address the legislative and scholarly debate of more than 20 years as each attempt to clarify what being effective looks like. Orr (2006) offers "whats" and "hows" for preparation programs to promote innovative graduate programs, state policy reforms, and district leadership strategies

intending to change focuses and means of leadership being effective. Darling-Hammond et al., (2005) note a proliferation of structural and learning innovations that change universities as well as district-based principal programs (i.e., professional development organizations and partnership programs). This change is a response to literature asserting disconnection between principals' current role and training that follow matriculation of these programs (Lashway, 2006). Some scholars argue that guidance towards preparing principals for being effective to anchor itself in universal standards that use academic outcomes as the priority (Hess, 2005).

Third, literature anchors its pursuit of principals being effective in national standards. Primarily, these national Standards focus on teaching and student learning. Educational commissions and scholars alike think it inherent to create consistency in national standards of learning while attempts to improve principal preparation programs move forward (Murphy, 2005). This follows fundamental principles for educational leadership and administration programs that include: vision; culture; management; collaboration; integrity; and context. The Interstate School Leaders Licensure Consortium (2008), National Policy Board for Educational Administration (2015); and, The State Consortium of Educational Leadership (2008) prescribe these fundamental principles, see Table 2.

TABLE 2: Shared Standards for Educational Leadership and Administration

ELCC (2002)	Standards	ISLCC (1996 & 2008)
	<b>Vision</b> This is the ability of an educational leader to promote the success of all students by facilitating the development, articulation, implementation, and stewardship of a set of goals that are supported by all stakeholders	
	<b>Culture</b> This is the ability of an educational leader to promote the success of all students by advocating and sustaining a positive school environment and instructional program conducive to student learning and comprehensive professional growth plans for staff	
	<b>Management</b> This is the ability of an educational leader to promote the success of all students by supervising the organization, operations, and resources in a way that promotes a safe, efficient, and effective learning environment	
	<b>Collaboration</b> This is the ability of an educational leader to promote the success of all students by colluding with the faculty and community members, responding to diverse community interests and needs, and mobilizing community resources	
	<b>Integrity</b> This is the ability of an educational leader to promote the success of all students by acting fairly and in an ethical manner	
	<b>Context</b> This is the ability of an educational leader to promote the success of all students by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural framework	

Together, the consortiums appear to emphasize less on managerial and operational leadership and more on curriculum and instruction. Although being effective is more of an influence for instruction, Orr (2006) provides insight that little attention is given to fieldwork for instructional development. Orr's (2006) work argues that field-initiated research on either instructional or managerial leadership is weak. The Wallace Foundation (2012) reports "many programs offer internships, but they commonly settle for fleeting experiences and passive exercises such as shadowing a principal"

(p.13). This report emphasizes that because “principal training has failed to keep pace with the evolving role of principals ... some districts are creating their own principal programs” (p. 8). Inasmuch as literature identifies faults on preparation program opportunities in learning what it takes for being effective, the national standards provide little guidance as well (Pitre & Smith, 2004).

A fourth issue thwarting principal preparedness is that the literature exposes inadequate guidance from ISLLC. Adkin’s (2009) study argues that a “disparity [exists] in the academic literature about principal preparedness” (p. 14) and ISLLC’s operations management portion lacks guidance. Of the six Standards seeking to build principals for being effective, only Standard #3 (Operations Management) provides direction for principal programs regarding administration and supervision. Add to this, it is limited in guiding university programs, professors, superintendents, and principals toward any primary focus as given for the other five. Efforts to curtail this disparity motivate researchers and policymakers alike to narrow expectations and practices throughout North America (Adkins, 2009).

As of 2015, 46 states use these leadership standards for principal licensure and preparation programs, but several states modify “requirements for program content, graduate credit hours and field experience [e.g., master degree add-ons], competency assessments, and testing of program graduates prior to certification or licensing” (Orr, 2006: p. 1). North Carolina’s State Board of Education (2006), for example, approved “a new vision of school leadership” (p. 1) in 2006. Likened to business colleagues, principals must learn to be effective by understanding transformational school leadership (Marzano, Waters, & McNulty, 2005). Although transformational school leadership follows the



models of corporate, a disparity in principal preparation widens because building knowledge in business/managerial leadership is different (Grogan & Andrews, 2002).

Fifth, little literature exists for principals to be effective in building managerial knowledge. Florida, North Carolina, Wisconsin, and others have taken initiatives to build more capacity and knowledge for principals by tightening the guidelines that exemplify what is effective for managerial leadership. North Carolina, for example, formats each Standard with a summary that (a) fully describes the content and rationale, (b) shows a best practice of being effective “executives” are within each Standard, and (c) lists artifacts that are evidence of quality towards executives work or place where evidence can be found.

For instance, Standard 5 – Managerial Leadership lists school executive effective managerial leadership practices as creating processes to provide balanced operational budgets in school programs and activities, North Carolina State Standards of Educational Leadership (North Carolina Department of Public Instruction, 2006). Through external reviews such as budget and financial audits, School Improvement Plan, and the North Carolina Teacher Working Conditions Survey are artifacts required to show a principal being effective for this Standard, particularly for financial preparedness (NCDPI, 2008). Due to these standards operating in untested grounds, building capacity and knowledge for performance towards school financial management will continue being critiqued, debated, and measured without helpful insight for aspiring principals. Although these standards, summary descriptions, professional practices, and artifacts are meant to be exhaustive in grading and assessing effectiveness (i.e., portfolios, professional development plans, practitioner reflectiveness, evaluation tools, etc.), research has yet to measure quality or appropriateness therein. Moreover, studies and principal preparation programs do not

differentiate school financial management in regards to accounting, budgeting, or finance as can be found in other preparation programs.

### 2.2.2 Program Variations

Many programs offer a variation on financial preparedness. Of 500 university principal programs, 200 evaluate at being effective principal preparation programs (Wallace Foundation, 2012). Of these 200, none offer a general overview of daily operations on school budgets and finance (Wallace Foundation, 2012). Within the internships and exercises therein, this report finds that leadership learners report not having exposure to school chart of accounts, bank reconciliations, or discussions on discretionary funds and money management. A Hallinger and Lu (2013) study of university preparation programs: Master of Business Administration (MBA); Master of Public Administration (MPA); and, Master of School Administration (MSA) argue that only two of these three administration programs cover topics in finance. Instead, MSA learners receive simple overviews on topics in local funding, property taxation, and financial inequities (Hallinger & Lu, 2013). These overviews have little to do with daily operations of school financial management (e.g., vendor procurement versus distribution reports). However, this study finds that MPA and MBA preparedness programs design courses and syllabi around the daily supervision of municipal and business operations (e.g., grant management versus risk management, etc.); whereas, MSAs' sometimes combine courses (e.g., human resources and finance) or do not offer an actual study of funding and budgets that build a cohesive understanding for being effective stewards on school finance. Moreover, further inquiry into the development of graduate school syllabi on school finance reveals a difference in learning and expectations.

### 2.2.3 Syllabi Critique

Using random sampling of graduate school programs that offer a course in school financial management to aspiring administrators and executives (e.g., Google and Google Scholar with programs over ten years in existence), a critique of syllabi reveal only a difference in learning levels and expectations, not in financial management skill development. For example, Marcoline's (2012) syllabus design for an MSA program requires its learners to "master basic terminology inherent in the area of school finance (i.e., "millage, adequate daily membership, basic education subsidy, aid ratio, assets, debt, [and] various formulas") p. 2. Whereas, Rosenthal's (2012) syllabus design for a doctoral program requires its learners to "analyze, interpret ... develop ... priorit[ies] for financial data, trends, and issues ... [to be] effective budget plan[ers]" (p. 2). As one preparation program focuses on managerial aspects of finance (e.g., awareness and ethical responsibility), the other seeks its learners to lead larger groups of stakeholders in budgeting (e.g., harness community resources by partnerships and fiscal problem solving).

Both syllabi intend for learners to gain basic knowledge on issues and practices for school finance. Each offers opportunities for learners to become self-directed and expand comprehension beyond the content. However, neither provides a focus on procedural usage in managing daily operations or mobilizing stakeholders around budgets and funding. Although this appears to be consistent the literature (e.g., Brimley & Garfield, 2005; and, Bird, Wang, & Murphy, 2009), this author sees this study providing another lens of what can properly prepare school principals on financial management.

#### 2.2.4 Limited Knowledge and Analyses

A deeper analysis of the methods and findings reveal limited research. Using various research methods, findings are limited to school leadership preparation and development. Grogan and Andrews (2002) suggest programs need to build capacity by developing specific knowledge bases. While Murphy (2003) recommends a complete re-culturing of principal preparedness with alternative pathways of concentration, a perception of deficient programs does not suggest that these pathways are broken. Instead, Petzko (2008) suggests programs should concentrate on values of levels towards preparedness and development. While leaning more in this direction, Petzko's (2008) work offers a theory that preparation programs evaluate individuals in more specialized areas of emphasis and make adjustments to its programs accordingly (i.e., curriculum, finance, personnel, or special needs, etc.). Each of these scholars argues specific limitations in principal preparation and development. Because limitations to school leadership persist in the literature, limitations towards managerial leadership are found also.

### 2.3 Being Effective in Managerial Leadership

#### 2.3.1 Problems with Measuring

Because the goal of a principal preparation program is to produce principals at being effective and managerial leadership is one of the six Standards that prescribe to this development, then the same argument follows the attempts to measure operations management. As the measuring of principal preparation programs at being effective is empirically limited, managerial leadership matches this problem. In addition, as limits in guidance persist in operations management, knowledge an area of budgets and funding

follow as well. Thus, since little knowledge exists that prepares superintendents to build budgets at district levels, Bird et al., (2009), then assumptions for principals to manage and lead is comparable. For example, not knowing the elements of a cash management plan can interfere with the planning process for money management and discretionary spending (Mutter & Parker, 2004). Not knowing the reasons behind adjusting journal entries will make signing off on financial reports to the district office nothing more than a process without fidelity and meaning (Mutter et al., 2004). Not having a clear familiarity with budget codes interferes with judgment towards chart of accounts and funding allocations (Mutter & Parker, 2004). In turn, lacking this knowledge carries with it a challenge to measure managerial leadership.

Possessing general levels of knowledge make managing school finance challenging and a principal vulnerable for taking risks without it. A lack of effectiveness towards this topic results in governing schools without sound financial policy (Miriti, 2014). Inasmuch that Miriti (2014) adds that a principal's campaign to plan, lead, or build trust in financial management becomes thwarted. As a result, systems of expectations relating to managerial leadership appear precarious as is found in preparation programs.

### 2.3.2 Systems of Expectations

Measuring managerial leadership runs together with systems of expectations. The National Policy Board for Educational Administration (NPBEA) along with Hess (2003) discuss that there is a national appearance of being "dismissive towards conventional management" (p.13) and accountability. State and local school system goals do not acknowledge or recognize principals for being effective with system controls (Hess, 2003). For example, reducing operational costs on building electric and gas usage,

abating frequency of staff absenteeism, or preventing financial deficits are not operational highlights for being an effective principal while managing school finance.

Nor, are there rubrics that allow leaders to manage schools with a set of best practices as are found regarding student learning outcomes (Hess, 2003). Using a literacy program, Diller and Phelps' (2008) study explains that rubrics are the scoring guides or check sheets that identify those standards and criteria for given assignments or responsibilities. Diller and Phelps, (2008) suggest rubrics work because goals are to simplify grading and ensure consistency (e.g., test reliability across instructors, across course sections, and across time). In the clinical profession, Lasater (2007) adds that rubrics help assess portfolios, pre-/post-testing, capstone projects, and other assignments for which there are no "right" answers. Application using rubrics are considered reasonable to a number of criteria but also include important objectives (e.g., Diller and Phelps, 2008; and, Lasater 2007). Add to this, rubrics use explicit criteria (i.e., quantifiable and qualitative). Rubrics assign variable weights to criteria and are distributed when making an assignment. Although rubric measuring tools continue to measure being effective through instructional leadership, evidence of similar best practices for managerial leadership is limited.

In fact, measuring principals at being effective is dependent upon top-level perceptions "between purpose and management" (Bush, 2006: p. 1). Bush's (2006) work adds that (a) sole dependence on central office's uncertain expectations is constant use of measuring principals which makes narrow evaluations and discards knowledge, and (b) a strong reliance on facts (i.e., cost-effectiveness, internal financial audits, etc.) as the sole guide to deem being ineffective because all evidence requires interpretation. In support of Bush (2006) and Grogan (2013), both criticize that competencies for school leadership are

non-existent. Therefore, a critique of the Standards in principal learning and evaluation is required.

Anderson (2004), Hess (2003), and Murphy (2003) are long-standing critics of ISLLC Standards. These scholars argue that the Standards emerge from a complex mixture of ideological sources. Plus, the Standards are heavily influenced through business management and “administrative progressives that” (Anderson, Creighton, Dantley, English, Furman, Gornn, & Marshall, 2002: p. 202) continue to shape educational initiatives. Murphy (2003) offers at least six fundamental issues with ISLLC that unlike business management initiatives for Standards of learning, school managerial leadership is without empirical ideals. These Standards assume an “exerting [of] undo influence in the profession” (Murphy, 2003: p. 23) just as similar Standards are enacted in business, and have “no legitimate place for disposition” (Murphy, 2003: p. 23) or affects in school managerial leadership.

Critics like Anderson et al., (2002) argue ISLLC alone creates a precarious opportunity for a “hodgepodge” of school management ideals that preparation programs follow. Consistent with the work of Anderson et al., (2002), and Murphy (2003) illustrate that overall university-based preparation programs’ typical course of study in relation to management ideology is dubious (e.g., organizational theory, politics of education, qualitative methods, etc.). This scholar suggests programs should “introduce new paradigms [as these] challenges confronting” (Murphy and Shipman, 2000: p. 6) today’s managerial leadership roles continue. Although improvements in initiatives follow these and other scholarly suggestions, Murphy’s (2005) work continues to argue a further ideological change in systems of expectations. Hence, limited knowledge and analyses follow empirical studies and findings.

### 2.3.3 Limited Knowledge and Analyses

Through LaPointe's et al., (2007) case study of eight administration programs, a comprehensive portrait of effective approaches to preparation programs and district professional developments find that managerial skills are better found through internships. Although LaPointe et al., (2007) argues inadequacy of overall coursework, this study reveals that on-site experiences enhance future leaders with appropriate alignment to policy and practices thereof. Add to this, Abbott's (2001) study finds that without internship experiences participants feel less confident in managing overall operations including school finance. Trainor (2007) supports this find theorizing that without this practice of fieldwork – internal controls for budgeting procedures can make a principal appear meager at best. Grogan (2013) identifies that works relating to competencies and professional developments are absent to participants' experiences within internships. This conclusion supports Abbott's (2001) finding that 62% of respondents feel less than proficient in managing a budgeting process. Thus, an establishment of a new support for principal knowledge is purposeful for both preparation programs and district systems' professional development and may tighten these "gaps." In turn, these initiatives must include gaining new knowledge for principals to become more effective in managerial leadership.

## 2.4 Being Knowledgeable and Professional Development

### 2.4.1 Theories with Gaining Knowledge

Professional development is the only strategy school districts have to strengthen principals' knowledge and performance levels (Kirkpatrick, 1975). Upon leadership assignment, professional development is where a particular focus on being effective and being knowledgeable becomes prioritized (Kirkpatrick, 1975). Kirkpatrick (1975) argues



that systems can enhance the knowledge base of its stakeholders (i.e., leadership, staff, and community) by sharing and proper evaluation of knowledge gained. Reeves' (2010) follows Kirkpatrick's (1975) findings with a 4 Level Evaluation tool that seeks to optimize knowledge for an effective professional development. Although this tool emerges to address effectiveness for student performance outcomes through staff, the Standards of evaluation and its elements are functional for any school professional development (Hix, 2013). Following Reeves (2010) work, Hix (2013) argues adult learners master being effective in professional settings through either professional development, incentives, or personal interest. This perspective of adult learning is supported by other theorists such as Knowles (1984), Navarathnam (2014), Sanchez and Heene (2004), and that of Spender (2008). Each of these scholars consistently draws conclusions that suggest adding to the knowledge of an organization byway of peer sharing.

#### 2.4.2 Knowledge Management

For example, Spender (2008) suggests that upon an organization prioritizing professional development (strategic goals), building "knowledge management" (p. 157) is best. This means that leadership form teams and peer-share activities while offering intellectual stimulation among principals (Marzano et al., 2005). Like business leaders, principals appreciate the strategic value of knowledge and view it as a professional asset. Grissom and Harrington (2010) conclude that like their business counterparts, principals are unable to drive real managerial benefits from professional development efforts. There are several reasons for this, including the belief that knowledge management is the pursuit of knowledge that automatically produces benefits (Grissom & Harrington, 2010). When those benefits do not materialize, leaders become discouraged (Hallinger & Snidvongs, 2008). Rubenstein-Montano, Liebowitz, Buchwalter, McCaw, Newman,

Rebeck, and Team, (2001) examination business management argue knowledge management has an over-reliance on technology that is presented as if it is both a solution and benefit to an organization. These scholars report that managers see it as an inadequate structure that is in place to carry knowledge management forward (e.g., personnel, district support, or funds), and lack of ownership (i.e., immediate or long term accountability) pursuant to knowledge gained (Rubenstein-Montano et al., 2001).

To improve the value of knowledge management, Yew-Wong (2005) and Wright (2005) offer various steps to deliver tangible benefits. The first is to make knowledge management a demand-led activity focusing on district strategic goals (Yew-Wong, 2005). The second, Wright (2005) argues to make knowledge management a part of a professional development that focuses on yielding the best returns (e.g., procedures that curtail financial impropriety, inappropriate uses of discretionary funds, and specific “look fors” in financial reporting, etc.). Thirdly, Wright (2005) suggests ensuring that knowledge management through professional development is constructed and facilitated as benefit-delivery initiatives. This means the practice measures success directly related to specific outcomes (e.g., how to eliminate budget shortfall or management strategies that prevent an internal audit going wrong). Last, it is to create and manage knowledge management as teams (Yew-Wong, 2005). The idea is that principals organize as small teams of learning. Such structures contribute to peer accountability and sharing agencies (Knowles, 1984). Edwards (2015) suggests the concept creates a top-down approach to gaining knowledge similar to viewing knowledge management as an asset through professional development. Reeves’ (2010) values such an approach as it treats professional development like a district investment applying research-based approaches and techniques.

### 2.4.3 Limited Knowledge and Analyses

Applying these research-based approaches and techniques towards managerial leadership and school financial management is limited. In Hix's (2013) correlational study of 40 participants, learner readiness shows moderate to a significant positive relationship between intent to transfer and ability to do so. Brockman's (2012) study proposes 22 various professional developments to a school district's administrators and finds an agreement that the appropriate focused learning has a direct relationship to successful work performance. Davies (2006) concludes that districts need a concurrent or parallel view of leadership development that is equal in agreement to the findings of the National College for School Leadership (NCSL) research project. However, Ibrahim (2011) concludes that in-service courses, principals' conferences, and offerings for finance training are irregular. Without training, financial management skill improvements remain limited as well.

Mohn and Machell's (2005) examination of differences between university-based programs and staff development find educators perceive training to be effective in all accounts. This study supports findings similar to those of Wallace, Buckner, Wren, and Evans (1997) which conclude that educators perceive professional development to be effective if delivered as part of schools' improvement processes and district initiatives. Darling-Hammond et al., (2007) and Burdette (2010) conclude that alignment towards preparedness and principal evaluations are necessary. According to Reeves (2010), because preparation programs cannot provide an extensive range of learning experiences necessary for principals to become effective leaders, professional development becomes the conduit to sustain efforts for improvement. When managerial leadership does not experience effective professional development, skills do not improve, and a school's reputation suffers (Navarathnam, 2014). Therefore, becoming knowledgeable on school

financial management requires further understanding of pertinent skills necessary for principals to become competent.









## 2.5 Being Competent on School Financial Management

### 2.5.1 Problems with Gaining Competence

In professions such as accounting and finance, competencies are necessary for effective managerial leadership (Jackling, 2005). Jackling (2005) performs a case study on mentoring skill development in an accounting setting as a teaching and learning resource for undergraduates within the profession. This work identifies the Standards of learning which seek competence as measuring effective leaders within the profession (Jackling, 2005). Jackling (2005) points to strict adherence on the Generally Accepted Accounting Principles (GAAP) as the regulation for procedures on financial transactions and reports. This researcher adds that the principles are universal throughout all business entities and carries financial and political punishments if not followed thoroughly. GAAP requires handlers of daily fiduciary operations to possess know-how and competence.

Usually, the competence gained goes through “formal” training as a prerequisite for financial secretaries and supervisors in other business entities (Kavanagh, 2008). The handling and managing of cash is a competence that school bookkeepers possess, but principals do not (Gonzales, 1997). For example, upon this author examining the administrative and managerial duties of two local school bookkeepers (e.g., Kannapolis City Schools, 2015; and, Charlotte Mecklenburg Schools), a set of skills and competence reveals knowledge not privy to principals through a principal preparation program or school district professional development training, see Table 3.

TABLE 3: School Bookkeeper Managing Cash

	Administrate those specific policy and procedures that follow small cash withdrawals from allowances of cash registers. Coding is imperative in some written form and must be completed, signed by the person making the withdrawal, and placed in register(s)
	Arrange all cash registers and its codes which should have a daily change fund of a specific amount to begin daily operations. Manage a procedure to collect, count, and verify cash register receipts to be followed on a regular schedule at least daily. Any overages or shortages should be accounted for each time cash balances are verified. Two or more people must work together for collecting and verifying cash register receipts
	Post all cash receipts for accounting, recording, and immediately depositing in a bank. Do not keep large cash balances in schools. Execute and make deposits in a bank frequently, several times a day if necessary
	Endorse all checks when received for deposit either with a cash register imprint or a rubber stamp
	Review all payments except petty cash amounts should be made by check or credit card so a written record is maintained
	Verify payments of all salaries by check or direct deposit, never cash
	Audit all cash receipts, payments, and deposits regularly and compare them with financial records. Reconcile bank statements as soon as they are received. School records and bank records must be in balance. Any discrepancies must be resolved immediately
	Collect and manage petty cash. A supply of cash maintained in schools for small emergency payments must be kept in a safe place with a responsible person. A written record of additions and withdrawals to the fund must be maintained
<p>Note: Cash is constantly coming into a school from community and other sources, and cash must go out of the school to pay for things purchased. Regardless of how financial records are maintained, schools follow similar business procedures in accounting for cash</p>	

Brinkmann, Salono, and Germuenden's (2009) study on professional development needed for finance professionals define competence as the ability to manipulate information in a rational fashion while appreciating situations and consequences that can follow. Kavanagh (2008) concludes that competence begins with the basic knowledge that follows skill building. Brinkmann et al., (2009) agree with Jackling (2005) that skill

mastery is important in order for competence to be evident. Although a principal can gain skills on managing cash as the bookkeeper does, Table 3 is a small example of gaining competence towards financial management through a subordinate that can leave principals vulnerable. Sanchez and Heene (2004) suggest professional development can address competence development that will modify this type of knowledge transference. In fact, Sanchez and Heene (2004) offer theoretical framing byway of strategic management.

These scholars suggest that competence-based strategic management explains how an organization can develop a systematic and structural set of skills. In turn, the skills are to incorporate an ability to sustain high performance of staff for significant career tenure. Sanchez and Heene (2004) postulate four modes of staff competence. The first mode of competence is that it requires learning to be the flexible and use alternative thinking as strategic logic. This suggests a school district conceives alternative ways for creating value with staff and stakeholders. The theory requires learning to be flexible and use alternative thinking as a process for thorough management. This comes from a school district developing alternative ways management processes and implements strategic thinking. The second mode of competence is this theory requires learning coordination of a school district conceiving and assembling of tangible and intangible resources needed to be effective (i.e., staff knowledge and know how, and group morale). The third mode in this theory requires resource flexibility to be useful in alternative management (i.e., support staff and internal controls such as software). This comes from a school district having the ability to bring together resources as in support of goals, more intrinsically. Last, Sanchez and Heene's (2004) theory requires flexible operation and applying skills and capabilities to these available resources. This comes from a school

district having the ability to use specific resources effectively through operating conditions (i.e., alternative, traditional, and vocational schools).

Sanchez and Heene (2004) theory build competence throughout a school district as is used throughout business. Additionally, both theoretical frames (e.g., Knowles, 1984; and, Sanchez and Heene, 2004) can apply each of the assumptions for adult motivation and modes of competence to measure skills necessary for school financial management. Although the current knowledge and competence regarding cash management (Table 3) are not through principal preparation programs or professional developments, school managerial leadership remains the standard responsible for exuding effectiveness.

#### 2.5.2 Principal Financial Responsibility

Gonzales (1997) and Stoskopf (2013) are the only comprehensive studies on principals' financial responsibilities. Gonzales (1997) examines how principals of large public schools learn to manage discretionary school funds and its impact on spending; whereas, Stoskopf (2013) examines perceptions of preparedness in four financial areas of management. Each study finds significant gaps in the literature of financial preparation for principals. However, Stoskopf (2013) places emphasis on a need for principals to learn more about financial responsibilities through on the job experience. Equally, support is found by similar studies beyond North America, (e.g., Mobegi et al., 2012; Motsamai, Jacobs, & De Wet, 2011; Metstry, 2004; and, Miriti, 2014), Stoskopf (2013) postulates three recommendations to improve knowledge and effective management on financial responsibilities.

The first recommendation states that budgeting requires both principal and managerial leadership skill sets. That is, to process collective agreement on budget priorities, principal leadership must build trust among stakeholders (Bird et al.,

2009). Trust comes best by transparency (e.g., Bird et al., 2009; and, Motsamai et al., 2011), sharing the routines and procedures of funds/budgets within each chart of accounts. Motsamai et al., (2011) add equally important is sharing financial history. Sharing financial history is a copious task and requires a knowledge base of discretionary funds, purchasing procedures, and financial reporting (Gonzales & Bogotch, 1998). As a result, this will establish control systems, define time lines, and objectives with expectations to be met (Gonzales, 1997). In order to lead and manage this process, Stoskopf (2013) discusses additional knowledge is necessary on “keeping accounts.”

The second recommendation speaks to keeping accounts specific to managing accounting and finance using systems that generate and compare a reporting of cash flow (accurately and effectively). Mobegi et al., (2012) account keeping involves storing data so that it generates financial reports essentially used to extrapolate data for future reference. Mobegi et al., (2012) suggests in order for principals to avoid the impression of financial wrongdoing, financial statements must be prepared in a way that provides a clear and understandable picture of the school’s financial health. Both Gonzales (1997) and Stoskopf (2013) studies conclude that the financial condition of a school affects principals. Thus, a need to have access, knowledge base, and ability to analyze financial data to draw conclusions leads to principals’ healthy decision making.

The third recommendation highlights internal controls that can reduce frequency and severity of mistakes. Even Jackling (2005) suggests that entities dealing with cash will make financial mistakes, for this reason, accounting procedures must be set up to minimize the problems caused by mistakes. In schools, for example, principals use reporting statements and other information to understand the financial health of a school. Outside agencies are concerned with a school’s financial health (Mutter & Parker, 2004). Including



current and prospective stakeholders, creditors (e.g., banks and suppliers, etc.) use loans and offer credit to schools (Mutter & Parker, 2004). Each is concerned as to whether cash flow is sufficient to pay bills and vendors. Additionally, Trainor (2007) suggests that principals need to analyze ratio calculations from financial statements to identify where financial problems lie.

If these recommendations and suggestions are empirically accurate, building competence for financial standards becomes a worthy pursuit. Gonzales (1997) and Stoskopf (2013) are groundwork developments for further examination. Pursuant to each study's limitations and recommendations, examining specific elements of school financial management is limited. Therefore, further analysis on this topic of study is purposeful.

### 2.5.3 Limited Knowledge and Analyses

#### Needs Assessment

Research findings regarding knowledge on managing school finance argue for an appropriate needs assessment. Hess and Kelly (2005) find that only 15% of leadership development programs concentrate on technical knowledge and less than 20% for financial management. Williams and Szal (2011) determine significant difference (positive) between pre/post on knowledge, dispositions, and performance on the ISLLC Standards. Consistent with Burch (2014), Hallinger and Lu's (2013) discovery is that when preparation programs make a concerted effort to focus on specific knowledge building, principal preparedness improves. Equally consistent is skill development in finance and other important areas of managerial leadership (i.e., micro-politics and special needs), but research on these areas are limited also (Burch, 2014).

Rainwater's (2010) work concludes that principal development needs to focus on competency building. As an evaluative tool, the idea is that competency building creates a link between elements of principal appraisals and program preparation. In doing so, the building of competence will build consensus for a needs assessment to follow (Reeves, 2010). Bartram's (2005) inferential study completes an ability test that correlates with 4 of 8 competencies. Ability and personality data yield operational validations ranging from 0.20 to 0.44 for the 8 competencies (Bartram, 2005). This suggests that operational aspects of school management are evaluative and shed another lens on competency development.

At present, principal financial competencies do not exist. In fact, research that develops an agreement in the assessment of principal preparations to financial responsibility is sparse (e.g., Gonzales & Botogch, 1998; and, Stoskopf, 2013). Although over a decade apart, using the same research instrument to secure congruent results, there is significance in both findings (e.g., Gonzales, 1997; and, Stoskopf, 2013). Similarly, these studies' recommendations and limitations to enhance professional knowledge are not new to principals, district executives, or university preparation programs. However, what does not exist is an assessment of needs for being effective in managing school finance. This is evident following an analysis of research methodology applied thus far.

### Inductive Reasoning

The most applied methodology to this review is inductive reasoning. Of the 70 plus studies reviewed more than 60% apply inductive reasoning, respectively. Simply put, this method examines the "small" in hopes it can later be applied to the "big." Seeking a more general rule of application, inductive approaches infer based on specific observations where limited knowledge exists (Denzin & Lincoln, 2000).

Imagine, for example, a reader answers open-ended questions about what the forwarding pages will reveal beforehand. Yet, these questions must be answered solely on the context clues from previous pages read; thus, an inductive analysis. More specifically, imagine how the characteristic of “evaluating/monitoring” (Marzano et al., 2005: p. 20) became an adaptation of best practice for defining an effective principal. As the application shows effectiveness, its practice becomes affirming in observations and empirical research, and a reputation follows deeming a best practice applicable to the masses. However, inductive approaches are subject to flaws for interpretation regarding its participants and environmental settings (Glesne & Peshkin, 1992). Glesne and Peshkin, (1992) reveal that although inductive reasoning alone can discern patterns and assist with building systematic reviews, it is without certainty.

#### Systematic Reviews

Instead, seeking certainty narrows by using a more systematic approach. Figure 5 shows how literature processes draw empirical evidence from particular research questions. Higgins & Green (2005) suggest the approach offers a summary and critique of literature for purposes of enriching future practice(s). When applicable, the systematic review uses tend to encourage higher levels of research methods (Higgins & Green, 2005). Although usually described in 4 to 5 stages, this figure is consolidated (Higgins & Green, 2005) review uses tend to encourage higher levels of research methods. Although usually described in 4 to 5 stages, this figure is consolidated (Higgins & Green, 2005).



FIGURE 5: Understanding the process of systematic reviews

Systematic reviews approach the study of principal preparedness and managing school finance second most. Unpacking the same 70 studies using inductive reasoning, more than 35% apply a more narrowing or systematic approach towards these methods. Seeking analytical precision, Grogan (2013) shows areas of effectiveness with this approach (e.g., work-related competencies and continuous improvements regarding managerial leadership). Although the systematic approach reaches a standardized arrangement for school district professional development (i.e., reference to Reeves' 4 levels of evaluation), other researchers (e.g., Boyatzis, 2008; Hale & Moorman, 2003; Pitre & Smith, 2004; and, Reyes, 2004) sought to apply more logical applications by results with more congruent and parallel learning processes for school leadership. In conjunction, these studies create a basis for policy-making beyond a campus or consortium (e.g., university programs or ISLLC, etc.), but not principal preparedness on

managing school finance. As a result, the logic coming from uses of systematic reviews appears limited regarding appropriateness for other areas of leadership development. Jones (2004) suggests that following systematic reviews, “developing a consensus-building tool by using reflective teams to interpret qualitative [analysis]” (p. 108) strengthens a study. Therefore, this author pursues a method that will build agreement for principal preparedness on managing school finance.

### Building Consensus

While unpacking the literature, absent from methods and findings are (a) clarity on knowledge needed for principals to be effective stewards on school finance (e.g., skill building and competence), and (b) agreement among researchers on methods appropriate for preparedness towards school financial management (e.g., inductive reasoning and systematic reviews). Hence, gaps in the literature are present.

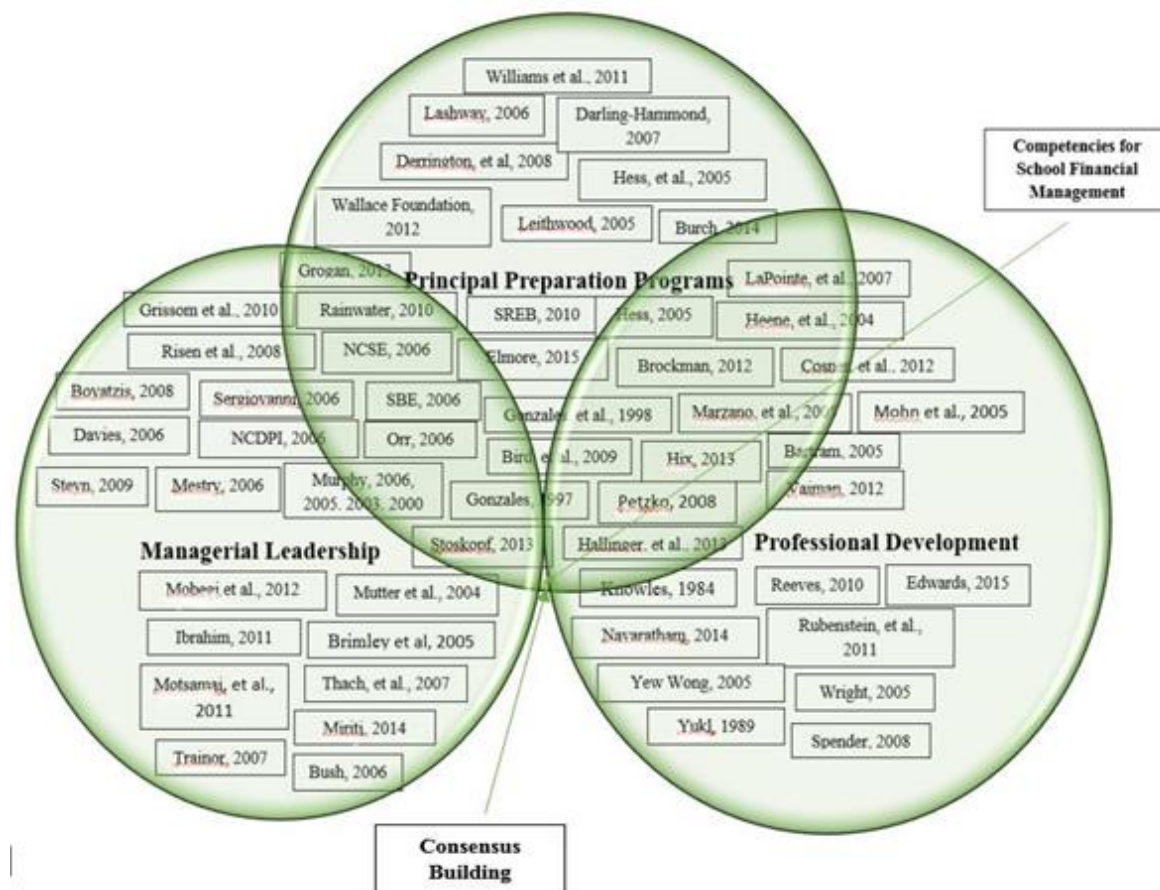


FIGURE 6: Gaps in the literature

Figure 6 illustrates gaps and overlaps that relate to the literature review. However, this study is a focus on the gaps or discrepancies through building a consensus for principal preparedness on school financial management. To do this, a general agreement is identifying elements of relevant financial focus. Usually, there is value gained in narrowing any abstract information like school financial management (Jones, 2004). This speaks to Murphy's (2003) concern in that ISLLC Standards remain vague and without narrow guidance. Somerville (2008) and other researchers like Jones (2004) prefer consensus building in order to increase conciliation. Somerville (2008) adds that when a voluntary process is in place allowing participants to seek mutual resolution - harmony among diverse groups of experience(s) and thought(s) often follow.

## General Delphi

From Greek Mythology to the 1950s, Delphi's popularity grew in North America as it was used to forecast by drawing on opinions from experts to build consensus. In 1968, the RAND Corporation conducted research studying the impact of technology on military warfare (Brown, 1968). In this work, Brown (1968) explained that traditional brainstorming with round table discussions seeking group solution was a problem. Aside from group influence or presence of a dominant personality, Brown (1968) argued that a tendency to meet group approval or unwillingness to change an opinion was beset by psychological factors (e.g., abandonment, bandwagon effect, and individual persuasion).

In the same discussion, Brown (1968: p. 2) follows Helmer and Rescher (1959) and points to Delphi as a design that “eliminates committee activity altogether, thus further reducing the influence of certain psychological factors.” Brown (1968) posits that Delphi replaces direct debate by carefully designing sequential questionnaires interspersed with opinions that allow feedback. Furthermore, “expert judgment can be incorporated into the structure of an investigation and can be made subject to some of the safeguards that are commonly used to assure objectivity in any scientific inquiry” (Brown, 1968: p. 14).

## 2.6 Research Considerations and Characteristics

### 2.6.1 Delphi Considerations

Following the use of computer conferencing and asynchronous survey approaches, there is an increase in use of Delphi (Diamond, Grant, Feldman, Pencharz, & Ling, 2014). Following the work of Shelton (2010), this author also initiates a ProQuest dissertation search that yields nearly 3,000 dissertations in various disciplines using Delphi. In fact, over 1,000 of those dissertations are in fields of education. Since this study seeks

agreement through shared interpretation, Delphi is a hybrid which offers both quantitative and qualitative results providing inductive analysis (e.g., Franklin & Hart, 2007). Because this study seeks to build consensus, a Delphi design is appropriate. Torrance (2012) purports that in using Delphi both statistical and inductive data are expected to bring about triangulation.

Triangulation is important because it uses different methods that lead to similar results. When triangulation is evident, more confidence in a research study is found (Torrance, 2012). Data validation through cross verification from two or more data sources makes explaining results of human behavior more accurate (Torrance, 2012). According to Torrance (2012), triangulation “member checking” (p. 6) produces reliability in data collection. By combining multiple pieces of evidence (e.g., observers, theories, methods, and empirical materials), Torrance (2012) concludes that Delphi overcomes intrinsic biases. Unlike single designs (e.g., single observer, single theory, and single studies), Delphi limits weaknesses posed without the pursuit of triangulation. However, reducing bias and seeking triangulation alone are not the primary reasons for using this method. Delphi’s characteristics, strengths, and weaknesses add to the appropriate use for this study.

#### 2.6.2 Delphi Weaknesses

Delphi has its weaknesses. Processing is time-consuming as coordinating and managing is required. Hsu and Sandford (2007) find that using questionnaires in up to three or more rounds average between 30 to 50 hours of a researcher’s time. Maintaining active participants throughout the iterative process is difficult. Dropouts are more common than the “one shot” complete this survey and “be done” approach. Processing is less transparent than one-on-one or focus group interviews. Add to this, the participants have a



higher tendency to be influenced by the researcher through Delphi. Skulmoski, Hartman, and Krahn (2007) argue this leads to less trust in the outcome(s) by the participants.

However, since this study seeks to build a consensus for future direction (i.e., needs assessment and curriculum re-structuring), strengths of Delphi outweigh its weaknesses.

### 2.6.3 Delphi Strengths

Building consensus for principal preparedness is the purpose of this study.

Applying the Delphi method tends to strengthen this pursuit (Delbecq, Van de Ven, and Gustafson, 1975). This method allows more participants to be involved rather than using a face-to-face research design. Delphi saves cost and time because participants do not travel. This method preserves anonymity of participants that avoid “self-censorship” and gives the flexibility to modify views while learning more from others without social pressure as exists in focus group studies. Delphi allows for remote processing which avoids negative group influences. Its structuring allows groups to process complex issues in a controlled environment. Although Delphi lends itself to analytical precision similar to a systematic review, it benefits subjective judgments through the collection of data. Add to this, as participants contribute to complex problem solving, creative and effective communication is expected due to diverse professional backgrounds.

### 2.6.4 Delphi Characteristics

Dalkey and Helmer (1963) posit that Delphi possesses five basic characteristics that is (1) focusing on research topics where little is known or forecasting has limited predictability, (2) relying on the opinions of experts (3) using remote groups to process a study, (4) adopting an iterative process to research topics, and (5) creating consensus through expert opinions.

For the first basic characteristic, Stewart, Shamdasani, and Rook (2007) suggest that the Delphi method can conceptualize, invent, and predict futures. Because Delphi uses more than quantitative and historical data to solve problems, deeper insight becomes available to forecast probable events. When modeling is difficult, Delbecq et al., (1975: p.5) find Delphi useful where there is “lack of agreement” among samples. Gibson and Miller (1990) offer this method when a study needs to be an invention or discovery. As a method of analysis, Beech (1999) argues a Delphi design supports the production of data that seemingly is difficult to obtain.

For the second basic characteristic, Delphi relies on the insight and opinions of experts. Using a group format, knowledgeable experts become the source of data collection (Stewart et al, 2007; and, Denzin & Lincoln, 2000). Clayton (1997) characterizes experts as those that have acquired knowledge and experience in order to participate in Delphi. Panel membership may be local, regional, national, or international, and similar disciplines or diverse professional and social stratifications equally apply.

The third basic characteristic is present when Delphi communicates using remote groups as participants (Ley, Bennum, & McLaren, 2000). Communication is usually not face-to-face. This becomes useful when administrators, executives, experts or users opportunity to come together is difficult (Delbecq et al, 1975). In this digital era, Saint-Germain, Ostrowski, and Dede (2000) argue that individual panel members receive communications electronically to distribute questionnaires and that it is an improvement to the traditional method due to Delphi providing quicker response times and reductions in participant dropout rates.

An iterative process is an active part of Delphi and is the fourth basic characteristic. Because the panel experts respond to a series of questionnaires, a repetition of information is collected, summarized, and feedback of opinion(s) are shared through email to each respondent. These responses intend to stimulate thinking while the objective seeks to reach a group consensus.

Last, the fifth characteristic is the “development of consensus” (Graham, Regelar, & Wright, 2003: p. 1154). Typically, Delphi builds consensus through convergence of variances or the decrease of standard deviations (Linstone & Turoof, 2002). As a result, Williams and Webb (1994) define consensus as an agreement by majority or the opinions of all concerned.

These characteristics find support by Delbecq et al., (1975). These scholars suggest that because participants of the Delphi method are to generate ideas silently and individually, it produces salient amounts of ideas. Because participants of Delphi write responses on his/her own time schedule it is more likely to produce critical thinking and increasing value of response. In addition, Delbecq et al., (1975) adds that because participants of Delphi encourage more free responses and suggest aggregates equally, a sense of accomplishment is within the decision making.

## 2.7 Summary

The chapter adds to the limited academic discussion and discovers two primary gaps (i.e., lack of competencies for school financial management and consensus building). The review follows groundwork established through principal and financial responsibilities that need further examination to improve principal knowledge on the topic. It provides evidence that find improvements in knowledge and competence can improve principal performance (being effective), but is limited. It shows that systematic reviews have set the stage for building a consensus of agreement for investigating skill developments, but is limited. Lastly, the review shows that with limited research on the topic of school financial management, a study that continues to build an empirical understanding is adding to the body of research.

## CHAPTER 3: METHOD

### 3.0 Introduction

Following approval from the Institutional Review Board (Appendix B), permission to move forward with the research, this chapter explains the processing and building of a consensus for principal preparedness on managing school finance. Using the Delphi technique, this researcher provides empirical data that offers guidance to university-based principal preparation programs and school district professional development activities. This chapter includes an overview and statement of purpose for the study, research questions, design, and a summary of the professionally diverse panelists. It provides insight on the strengths and weaknesses of the primary research methodology along with how the iterative process unfolds. It describes the study selection, participants, and validity. This chapter describes groupthink and the process for expert panelists to converge an agreement. Importantly, this chapter provides a step-by-step analysis which allows for method replication. Moreover, this chapter rationalizes reasons the chosen instrumentations and levels were in place to build consensus for this study.

### 3.1 Research Purpose and Overview

Cohen, Mannion, and Morrison (2000) state that “the purpose of [any] research determines the design” (p. 73). The purpose of this study was building a consensus on principal competencies needed to properly manage school finance at the school level. Upon identifying appropriate knowledge, this researcher provided principal preparation programs and professional development activities direction for the future. This study argued the need for further research in the area of improving school financial management stewardship.

This researcher used opinions from a panel of experts and professionals closely related to the topic with at least five years of experience (e.g., university professors, superintendents, deputy superintendents, directors of school finance, external school system accountants, principals, and secondary school financial secretaries), to address research questions. These independent categories represented experts that (a) prepare principals to become stewards of schools and finance, (b) supervise principal effectiveness in managing school finance, (c) coordinate and facilitate professional development of school finance, (d) administrate and lead daily operation management of schools and finance, and (e) practice accounting and financial protocols of bookkeeping as a daily duty to school finance. The response to these research questions varied due to the independent opinions each professional expert possessed.

Using the Delphi technique, building a consensus was dependent upon the independent opinions of experts seeking agreement on this topic. This means, through an iterative technique (process), a panel of experts identified appropriate knowledge and competencies necessary to manage school finance that principal preparation programs and

school district professional development activities can employ. This research collected and analyzed data using sequential questionnaires (i.e., beginning with open-ended followed by Likert-Type scale), quick feedback, and anonymity for its participants. In order to do this, a set of questions guided the research.

### 3.2 Research Questions

The questions that guided this research are as followed:

- 3.2.1 What competencies are necessary for principals to become effective stewards managing school finance?
- 3.2.2 To what extent are university principal preparation programs preparing students to manage budgets and financial matters?
- 3.2.3 To what extent is school district professional development providing principal training for managing school finance?

### 3.3 Research Design

#### 3.3.1 General Delphi

At present, Delphi is used in fields of business for forecasting (e.g. marketing and sales, etc.), university program training (e.g., healthcare, particularly nursing, and technology, etc.), and social sciences (e.g., predicting patterns of drug abuse and prison recidivism, etc.). Likened to systematic reviews, Delphi is “appropriate for knowledge generating [while equally] providing validity and theoretical structure” (Jones, 2004: p.1). Jones (2004) adds that following systematic reviews, “developing a consensus building tool by using reflective teams to interpret qualitative [analysis]” (p. 108) strengthens a study. Due to Delphi’s design, consisting of sequential questionnaires, perpetual feedback to its participants, and anonymity, more accuracy in a study is expected

(Jones, 2004). In particular, the research questions in this study were answered using a seventy-percent (70%) mark for group agreement.

The Delphi technique was a structured communication design. Through an iterative process, the panel of experts answered questionnaires in three and two rounds. Pursuant to each round, this researcher provided an anonymous summation of the panel's

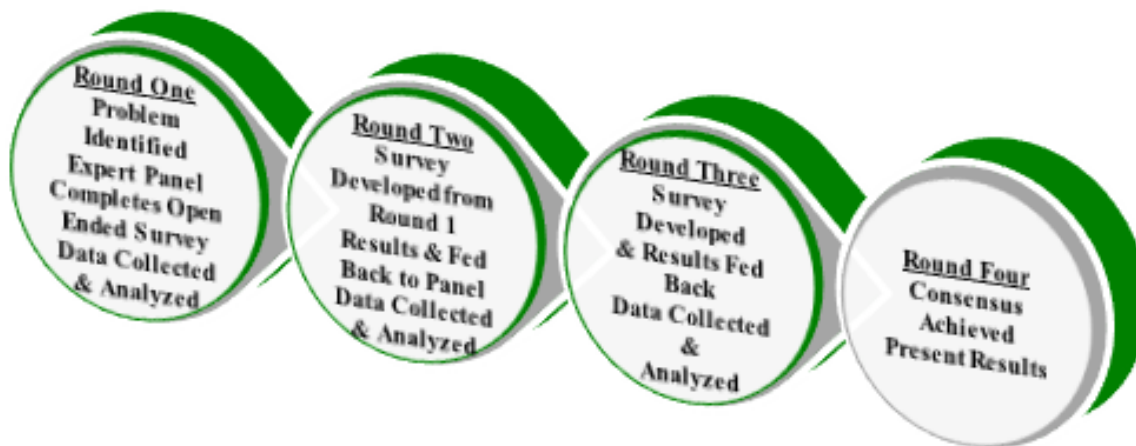


FIGURE 7: A general Delphi process

opinions. The panelists' opinions and reasons for judgment from previous rounds were posed for reconsideration. From this, panelists were encouraged to revise earlier judgments if views change or differ upon reviewing the opinions of other group participants. During the Delphi process, a range of answers decreases as the rounds continue and group convergence towards consensus was achieved (Rowe & Wright, 1999). Rowe and Wright (1999) add that upon the achievement of consensus through a predetermined criterion (i.e., mean, standard deviation, and variance scores of the final rounds determine results), the process stops. Figure 7 provides a general overview of the iterative process for this study.

In this study, the Delphi design moved through three levels. Each level moved through three and two rounds in lieu of four round iterations, see Figure 7. Originally, an



approximation of several rounds was identified because a general Delphi technique (e.g., Chou, 2002) subscribes three to four rounds or more; however, Chou (2002) also suggests a number of rounds are contingent upon achieving consensus that targets an overall seventy-percent group and item agreement.

### 3.3.2 Iterations

Delphi iterations repeated the technique that aimed for a convergence of agreed opinions. Repeating the same technique again and again by using the last results to begin the next was the basis for Delphi's structure. As with most Delphi studies, this research used an open-ended questionnaire for collecting data in the initial phase of iterations (Hasson, Keeney, & McKenna, 2000). According to Mitchell (1991), using open-ended questions in Delphi "allows panelists to utilize the intellectual apparatus that makes them experts and may reduce any feelings of under-utilization" (p. 344). In addition, open-ended questions in Delphi tend to increase commitment to a study as panelists "see their answers incorporated into the questionnaire" (p. 344). As shown in Figure 7, this initial phrase, Round One, was the foundation for seeking consensus. Following a researcher's analysis of answers to the open-ended questions (data), coding and theme identification was developed. During development, participants provided a structured flow of information involving a systematic series of review and reciprocal feedback to a panel of experts. A series of review and reciprocal feedback occurred between Rounds Two and Three. During this phase, development of the survey leads to a Final Round (i.e., consensus achievement) in Round Three. The survey development was recognized in research methods as the Likert-Type Scale.

### 3.3.3 Measurement Scale

Named after the behavioral psychologist, Rensis Likert in 1932, a Likert-Type Scale is an approach for ascribing quantitative value to qualitative data that develops statistical measures. Numerical values are assigned to each potential choice and averages to each response are computed at the end of the Likert-Type Scale survey. The final average scores represent achievement. This author follows the Linstone and Turoff (2002) recommendation of an ordinal scale (i.e., attributes are rank-ordered with no interpretable measure). This Ten-point Likert-Type Scale will have a range of 1 – 3 = least important; 4 - 6 = slightly important; and, 7 - 10 = most Important. Table 4 is an example.

TABLE 4: Sample of a Ten-point Likert-Type Scale

	1	2	3	4	5	6	7	8	9	10	
Least Important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most Important

Processing a Likert-Type Scale had this researcher making a conscious effort to design and plan for quick turnarounds, data analysis, and release for each Delphi round. Surveying in each round of iteration was designed for encouraging panelists to provide valid responses. Dillman, Smyth, and Christian (2009) found that shading, font size, and even the size of answer boxes on surveys influence how much information is processed by respondents. These researchers added that a small text box leads survey respondents to believe a short answer is expected and a large text box encourages more in-depth answers. Dillman et al., (2009) added that it is important for panelists to believe that responses with numerous quality indicators are valued. Dillman et al., (2009) suggested a statement explaining the text box and 10-point range of choices so it does not limit participants' valid responses. Although the pursuit of valid responses to this study was pivotal in building

consensus (e.g., Hasson et al., 2000; and, Rowe & Wright, 1999), research procedures for data analysis were also.

### 3.3.4 Data Analysis

Each research question was answered through building a consensus within the iterations. Consensus decision making began with posing the questions collaboratively, identifying unsatisfied concerns, followed by modifying the questions became contingent upon the responses by the respondents (panel of experts). For example, Figure 8 illustrates processing the iterations using six essential steps. Using the Delphi Technique, this study generated full agreement, thereby reducing initial ideas and concerns to reach a convergence on the research questions.

In this study, a Ten-point Likert-Type Scale was used for each questionnaire and descriptive statistics. The mean, standard deviation, and variance (e.g., descriptive statistics) were used for determining consensus alongside percentage of participants' responses. Used in many Delphi studies, (e.g, Brown, 1968; Mitchell, 1991; Mirra, 2004; and, Shelton, 2010), this study used descriptive statistics to show consensus with a move towards data clustering around central values.

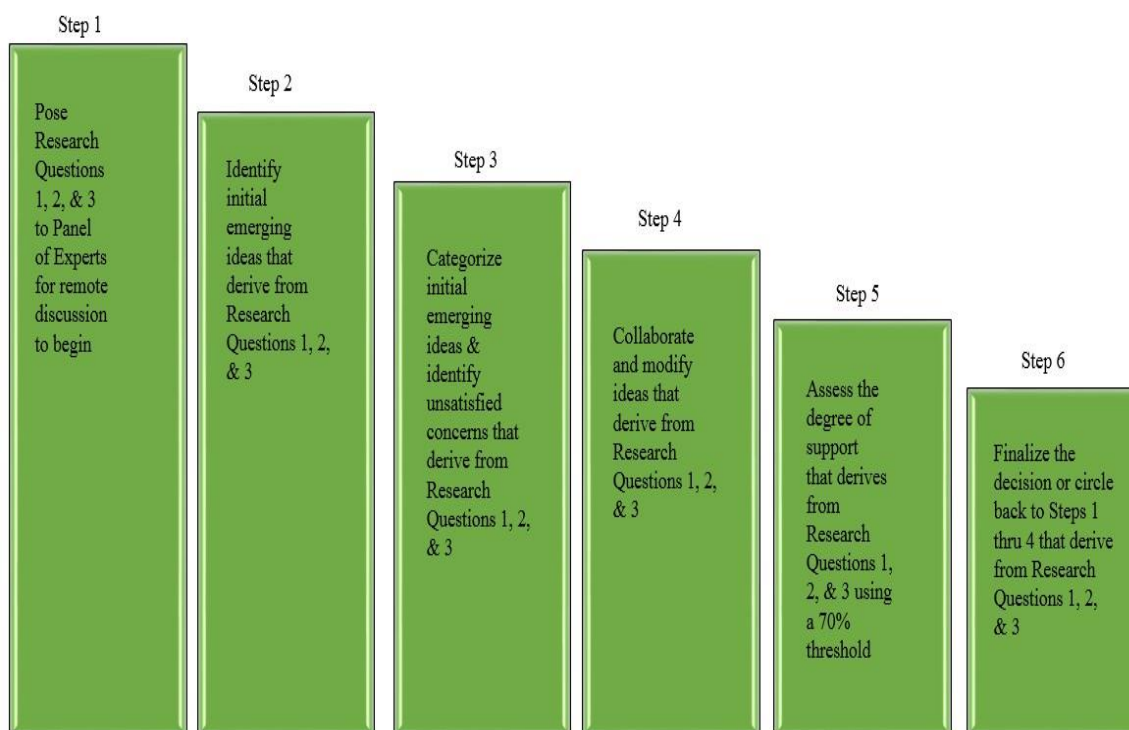


FIGURE 8: Steps to analyze data for this study

These scholars suggest consensus was achieved when 60%-80% of panelists reach an overall agreement. Consistent with Vernon (2009), this study chose a level of 70% as the guideline for group consensus achievement also. According to Keeney's group (2006), descriptive analyses are most favorable using Delphi and to be a part of data analysis for this study as well. Add to that, this research made clear that study participants and selection before this research was deployed.

### 3.4 Study Participants and Selection

Panel selection became critical to the outcome of a Delphi study (Landeta, 2006). Landeta (2006) believes that assembling successful panelists are in the selection of experts with professional experiences to be relevant to the study. In this study, careful consideration was identifying specific groups that contribute pertinent insight on school financial management. Because this study's design formulated a rich description of

knowledge necessary for the effective, knowledgeable, and competent administrator, the panel consisted of participants that evaluate and administrate behaviors of principals. Superintendents, deputy superintendents, district financial officers, external financial auditors, university professors, school bookkeepers, and principals were the expert panelists in this research.

To identify a pool of possible panelists, this author reviewed the literature and sought recommendations from research scholars and professional organizations. For example, North Carolina Department of Public Instruction (NCDPI) provided an accessible database of state school executives and principals. North Carolina is a state with 100 county school districts and seventeen city school districts. Using the database of NCDPI, over 100 school executives were accessed to participate in this study. Because this author is a member of a school district, the North Carolina Principals and Assistant Principals Association (NCPAPA), and the North Carolina Association of School Administrators (NCASA), access to these databases is a privilege of membership. Add to this, the North Carolina Association of Certified Public Accountants (NCACPA) was accessible upon agreement to participate in this study. By studying the professional profiles of professional organizations, state memberships, and researchers, this researcher was developing a thorough understanding of potential participants.

According to Hsu and Sandford (2007: p. 3), “there is, in fact, no exact criterion currently listed in the literature concerning the selection of Delphi participants.” Through works of Keeney’s group (2006), this study found an agreement “that often a decision for selection [was] based on funding, logistics, and rigorous inclusion and exclusion” (p. 62). Therefore, the outcome of this Delphi technique was only to be as strong as the expertise of the panel (Somerville, 2008). Somerville (2008) believes using gatekeepers for panel

selection may increase access, authenticity, and validity to participants. Using random selection, panel experts for this study met with limited criteria. That is as follows:

1. Identified through NCDPI and other professional associations
2. Worked at one of the various types of professional institutions:
  - a. A practicing graduate school of educational leadership and administration (e.g., the University of North Carolina System of Higher Learning that offer graduate studies in Educational Leadership)
  - b. A practicing certified public accountant (e.g., external school auditors)
  - c. A practicing school superintendent and deputy superintendent (e.g., associate or assistant superintendent)
  - d. A practicing school district financial officer (e.g., director or executive of finance)
  - e. A practicing high school principal
  - f. A practicing secondary school financial secretary (bookkeeper)

Panel members generated individual opinions and provided an opportunity to think about other members' judgment on the topic (Barnett, Danielson, & Algozzine, 1978) without influence by groupthink. (Clayton, 1997). Streveler, Olds, Miller, and Nelson (2003) recommended that Delphi "recognize human judgment as a legitimate and useful input ... and [agrees] that the use of experts, carefully selected, can lead to reliable and valid results" (p. 2). Pollard and Pollard (2008) suggest Delphi is useful for group communication allowing for deliberate, thoughtful, and thorough responses. Due to methodology weakness (i.e., high numbers of dropouts), Delphi required this study to anticipate this weakness by inviting large numbers. Therefore, it was prudent for this study to invite over 80 participants as did other researchers (e.g., Mirra, 2004; and, Shelton,

2010). Although the literature was not clear on a specific formula for numbers of participants in the expert panel, many researchers (e.g., Clayton, 1997; Hsu & Sandford, 2007; Landetta, 2006; Skulmoski et al., 2007; and, Streveler et al., 2003) posit that Delphi studies sustain between 15 to 20 panel members. However, these scholars prescribe at least seven members as a minimum. Okoli and Pawloski (2004) and Pollard and Pollard (2008) point out that outcome accuracy slowly increases with larger participants which provide deeper validity.

### 3.5 Validity

#### 3.5.1 Flaws

It was important for this study to seek research validity. In order for this study making solid claims as it developed through a research design, controlling flaws was primary (e.g., data collection, instrumentation, number of participants, etc.). Landetta (2006) observed that Delphi studies usually collect experts' opinion anonymously with several rounds (i.e., between 3 to 4) of a continuous feedback. Upon the final round, consensus was formed. For this study, the formation was a relevant and valid measure because it was an accumulation on the opinions of experts (Landetta, 2006). Subsequently, the more experts agreed a stronger validity was achieved. Mitroff and Turoff (2002) posit that "validity of the resulting judgment of the entire group is typically measured in terms of explicit degree of consensus among the experts" (p. 22). Consistent with other Delphi studies (e.g., Mirra, 2004; and, Shelton, 2010) seeking research validity, this study conducted a pilot test (e.g., Level I – Delphi Pilot) using three professional executives and practitioners which discerned understanding and readability. This validity plan represented face validity because experts identified the quality indicators for subsequent

rounds that followed (Landetta, 2006). These subsequent rounds and data that developed within the process required an established and secured instrument to bring about validity.

### 3.5.2 Instrumentation

To process Delphi data, this researcher used (a) GoogleForms and survey format, and (b) Statistical Package for Social Sciences (SPSS) Version16.0. GoogleForms are used to collect and gather information from respondents (panel of experts) and SPSS was used to calculate and process data from respondents. These applications are chosen due to user-friendliness, safeguards, and research recommendations.

Launched in 2005, GoogleForms and survey format was an all free web-based software. It was accessible online and compatible with all applications which allowed this researcher to create and edit survey forms while collaborating with other users in real time. Because iterations with Delphi required quick reciprocal feedback in order to sustain participants, this collaborative feature in GoogleForms was an advantage for use in this study. As a result, this researcher's plans to use GoogleForms collect and gather information from respondents both in the initial phase of open-ended questioning and subsequent rounds achieved consensus in a survey format. Although GoogleForms allowed features to calculate and process statistical measures, its development in this area was limited and not used in scholarly research. Therefore, this researcher transferred survey data for statistical calculations to a software more recognized in the social sciences.

Since its launching in 1968 by the developers at IBM Corporation, Statistical Package for Social Sciences (SPSS) is widely used software for statistical calculations and processing in research circles for the social sciences (Coakes & Steed, 2009). In this study, SPSS was accessed through the research university's software. In addition to this



software's use of statistical analysis, Coakes and Steed (2009) posit that SPSS was appropriate to serve the purpose of prioritizing. SPSS' features allowed for analysis supporting all levels of users through a modeling process. SPSS features were a guide for more choices and customization options allowing analysts to control the prioritizing process (Coakes & Steed, 2009). SPSS features allowed this researcher time series modeling procedures that helped develop reliable prioritizing in real time; and, allowed for time-saving updates to be more reliable (Coakes & Steed, 2009). Additionally, SPSS made flexible output options simple in delivering understandable and useful decisions. Although using both instruments (e.g., GoogleForms and SPSS) added structure to the validity plan for this study, it was without secure guidelines for transferring data from one instrument to the other. Therefore, this study provided a step-by-step analysis and used a method researchers of the Delphi process have from beginning to end for validity, replication purposes, and safeguards. Because Delphi was an iterative process that sought group consensus requiring several rounds (e.g., this study with no more than three) to answer proposed research questions, this study planned for processing Level 1 - Delphi Pilot, Level 2 - Delphi I, and Level 3 - Delphi II with details.

In this study, each level reached seventy-percent in less than four rounds, and in doing so, all iterations were summarized through a step-by-step protocol. This study generated three levels of Delphi. Each level of Delphi served a different purpose. The levels are as follows:

- Level 1 - Delphi Pilot (e.g., to test instrument, process, and make necessary changes)
- Level 2 - Delphi I (e.g., to achieve consensus and prioritize results from diverse evaluators on principals)
- Level 3 - Delphi II (e.g., to achieve consensus and prioritize results from Delphi I using principals only as expert panelists)

### 3.6 Procedure

#### 3.6.1 Level 1 - Delphi Pilot

The first level of this study was Delphi Pilot. The purpose of this pilot study was to establish possible advance warning of where research fails, research protocols cannot be followed, and whether proposed methods/instruments were inappropriate or too complicated. According to the works of Cibbens and Walters (2012), these scholars recommended following a collection of preliminary data that would (a) define consensus for subsequent rounds, (b) guide consensus thresholds and control feedback for subsequent rounds, (c) convince researchers that the panel of experts are competent and knowledgeable, and (d) assess the potential sustainability of member participation. This researcher followed Cibbens and Walters (2012) which implied researchers using Delphi to provide details (steps) for each approach.

Therefore, the first round survey instrument was a pilot test. Distribution via the GoogleForms web-based survey, six diverse professional executives and practitioners with five or more years of experience in the school finance field of study participated. Identifying these six participants for the pilot survey was in place through a local school district, university, and practicing accounting firm located in the Southeast area of the United States. These participants are as follows:

1. A graduate school of educational leadership faculty member
2. A practicing certified public accountant (e.g., external school auditor)
3. A practicing superintendent
4. A practicing deputy superintendent
5. A practicing district financial officer
6. A practicing high school principal
7. A practicing school financial secretary (e.g., bookkeeper)

Following recommendations from Cibbons and Walters (2012), a step-by-step summary accompanied the Delphi technique. The Level 1 - Delphi Pilot technique is as follows:



FIGURE 9: Level 1 – Delphi Pilot

- Step 1. Used NCDPI, NCASA, NCPAPA, NCACPA, and University of North Carolina's System of Researchers in Educational Leadership that identified six potential Delphi Pilot diverse expert panel members.
- Step 2. Delphi Pilot, Figure 9, was primarily used to develop Delphi I Round One instrument for clarity of instructions, validity, and usability. Six emails were sent to one of each of the diverse group of experts (e.g., superintendent, deputy superintendent, director of finance, external auditor, professor of educational leadership, principal, and bookkeeper)

with three responses returned within 3 days, see Appendix D. In regards to the GoogleForms web design of the instrument, only one (1) modification was suggested. Therefore, spacing and visual displaying adjustments were made for preparation of Level 2 - Delphi I, Round One.

### 3.6.2 Level 2 - Delphi I

The second level of this study was Delphi I. The purpose of Delphi I built a consensus among experienced executives and professionals that evaluate, monitor and administrate principals on managing school finance. Using the edited version from Level 1 - Delphi Pilot, this iterative process was forwarded to the first five groups of diverse professional experts. A panel of experts and process were as follows:

1. A practicing graduate school of educational leadership and administration (e.g., assistant, associate, or full professor)
2. A practicing certified public accountant (e.g., external school auditor)
3. A practicing school superintendent and deputy superintendent (e.g., associate or assistant superintendent)
4. A practicing school district financial officer (e.g., director or executive of finance)
5. A practicing school financial secretary (e.g., bookkeeper)

Following recommendations from Cibbons and Walters (2012), a step-by-step summary follows the Delphi technique in soliciting diverse expert panelists, and Figure 10 illustrates this three-round process. These steps are as follows:

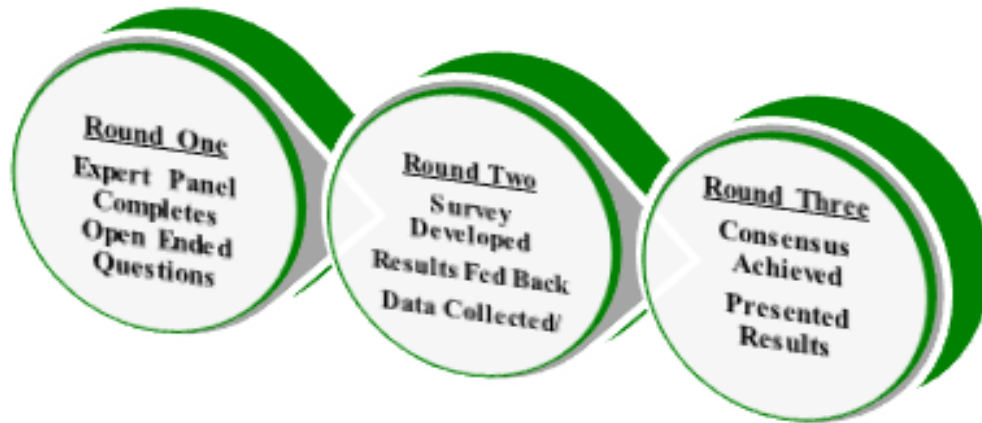


FIGURE 10: Level 2 – Delphi I

- Step 3. Submitted an email of introduction and research flyers attached explaining the research study, purpose, and requesting participation sent to over 80 potential expert panel members, see Appendix E.
- Step 4. A follow-up email accompanied text messages encouraging participation in this study and the answering of individual questions if necessary.
- Step 5. As in similar Delphi studies, anticipating the need to follow up with expert panel members for response was appropriate (e.g., Mirra, 2004, and Shelton, 2010). This reminded each participant to continue being a part of the iterative process in order to properly complete Round One. This anticipation was prepared for sending two days before Level 1 - Delphi I - Round One closed to members that have not completed the survey.
- Step 6. Upon retrieval of electronic consent forms and obtaining 30% (23) of an acceptance rate agreed to participate (while anticipating dropouts), plans to initiate Level 2 - Delphi I - Round One began.

## Level 2 - Delphi I – Round One

- Step 7. An initial email providing GoogleForms link to open-ended questionnaire survey was sent to each participant. A copy of initial survey instrument was provided as a hyperlink on the first page of the survey so expert panel members could respond to the three research questions. Of the 23 panelists that participated in Round One, 46 responses were received in total.
- Step 8. Collection and analyzing from Delphi I - Round One required unpacking. These responses were reviewed for duplications and multiple descriptors in statements. Responses with multiple descriptors were separated into single descriptor statements. All statements were color-coded and sorted.
- Step 9. After removing statements that were not applicable, three domains were identified (i.e., accounting, budgeting, and funding). The domains and number of responses were grouped as duplicates (e.g., 4, 3, and 2) statements, see Appendix E. As it relates to research questions 3.2.1, Appendix E illustrates the statements and number of responses to the competencies needed to become an effective principal on school finance.
- Step 10. As it relates to research questions 3.2.1 and 3.2.3, processing and continuity to the responses were kept. However, repeating the same process, it was discovered that responses were far less in number and similar to that of Step 8 (e.g., 27 and 23), see Appendix E. Essentially, these responses repeated themselves but in a different context. Also, this researcher identified some statements that were not appropriate

responses (e.g., equivalent to no law courses also, and don't mess up money, etc.). Therefore, color coding and sorting were not necessary in order to develop the instrument. Pursuant to the construction of these appendices and identifying these domains towards these research questions, this researcher prepared to deploy Delphi I - Round Two.

#### Level 2 - Delphi I – Round Two

Step 11. Delphi I - Round Two survey instrument was developed for online delivery based on the results from Delphi I - Round One. Delphi I - Round Two provided a copy of qualitative responses to each research question from Delphi I - Round One. This data and suggestions for revisions were evaluated by the panel of experts. Aggregation found patterns and themes used to share with the panel of experts (e.g., knowledge and understanding) is the main focus from these panelists.

Step 12. A follow-up email was sent to expert panel members so that completing the revisions of the survey after one week reminded participants if necessary.

#### Level 2 - Delphi I - Round Two

Step 13. Delphi I - Round Two email was deployed to panelists (i.e., initial respondents to Delphi I - Round One with Round One responses to all research questions), see Appendix F. This email offered panelist to review and revise previous statements using anonymous groupthink.

Step 14. An additional follow-up email two days before Delphi I - Round Two ended was sent to remind participants to complete the survey.

Step 15. Panelists offered suggestions to revise. One response suggested the researcher consider that some statements speak to all three domains and are not mutually exclusive (e.g., protocols are not separate from accounting, budgeting, and funding). This suggested that “knowing” and “understanding” may have protocols for all domains and looping these statements had possibilities. Also, another response suggested numbering the statements before deploying Round Three so that respondents know the number of statements before evaluation took place. Heeding these suggestions, the construction of Round Three reduced the number of statements for each research question for the Ten-point Likert Type Scale, see Appendix F.

#### Level 2 - Delphi I – Round Three

Step 16. Round Three was delivered to the panel of experts with a format that allowed for an evaluation of 26 statements encompassing all three research questions on a Ten-point Likert-Type Scale, “least important” to that of “most important.” This researcher allowed panelists another five days for completion before survey participation was closed.

Step 17. Pursuant to the receipt of responses, it was determined that Round Three met consensus on 19 statements. Agreement among panelists was above 90 percent.

Step 18. Once data was collected and analyzed from Delphi I - Round Three, statistical analysis (Statistical Package for Social Sciences) was used to verify aggregation. Appendix G illustrates the results in the



development of this instrument to be used in Level 3 - Delphi II for all research questions.

Step 19. Since consensus was achieved by panel members equaling a 70% group agreement, reciprocal feedback to the expert panel in Delphi I - Round Three, and Delphi I was closed.

Step 20. Expert panelists responses were converted to numerical values as follows: least important = 1 -3; slightly important = 4 – 6; and, most important = 7 – 10. Using SPSS Version 16.0, a statistical report was created based on data collected, see Appendix G.

Step 21. Afterwards, descriptive statistics provided the mean, standard deviation, variance, and percentage of panelists that scored each item. Using Delphi, the Mirra (2004) study allowed strikethroughs to delineate those items not meeting consensus alongside statements that converged on an agreement. This researcher did the same, see results of Delphi I (Appendix G).

Step 22. Since Level 2 - Delphi I - Round Three did end the process, a thank you email for participation was sent to each member of the expert panelists along with a copy of the results on school financial management. Preparation for Level 3 - Delphi II began.

### 3.6.3 Level 3 - Delphi II

The final level of this study was Delphi II. In Delphi I, a consensus was achieved in Round Three and results were delivered and collected to participants for Delphi II. Because this study was building a consensus for principal preparedness, Delphi II completed the process by inviting high school principals only, see Appendix H. Since

competencies were now built, this researcher sought to examine the high school principals' ranking of importance; to the extent to which learning took place in a principal preparation program; and, to the extent to which learning took place through district professional development. The Level 3 - Delphi II process used the Likert-Type Scale that was developed in Level 2 - Delphi I and allowed for principals to add to these responses. This means Level 3 - Delphi II was without revisions to Delphi I (e.g., the opinions of school executives, researchers and bookkeepers); however, principals were allowed additional input to Level 2 - Delphi I responses. In Level 3 - Delphi II, the opinions of school principals were building a consensus by prioritizing the results from Level 2 - Delphi I. The rationale was to establish both priority and variance(s) among the panel of experts on competencies, principal preparedness, and professional development for school financial management. Thereby, this researcher repeated steps 3 through 22 to reach consensus for Level 3 - Delphi II, see Figure 11 for a two-round illustration. At the end of Delphi II, a consensus was achieved through principals on what is needed to become an effective steward of school finance by identifying needed competencies and topics for university-based principal preparation programs and district professional development. Level 3 - Delphi II unfolded as follows:



FIGURE 11: Level 3 – Delphi II

### Level 3 - Delphi II

- Step 23. Submitted an email of introduction and research flyers attached explaining the research study, purpose, and requesting participation sent to over 21 potential expert panel members, see Appendix H.
- Step 24. A follow-up email accompanied text messages encouraging participation in this study and the answering of individual questions as necessary.
- Step 25. As in similar Delphi studies, anticipating the need to follow up with expert panel members for response was appropriate (e.g., Mirra, 2004, and Shelton, 2010). This reminded each participant to continue being a part of the iterative process in order to properly complete Delphi II Round One. This anticipation was prepared for sending three days before Delphi II - Round One closed to members that have not completed the survey.
- Step 26. Upon retrieval of electronic consent forms and obtaining 95.2% (20) acceptance rate plans to initiate Delphi II - Round One began.

### Level 3 - Delphi II – Round One

- Step 27. An initial email providing a GoogleForms link to an open-ended questionnaire survey was sent to each participant. A copy of initial survey instrument provided as a hyperlink on the first page of the survey so expert panel members could review Delphi I results to the three research questions.
- Step 28. Panelists were given the opportunity to make additions to the previous instrument in Delphi I; however, they were not allowed to revise. This

was to discover if high school principals consider a topic is missing and needed to be a part of the calculation.

### Level 3 - Delphi II – Round Two

Step 29. Once deployed, this researcher allowed these panelists seven (7) days to participate before closing the survey which produced 16 completed responses. This was a response rate of 80% to that of participation in Round One.

Step 30. In Round Two, a consensus was achieved by panelists attaining a 70% group agreement (threshold) on all research questions with a strikethrough for those statements that did not meet for group agreement.

Step 31. Once data was collected and analyzed from Delphi II - Round Two, statistical analysis (Statistical Package for Social Sciences) was used to verify aggregation.

Step 32. Since Delphi II - Round Two did end the process, a thank you email for participation was sent to each member of the expert panel along with a copy of the results on school financial management.

Step 33. Afterwards, panelists that completed the Delphi processes were provided the steps to receive a \$25 Amazon gift card as earlier advertised.

## 3.7 Summary of Panelists and Diversity

### 3.7.1 Panel Participants

Similar to Torrance (2012) works on triangulation, and Landetta (2006) panel summary, this researcher followed also. That is, panels with professionally diverse responsibilities on the same topic enrich a discussion (Torrance, 2012). Therefore, a key

factor of Delphi was the qualifications of the expert panel of participants (Landetta, 2006). Consistent with suggestions from Landetta (2006) and Torrance (2012), this researcher sought over 80 perspective expert panel participants identified through networking registers which included but not limited to membership access of the listserv. This listserv came from North Carolina Department of Public Instruction, North Carolina Association of School Administration, North Carolina Principals and Assistant Principals Association, University of North Carolina's System of Researchers in Educational Leadership, and special permission to access a separate agency, the North Carolina Association of Certified Public Accountants. Due to the various professional backgrounds represented, along with five years of professional experience, this researcher identifies these panel participants as diverse and complimentary to the Delphi process. Of the 80 invited to participate, 36 experts completed the surveys for Delphi I and II, respectively. Typical in the Delphi process, expert participants began with the iterations but did not complete all rounds. As confirmed by previous literature, it was difficult to keep a panel of experts engaged in this 10 week process. Although this study was deployed to mostly educators during school ending and summer months of the school year (May – July), sustained membership was well above the 70% rate recommended by Hasson et al., (2000). Table 5 shows the panel of participation rate per round was between 80% and 95%. In addition, the panel of experts represented a professionally diverse group that added to the reliability of data collected.

TABLE 5: Percentage of Expert Panel Membership Participation for Delphi I and II by Rounds

Delphi Level	Delphi Round	Experts Enlisted	Experts that Completed Survey	% Response Rate
Delphi I	One	26	23	88.4
	Two	23	22	95.6
	Three	20	19	95.0
Delphi II	One	21	20	95.2
	Two	20	16	80.0

### 3.7.2 Professionally Diverse Expert Panel

Consistent with works by Streveler et al., (2003) diverse membership in this study was represented. Various opinions and insights to principal preparedness (e.g., supervisory and evaluative) allowed a balance to this panel participation for reliable groupthink (Clayton, 1997). For example, Table 6 illustrates that although not a large number of participants for Level 2 - Delphi I was evident, a diverse membership made a contribution to reach a consensus which developed the instrument for Level 3 - Delphi II.

TABLE 6: Level 2 - Delphi I - Diverse Expert Panel Membership

Members	Number of Participants
Superintendent	3
Associate or Assistant Superintendent	3
Director or Executive of School District Finance	4
Professor or Associate Professor of Educational Leadership	4
External Auditor or Certified Public Accountant	2
Bookkeeper or School Financial Secretary	3
Total participants	19

‘In Table 6, of the 19 panel members for Level 2 - Delphi I, no one group of members were over or under-represented. In fact, there was only a 10% difference that exists between the smallest group of panel members (external auditor or certified public accountant) to that of the largest group of panel members (director or executive of school district finance and professor or associate professor of educational leadership).

### 3.8 Summary

This chapter explains the research design, process, and validity. In addition to introducing the research method – Delphi (i.e., who, what, when, and how) the three research questions were answered. This chapter explains how the building of a consensus for principal preparedness on school financial management was processed. This chapter outlines the three Delphi Levels (i.e., Delphi Pilot, Delphi I, and Delphi II), panel selection process, describes iterations, characteristics, and expectations, and shows the development of processing the general rounds for Delphi I and II. Within the processing of Level 2 – Delphi I, two themes (e.g., knowledge and understanding), and three domains emerged (e.g., accounting, budgeting, and funding) were discovered. Lastly, it set the stage for data presentation and findings towards the answering of research questions.

## CHAPTER 4: PRESENTATION AND ANALYSIS OF THE DATA

### 4.0 Introduction

Three Levels of Delphi were used to build a consensus for principal preparedness on managing school finance. However, this chapter lists, answer, and then analyses the presentation of the data specific to Level 3 – Delphi II. A set of 16 panelists, high school principals, were used to add to the previously developed instrument (i.e., Level 2 – Delphi I), then later come to a consensus and prioritized by ranking importance. This chapter organizes the data and findings using Level 3 – Delphi II alone. It places emphasis on the final consensus to set a stage for this study's analysis regarding the three research questions. After this, it presents the data that summarizes results of both Level 2 and Level 3 Delphis to illustrate the sizeable agreements and the slight differences between the two. The results of the group consensus are presented below.

#### 4.1 Research Questions and Results of Level 3 - Delphi II

The central purpose of this dissertation was building a consensus on the competencies principals need to become effective stewards on managing school finance, and discover the extent to which preparedness was evident. As a result, only the results and findings of Level 3 - Delphi II answer the three research questions. Thus, a presentation and analysis of the data are as follows:



#### 4.1.1 What competencies are necessary for principals to become effective stewards in managing school finance?

The findings in Level 3 - Delphi II produced nineteen (19) competencies as suggestive skills needed for principals to become effective stewards in managing school finance. This Delphi II instrument was developed from the input gleaned from the Delphi I survey. In Level 3 - Delphi II, panelists are high school principals only and were asked to rate each survey statement within the Ten-point Likert-Type Scale: least important = 1 – 3; slightly important = 4 – 6; and, most important = 7 – 10. The panel was considered to have reached consensus with a 70% threshold upon more than 85% of the statements in the three highest values on the scale.

While collecting data for findings and presentation, this researcher discovered two themes emerge in order to be used for the Level 3 - Delphi II instrument. Particularly, panelists were replete with respondents beginning statements that sought more “... knowledge and understanding ...” In addition, three (3) domains were presented that supported the need to gain knowledge and understanding of (a) accounting, (b) budgeting, and (c) funding.

##### Accounting

Table 7 provides another lens to how the accounting domain lends itself to the competencies discovered. It shows the beginnings of a more tailored baseline. It summarizes the findings of this study’s development of competencies principals need to become effective stewards of managing school finance towards the domain of accounting.

TABLE 7: Prioritized Summary of the Findings of Competencies Principals Need to Become Effective Stewards on School Financial Management with the Research Domain of Accounting with Percentage

Statement	Domain	%
Understanding what potential fraud looks like	Accounting	100
The Principal should be “least concerned” vs “most concerned” about a bookkeeper that is over eager to collect money from students or work concessions	Accounting	93.3
Knowing and understanding appropriate procedures for fundraising	Accounting	87.6
Knowing the rules governing vendors and procurement	Accounting	87.6
Detecting fictitious expenditures to that of legitimate transactions	Accounting	86.7
The Principal should be “least concerned” vs “most concerned” about a bookkeeper that is disgruntled about being overworked and underpaid	Accounting	81.4
Knowing the rules governing cash disbursements, receipts, and petty cash	Accounting	80.9
Knowing and understanding of monthly financial reporting	Accounting	75.1
The Principal should be “least concerned” vs “most concerned” about a bookkeeper that has personal financial issues	Accounting	73.4

Principals reported lacking knowledge and understanding on the recording of financial transactions so that financial reports submitted by the school bookkeeper are valid and reliable. As a result, this study shows a significant need for principals to identify fictitious transactions, recognize fraud, and acknowledge patterns of impropriety.

#### Budgeting

Principals reported lacking knowledge and understanding on strategic planning on both developing budgets with stakeholders and measuring money flows. Table 8 shows the beginnings of a more tailored baseline. It summarizes the findings of this study’s development of competencies principals need to become effective stewards on managing school finance towards the domain of budgeting.

TABLE 8: Prioritized Summary of the Findings of Competencies Principals Need to Become Effective Stewards on School Financial Management with the Research Domain of Budgeting with Percentage

Statement	Domain	%
Identifying the financial needs for a school (i.e., sifting through what is most important for improving student achievement)	Budgeting	100
Knowledge on how to facilitate a School Improvement Team in building a budget that aligns with expenditures and goals	Budgeting	100
Knowing how to develop and manage a budget	Budgeting	93.8
Knowledge on how to do a cost analysis on effective student learning programs to improve student performance	Budgeting	92.8
Knowing and understanding budgets relating to district/school financial goals	Budgeting	87.6
The Principal should be “least concerned” vs “most concerned” about a bookkeeper that does not care for help or backup on financial management	Budgeting	81.3
Knowing and understanding budget codes (chart of accounts)	Budgeting	73.4

### Funding

Principals reported lacking knowledge and identifying the specific financial goals for district and school. Needed was more clarity and focus on analyzing financial reporting, sources of funding, and proper techniques used to process monies in order to accomplish funding objectives. In this study, principals provide a desire for understanding cost analysis as it relates to instructional investments. Table 9 shows the beginnings of a more tailored baseline. It summarizes the findings of this study’s development of competencies principals need to become effective stewards on managing school finance towards the domain of funding.

TABLE 9: Prioritized Summary of the Findings of Competencies Principals Need to Become Effective Stewards on School Financial Management with the Research Domain of Funding with Percentage

Statement	Domains	%
Knowing the protocols for using discretionary funds	Funding	100
Knowing and understanding the source(s) related to the allotment of funds	Funding	93.9
Knowledge on how the State funding formula is used and the impact it has on school level budgets	Funding	92.9

More specifically, Tables 7, 8, and 9 show the beginning stages of a more tailored baseline. It summarizes the findings of this study's development of competencies principals need to become effective stewards on managing school finance. It categorizes the three research domains to the competencies so that principal preparation programs and school district professional development programs can arrange learning standards and elements for future delivery and planning.

High school principals met consensus in Round Two. Allowing these panelists seven (7) days to participate before closing the survey produced 16 members in completing responses. This was a response rate of 80% to that of participation in Round One. Additionally, because this methodology sought prioritizing responses, results are ranked in descending order, see Table 10. Those statements not meeting group consensus (strikethroughs) were not considered for analysis, but a presentation of data are made available to the reader (e.g., Mirra, 2004). Also, for consistency, this researcher describes the statistically descriptive results of the findings similar to that of other Delphi scholars (e.g., Mirra, 2004; and, Shelton, 2010). The description is as follows:

Results for competencies necessary for principals to become effective stewards on managing school finance showed a group  $M = 8.30$ ,  $SD = 1.47$ , and  $\sigma^2 = 2.35$ . These statistically descriptive results suggest that high school principals varied little from one another in this groupthink as the average distance of the average scores were consistently close in range.

TABLE 10: Prioritized Results of Level 3 - Delphi II - Mean, Standard Deviation, Variance, and Percentage on Panel of Experts Rating Statements Pertaining to What Competencies are Needed for Principals to Become Effective Stewards of School Financial Management

	Statement	$N$	$M^a$	$SD$	$\sigma^2$	$\%^b$
1.	Knowing the protocols for using discretionary funds	16	8.81	1.04	1.09	100
2.	Understanding what potential fraud looks like	16	9.50	0.89	0.80	100
3.	Identifying the financial needs for a school (i.e., sifting through what is most important for improving student achievement	14	8.71	1.13	1.29	100
4.	Knowledge on how to facilitate a School Improvement Team in building a budget that aligns with expenditures and goals	14	8.71	1.26	1.60	100
5.	Knowing and understanding the source(s) related to the allotment of funds	16	8.94	1.23	1.52	93.9
6.	Knowing how to develop and manage a budget	16	9.19	1.22	1.49	93.8
7.	The Principal should be “least concerned” vs “most concerned” about a bookkeeper that is over eager to collect money from students or work concessions	15	7.80	1.20	1.45	93.3
8.	Knowledge on how the State funding formula is used and the impact it has on school level budgets	14	8.36	1.33	1.78	92.9

TABLE 10 - continued

9.	Knowledge on how to do a cost analysis on effective student learning programs to improve student performance	14	8.36	1.27	1.63	92.8
10.	Knowing and understanding budgets relating to district/school financial goals	16	8.25	1.84	3.40	87.6
11.	Knowing and understanding appropriate procedures for fundraising	16	8.31	1.40	1.96	87.6
12.	Knowing the rules governing vendors and procurement	16	7.38	1.25	1.58	87.6
13.	Detecting fictitious expenditures to that of legitimate transactions	15	8.80	1.69	2.88	86.7
14.	The Principal should be “least concerned” vs “most concerned” about a bookkeeper that is disgruntled about being overworked and underpaid	16	7.56	1.89	3.59	81.4
15.	The Principal should be “least concerned” vs “most concerned” about a bookkeeper that does not care for help or backup on financial management	16	7.06	1.84	3.38	81.3
16.	Knowing the rules governing cash disbursements, receipts, and petty cash	16	7.88	1.62	2.65	80.9
17.	Knowing and understanding of monthly financial reporting	16	8.00	2.09	4.40	75.1
18.	Knowing and understanding budget codes (chart of accounts)	15	7.87	2.41	5.83	73.4
19.	The Principal should be “least concerned” vs “most concerned” about a bookkeeper that has personal financial issues	15	7.33	2.66	7.09	73.4
20.	<del>Knowing how to reconcile and balance monthly bank statements</del>	<del>16</del>	<del>7.06</del>	<del>2.38</del>	<del>5.66</del>	<del>68.9</del>
21.	<del>Understanding the functionality of a general ledger</del>	<del>16</del>	<del>6.75</del>	<del>2.49</del>	<del>6.20</del>	<del>62.7</del>
22.	<del>The Principal should be “least concerned” vs. “most concerned” about a bookkeeper that does not like to take time off</del>	<del>16</del>	<del>6.38</del>	<del>1.85</del>	<del>3.45</del>	<del>56.4</del>
23.	<del>Knowing and understanding</del>	<del>16</del>	<del>7.13</del>	<del>2.24</del>	<del>5.05</del>	<del>56.3</del>

TABLE 10 - continued

24.	<del>accounting principles and protocols</del> <del>Knowledge on internal systems of</del> <del>control (financial software)</del>	16	5.69	2.02	4.09	43.9
-----	--	----	------	------	------	------

<sup>a</sup> Rating scale used was 1-3 = least important, 4-6 = slightly important, 7-10 = most important.

<sup>b</sup> Percentage of Responses in the most favorable categories of the rating scale (most important, a 70% threshold).

Any difference found was nominal in that group agreement, above 73% of responses to this research question. In addition, statistical results fall within 95% of the mean (two standard deviations). This finds that 5% of high school principals only deviate from agreement towards the 19 competencies developed in Level 3 - Delphi II. Combined with a tight measure of spread across this dataset, this suggests that data collection did not occur by chance. For example, “knowing the protocols for using discretionary funds” reporting a 100% agreement; “knowing and understanding the source(s) related to the allotment of funds” was 94 percent; and, “knowing how to develop and manage a budget” ranked above 93 percent as well.

#### 4.1.2 To what extent are university and principal preparation programs providing principal training for managing school finance?

The data found that principals’ “on the job experience” appears to be the primary source for principal preparation. Level 3 - Delphi II found that “preparation could be more practical based than theoretical” and that “preparation could be more than one class” while in a preparation program. Table 11 shows the results of Level 3 - Delphi II. The findings strongly suggest that principals possess sizeable agreement on not receiving appropriate preparation from university or principal preparation programs on managing school finance.

TABLE 11: Prioritized Results of Level 3 - Delphi II - Mean, Standard Deviation, Variance, and Percentage on Panel of Experts Rating Statements Pertaining to What Extent are University or Principal Preparation Programs Preparing Students on School Financial Management

	Statement	<i>N</i>	<i>M<sup>a</sup></i>	<i>SD</i>	$\sigma^2$	% <sup>b</sup>
1.	Preparation could be more practical based than theoretical	16	9.56	0.62	0.39	100
2.	On the job experience appears to be the primary preparation	16	8.94	1.84	3.39	87.6
3.	Preparation could be more than one class	16	8.25	2.40	5.80	75.2
4.	<del>Preparation could be more theoretical based than practical</del>	<del>16</del>	<del>3.81</del>	<del>2.28</del>	<del>5.22</del>	<del>12.6</del>

<sup>a</sup> Rating scale used was 1-3 = least important, 4-6 = slightly important, 7-10 = most important.

<sup>b</sup> Percentage of Responses in the most favorable categories of the rating scale.

This Level 3 - Delphi II instrument was developed from the input gleaned from the Level 2 - Delphi I survey. In Delphi II, panelists are high school principals only and were asked to rate each survey statement within the Ten-point Likert-Type Scale: least important = 1 – 3; slightly important = 4 – 6; and, most important = 7 – 10. The panel was considered to have reached consensus with a 70% threshold upon more than 75% of the statements in the three values on the scale.

#### 4.1.3 To what extent is school district professional development providing principal training for managing school finance?

The data found that school districts do not provide professional development on managing school finance. It reports that although principals purported a high level of importance in regards to “...training ... should be more of a priority,” on the job experience through trial and error is arguable, sees Table 12. Therefore, with “no” or “little to none” professional development on this area of study, effectiveness is pursuant to on the job experience by itself.



TABLE 12: Prioritized Results of Level 3 - Delphi II - Mean, Standard Deviation, Variance, and Percentage on Panel of Experts Rating Statements Pertaining to What Extent are School Districts Providing Professional Development for Principals on School Financial Management

	Statement	<i>N</i>	<i>M</i> <sup>a</sup>	<i>SD</i>	$\sigma^2$	% <sup>b</sup>
1.	Minimal training is provided and it “should be more of a priority”	15	9.33	0.81	0.66	100
2.	No training is provided and it “should be” more of a priority	15	8.93	1.66	2.78	93.3

<sup>a</sup> Rating scale used was 1-3 = least important, 4-6 = slightly important, 7-10 = most important.

<sup>b</sup> Percentage of Responses in the most favorable categories of the rating scale (most important, a 70% threshold).

This Level 3 - Delphi II instrument was developed from the input gleaned from the Level 2 - Delphi I survey. In Delphi II, panelists are high school principals only and were asked to rate each survey statement within the Ten-point Likert-Type Scale: least important = 1 – 3; slightly important = 4 – 6; and, most important = 7 – 10. The panel was considered to have reached consensus with a 70% threshold upon more than 93% of the statements in the only two values on the scale.

#### 4.2 Delphi I and II Summary

Although the findings of Level 3 – Delphi II answer the research questions, this researcher found sizable agreements among the panelists of both datasets, Level 2 – Delphi I. On its face, this summary sets a stage for future research discussion and recommendations.

For example, Table 13 shows that when comparing the results for competencies necessary for principals to become effective stewards on managing school finance a group  $M = 8.30$ ,  $SD = 1.90$ , and  $\sigma^2 = 3.92$ , and  $M = 8.30$ ,  $SD = 1.47$ , and  $\sigma^2 = 2.35$ , represents a

(0.00, 0.43, and 1.57) point difference relating to data collected between Delphi I and II.

Only a slight statistical difference is gleaned comparing the agreements between Delphi I and II. However, the difference is nominal in that group agreements are above 87% on all research question responses. Furthermore, the data showed that agreement across both datasets is similar.

TABLE 13: Summary Average of Results of Delphi I and Delphi II by Research Questions with Mean, Standard Deviation, Variance, and Percentage

Delphi Level	Research Question	<i>N</i>	<i>M<sup>a</sup></i>	<i>SD</i>	$\sigma^2$	% <sup>b</sup>
Delphi I	4.1.1	19	8.30	1.90	3.92	87.11
	4.1.2	18	8.32	1.89	3.67	91.45
	4.1.3	19	8.68	1.97	4.03	88.95
Delphi II	4.1.1	16	8.30	1.47	2.35	89.35
	4.1.2	16	8.91	1.62	3.19	87.60
	4.1.3	15	9.13	1.23	1.72	96.65

<sup>a</sup> Rating scale used was 1-3 = least important, 4-6 = slightly important, 7-10 = most important.

<sup>b</sup> Percentage of Responses in the most favorable categories of the rating scale (most important, a 70% threshold).

This data summary found that the perception of those that evaluate, teach, supervise, or bookkeep (e.g., panelists of Level 2 - Delphi I) have sizable agreements on the three research questions to that of those that are held solely responsible for school finance (e.g., high school principals, Level 3 - Delphi II).

### 4.3 Summary

In conclusion, the data collection and analysis of Level 3 - Delphi II provide a new lens. First, a list of nineteen competencies provides educational leadership programs and school districts a direction and focus specifically related to managing school finance. This data better equips principals at becoming effective. Now, a stage is set with more than 74% agreement which identifies core standards seeking more knowledge and understanding on this topic. This empirical data shows a relationship between those that prepare, supervise, evaluate, audit, and process the fundamentals of money management to those that are held responsible for it. Second, agreement of nearly 90% is found on perceptions of a university and principal preparation programs needed to be enhanced. This study found those that supervise, evaluate, audit, and process school money management agrees on the awareness that principals are not properly prepared. Moreover, the findings are a confirmation with principal perceptions as well. Last, agreement of more than 90% is found that school districts are not providing principals' enrichment opportunities through professional development. It concludes that school financial management is more of a learned experience while on the job for principals.

## CHAPTER 5: DISCUSSIONS, IMPLICATIONS, RECOMMENDATIONS FOR FUTURE RESEARCH, AND CONCLUSIONS

### 5.0 Preparedness

Shadows still loom over the reality of an unprepared school principal. Earlier, this study set the stage that a lack of proper preparation creates professional inadequacy. If inadequacy follows and mistakes ensue, like clouds that darken the sky, an overcast of shadows cover a principalship due solely to a lack of preparedness.

Preparedness is essential to becoming effective in any profession. This chapter concludes that principals are not properly prepared to become effective stewards on managing school finance. At the same time, this dissertation recommends a list of nineteen competencies that may provide a foundation to do so. For the first time, university, principal preparation programs, and school districts possess a study that provides direction and focuses leading towards principal knowledge and understanding of daily financial matters through a professionally diverse consensus.

Using the Delphi Technique, a consensus was reached among a professionally diverse group of panelists (e.g., superintendents, deputy superintendents, district finance directors, professors of educational leadership, external school auditors, and school bookkeepers) with at least five years of experience. These expert panelists were responsible for developing the instrument which began with sequential questionnaires (e.g., open-ended followed by a Ten-point Likert-Type Scale), quick feedback, and anonymity for its participants until this groupthink converged on the agreement. This was

Level 2 - Delphi I. Next, Level 3 - Delphi II was deployed to only high school principals using the instrument developed in Level – 2 Delphi I until this groupthink converged on the agreement as well. Simply put, ranges of answers decreased as the rounds continue and groupthink convergence towards consensus was achieved on each of the three research questions.

The central purpose of this dissertation was to build a consensus on the competencies principals need to become effective stewards on managing school finance; and, discover the extent to which preparedness was evident. Thus, the research questions are as follows:

- 5.0.1 What competencies are necessary for principals to become effective stewards managing school finance?
- 5.0.2 To what extent are university principal preparation programs preparing students to manage budgets and financial matters?
- 5.0.3 To what extent is school district professional development providing principal training for managing school finance?

## 5.1 Discussions

### 5.1.1 School Finance

This study found two emerging learning themes (i.e., gaining knowledge and understanding), and, three financial management domains (i.e., focus on accounting, budgeting, and funding). Figure 12 illustrates a pathway for learning that North Carolina's principal preparation programs and school district professional development programs can employ from this study's empirical results.

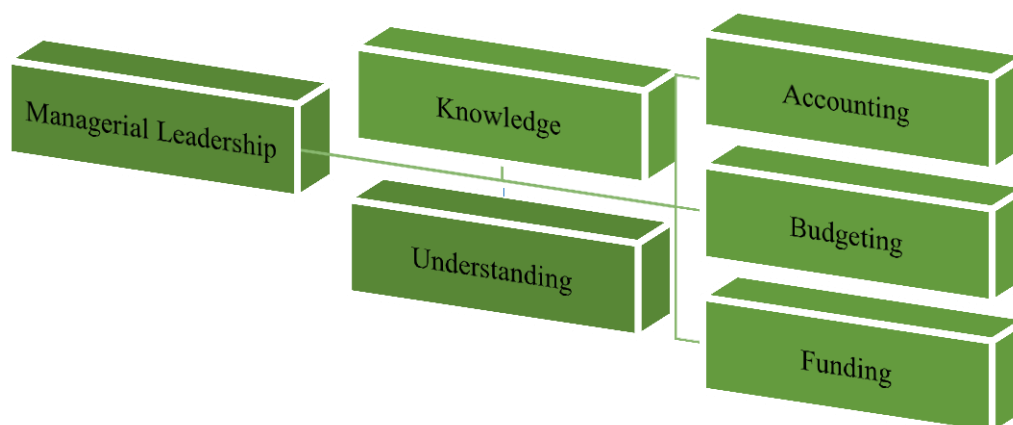


FIGURE 12: Standard 5 Managerial Leadership (School Finance) for North Carolina Principals Evaluation Instrument

As mentioned earlier, North Carolina's Principal Evaluation Instrument is without guidelines and elements that define principal effectiveness on school finance. Specifically, Standard 5 – Managerial Leadership sets the stage for this discussion. Beginning with Standard 5 as a focal point, principal effectiveness is followed by concerted efforts to improve knowledge and understanding. Specific areas of focus for professional development are followed by competencies discovered in this study (accounting, budgeting, and funding). More specifically, the knowing and understanding of accounting, budgeting, and funding is in place to avoid the probable: poor procedural practices and poor cost controls. Supported by the works of Kavanaugh (2008) and conclusions purported by Brinkman et al., (2009), without such skill development mistakes ensue. Not surprisingly, principals need a more tailored outline on managing school finance. This study offers a rationale specific to principals from the findings.

### Accounting

The professionally diverse panelists and principals reported lacking knowledge and understanding on the recording of financial transactions so that summaries submitted by the school bookkeeper are valid and reliable. As a result, this study shows significant needs for principals to identify fictitious transactions, recognize fraud, and acknowledge patterns of impropriety. As more schools become independent bodies of government (i.e., charter schools, ReStart models, and voucher programs) less protection and immediate follow-ups from “central office” will follow. Add to this, less protection alongside less knowledge and understanding of money management inevitably leads to political and professional repercussions.

### Budgeting

These panelists and principals communicated inadequate knowledge and understanding on strategic planning on both developing budgets with stakeholders and measuring money flows. Principals are trained on unpacking curriculum and instructional development. However, followed by a similar approach towards managing school finance is requiring a template or training not provided today in this professional arena.

### Funding

Also, this group claimed an absence of knowledge and identifying the specific financial goals for district and school. Needed was more clarity and focus on analyzing financial reporting, sources of funding, and proper techniques used to process monies in order to accomplish funding objectives. In this study, principals provide a desire for understanding cost analysis as it relates to instructional investments. In essence, Level 3 - Delphi II results found the research literature and theory for principal preparedness on managing school finance to match.

### 5.1.2 Statistical Agreement

Findings show that the competencies necessary for principals to become effective stewards managing school finance (e.g., 5.0.1), 19 statements met the 70% threshold of the converged agreement. This list of competencies shows an overall  $M = 8.30$  and  $SD = 1.47$ . While measuring the spread of this data, a close clustering around the average (i.e., a low and steep normal curve) became evident. This means the data fell within the range of the mean, slightly below 2 standard deviations. This strongly suggests that average agreement on what competencies principals need to know and understand on managing school finance was in 95% agreement. Additionally, this exemplifies that because the group converged on agreement above 85% of the statements, less than 5% of the panelists deviate in agreement with the others (i.e., non-random fluctuation with the results).

As it relates to principal preparedness on managing school finance, a lack of formal training exists (e.g., 5.0.2). For example, panelists of both datasets report that over 87% agree that university and principal preparation programs are not properly preparing students for effective stewardship on managing school finance. Also, the same datasets report that over 90% agree that school districts are not providing professional development on school financial management (e.g., 5.0.3). Not surprisingly, the agreement is found in the theoretical aspects of the professional literature also.

### 5.1.3 Theoretical Agreement

This study found connections with previous professional theories. Using the works of Sanchez and Heene (2004), and Knowles (1984), the theoretical framework shows a connection with the findings from this study. This theoretical agreement shows that effectiveness through competence-based strategic management explains how an organization (e.g., principal preparation programs and school districts) can develop a



systematic and structural set of skills. This study identifies specific skills that when incorporated can sustain high performance for a significant period of time.

Through the works of Hess and Kelly (2005), this study argued that little prepares a principal for managing school finance. Moreover, principals are not required to demonstrate competencies for supervising budgets or funds (Stoskopf, 2013).

Additionally, no foundational knowledge covers daily routines of accounting principles byway of principals' internships either (Gonzales, 1997). These professional theories found agreement when professionally diverse panelists alongside the consensus of high school principals responded to this study. Compelling is the consistency to which the extent these panelists provided less than five statements to describe the limited knowledge and understanding gained while students matriculate through a principal preparation program. The literature review theorized that principals being effective to require knowledge, understanding, and competence (Mutter & Parker, 2004; Sanchez & Heene, 2004; and, Sergiovanni, 2006). The results of this study agree with these scholars. Add to this, Hix (2013) offers the theory that adult learners (principals) master effectiveness through professional settings sponsored by their district(s). Panelists in this study posited that "little to none" of school financial management is district sponsored, but learning is gained while "... on the job ...". Although these results found connections to previous literature, study limitations exist.

#### 5.1.4 Limitations

Using Delphi as a method for this study allowed for consensus building only. In this study, the Delphi technique is limited to collection and analysis of the opinions of experts for prioritizing group agreements (Dalkey & Helmer, 1963). This dependency upon the independent opinions of experts converging on agreement means an iterative

process is imposed (Helmer & Rescher, 1959). Although this study was limited to two and three iterative rounds (Level - 2 and Level - 3) to meet consensus, many studies carry this process beyond four rounds. Usually, more rounds suggest more divergence in agreement (Franklin & Hart, 2007). That was not the case in this study.

Additionally, this study posited slightly above the suggested number of participation for a Delphi deployment - nineteen and sixteen. Considering data collection was processed during the beginning summer school months (i.e., the year-end closing of university principal preparation programs and public school districts), the months of May – July may have limited a robust number of participants.

Consistent with Hsu and Sandford (2007) findings of Delphi weaknesses, this study's processing of data collection was limited. That is transparency of the results was dependent upon this researcher. Initial responses to open-ended questions and modifications before the Ten-point Likert-Type Scale deployment were contingent upon this researcher's integrity with the results. Therefore, this researcher controlled potential flaws by following the suggestions of Mirra, 2004 and Shelton, 2010 by employing a pilot test. Level 1 - Delphi Pilot was limited to the open-ended portion of Delphi alone. This means the researcher experienced the collection of responses, reciprocal feedback, iterations, and data while processing Level 2 - Delphi I and Level 3 – Delphi II.

#### 5.1.5 Gaps

Despite the limitations purported in this study and given what was found in the data, this research begins to fill-in two gaps discussed in the literature. First, when competency development is agreeable through consensus, a needs assessment is best to follow (Reeves, 2010). Bartram (2005) argues that all operational aspects of managing school finance are evaluative and shed another lens on competency development.

Therefore, this study starts to shed a light and slightly pull away from the shadows on school financial management that exists. Second, no empirical consensus building among leadership in education exists (Somerville, 2008). In addition to limited studies for principal preparedness on managing school finance, there equally is a gap involving the research methods used to analyze what is necessary for principal preparedness.

## 5.2 Implications

The findings of this study imply that Anne's and Todd's professional circumstances are microcosms of how "paperwork" tracking in school finance can hurt a principal due to lack of preparedness. Before this work, Anne and Todd were without a baseline to measure their knowledge and understanding regarding school finance. These competencies may have provided them with a more positive outcome.

Although Delphi brought about many agreements in this area of study, the data gleaned a focus on supervising the school bookkeeper. In Level 2 - Delphi I, two panelists, external school auditors (e.g., certified public accountants), provide nine responses specific towards avoiding potential fraud from daily money management. As mentioned earlier, there are theories on the knowledge that the school bookkeeper possesses beyond his/her supervisor the principal. Having this, the principal is vulnerable to the "look-fors" while supervising a bookkeeper. However, until Level 2 - Delphi I was deployed, responses such as "bookkeeper with ... significant personal financial issues," and "bookkeeper living beyond their means" was not a theoretical consideration. Not only were these responses (statements) a part of the instrument for panelist to measure - results ranked each of the nine statements as most important within the top 15 of the 19 provided, see Appendix G. However, Level 3 - Delphi II (e.g., high school principals) ranked these statements throughout the data spread without any rational pattern. Strangely, it suggests that those

supervising bookkeepers daily do not possess the same perspective as their superiors (e.g., superintendents, deputy superintendents, directors of district finance, external auditors, and professors of educational leadership).

Indeed, this uniqueness adds to the academic discussion. Even so, part of this phenomenon matches the emerging themes as well. A clear desire to pursue “knowing” and “understanding” the fundamentals of managing school finance was evident in the open-ended responses of panelists for Level 1 - Delphi Pilot and Level 2 - Delphi I. This implies that panelists of all three Levels of Delphi were clearly aware of what learning behaviors may bridge the gaps in being effective towards managing school finance. Add to this, the literature review of this study makes a connection with its findings that effectiveness begins with knowing and understanding. Therefore, research implication returns this researcher to the discussion on North Carolina’s Principal Evaluation Instrument and that of measuring effectiveness of principals.

Managerial Leadership requires principals to practice, create, and provide balanced operations relating to budgets in school programs and activities (North Carolina Department of Public Instruction, 2006). Through external reviews such as budget and financial audits, principals’ artifacts are required to show a principal is being effective within this standard, particularly on financial preparedness (NCDPI, 2008). This Standard for evaluation purposes continues to operate untested (Miriti, 2014). In addition, Miriti (2014) notes that knowledge and understanding related to school financial management continues to be critiqued. Moreover, studies and principal preparation programs do not differentiate school financial management in regards to accounting, budgeting, or funding (Grogan & Andrews, 2002). This study is the first to seek empirical discovery on this topic.

Seemingly, having no baseline to the surface knowledge and understanding principals possess for preparedness on school financial management is to suggest that findings of this study will make a principal effective. On the contrary, findings for this study only purport that a baseline is now established to evaluate whether a principal using these competencies will constitute principal effectiveness. Therefore, this researcher recommends further studies on two areas of focus.

### 5.3 Recommendations for Future Research

As discussed earlier, Confucius connected proper preparation to success. The implication provided within this dissertation shows the necessity for this study. It shows that no school professional is immune to audits that result in judgments where unknowingly straying from district policy and/or procedures result in loss of reputation or position. As a result, this study sets the stage for further empirical investigation for appropriate principal preparation on managing school finance in two ways.

First, a replication of this study using Delphi is beneficial. Followed by a deeper analysis of how to bring school financial management as a priority of principal preparation programs and school district professional development, another study may affirm these results or add to the competencies. Building consensus through Delphi validated the results of this study as a baseline for further examination. As mentioned earlier, once Delphi is employed, this method brings about triangulation (Torrance, 2012). Torrance (2012) purports that triangulation is important because it uses different methods that lead to similar results. Torrance (2012) adds that when triangulation is evident, more confidence and accuracy produces reliability in data collection; and, Delphi overcomes intrinsic biases. Unlike single designs (e.g., single observer, single theory, and single

studies), Delphi limits weakness posed without the pursuit of triangulation (Torrance, 2012).

Second, Delphi's results are statistically descriptive. This study is without statistical correlations because the purpose of this study was to develop agreed competencies. These competencies are now a baseline. For this topic, a statistical correlational study is a useful endeavor in that it provides information on predictive relationships whereas Delphi does not. Imagine the competencies developed in this study producing some professional practices that link to money management and school leadership. Another examination, consider a correlational and inferential study using this Delphi dataset as a foundation for possible comparatives. Also, due to a slight difference between Delphi I to that of Delphi II, an examination in working conditions can provide another lens on the same topic as well.

#### 5.4 Conclusions

In conclusion, upon converging agreements among panelists, there are nineteen (19) competencies that can be used as a baseline for developing effectiveness on managing school finance. Within these competencies are three domains as focal points, specifically (i.e., accounting, budgeting, and funding). Simply, principals do desire gaining knowledge and understanding. This study concludes that principal preparedness on school financial management is found to be without appropriate concentration within principal preparation programs as well as school district professional development. It validates previous theories in professional investigations and provides a contribution to this field of study.

## REFERENCES

- Abbott, M. (2001). *How well are we doing? Novice Administrators reflect on their preparation* (Doctoral dissertation, University of Oregon).
- Adkins, E. (2009). *The effectiveness of principal preparation program type for administrative work* (Doctoral dissertation, Marshall University).  
Huntington, WV: Marshall Digital Scholar.
- Anderson, G. (2004). The nature of teacher leadership in schools as reciprocal influences between teacher leaders and principals. *School Effectiveness and School Improvement*.
- Anderson, G., Creighton, T., Dantley, M., English, F., Furman, G., Gronn, P., & Marshall, C. (2002). Problematizing the ISLLC Standards and exam. *AERA Division A Newsletter*.
- Barnett, J., Danielson, L., & Algozzine, R., (1978). Delphi methodology: Empirical investigation. *Educational Research Quarterly*, 3, 67.
- Bartram, D. (2005). The Great Eight Competencies: A criterion-centric approach to validation. *Journal of Applied Psychology*, 90(6), 1185-1203.  
doi:10.1037/00219010.90.6.1185.
- Beech, B. (1999). Go the extra mile--use Delphi Technique. *Journal of Nursing Management*. Retrieved September 13, 2014, from europepmc.org.
- Bird, J., Wang, C., & Murray, L. (2009). Building budgets and trust through superintendent leadership. *Journal of Education Finance*, 35(2), 140-156.  
doi:10.1353/jef.0.0008.
- Boyatzis, R. (2008). Competencies in the 21st century. *Journal of Management Development*, 27(1), 5-12.
- Brimley, V., & Garfield, R.. (2005). *Financing education in a climate of change*. Boston: Pearson Education.

- Brinkmann, J., Salono, S., Gemuenden, H. (2009). Financial management competence of founding teams and groups of new technology-based firms. *Entrepreneurship: Theory and Practice*. February, 2011.
- Brockman, M. (2012). *Texas principals' perceptions of professional development provided by the local school district* (Unpublished doctoral dissertation). University of North Texas.
- Brown, B. (1968). Delphi process: A methodology used for the elicitation of opinions of experts. *DTIC Document*. Retrieved May 15, 2014, from <http://www.dtic.mil.com>.
- Burch, A. (2014). *Principal preparation: Perceptions of school leaders in Florida* (Unpublished doctoral dissertation). Florida State University. doi:<http://diginole.lib.fsu.edu/etd>.
- Burdette, P. (2010). Principal preparedness to support students with disabilities and other diverse learners. *Project Forum: A Policy Forum Proceedings Document*. Retrieved from <https://www.projectforum.org>.
- Bush, T. (2006, September 15). *Theories of educational management* (Rep.). Retrieved August 8, 2014, from National Council of Professors of Educational Administration website: <http://cnx.org/content/m13867/1.1/>.
- Charlotte Mecklenburg Schools (2015). District policy and practices for school financial secretary.
- Chou, C. (2002). Developing the e-Delphi system: A web-based forecasting tool for educational research. *British Journal of Educational Technology*. Wiley Online Library.
- Cibbons, N., & Walters, S. (2012). Delphi research: Issues raised by a pilot study. *Nurse Researcher*. ebscohot.com.
- Clark, A., (2007, March 11). Leadership and human behavior. Retrieved July 9, 2015, from <http://www.nwlink.com/~donclark/leader/leadhb.html>.



- Clayton, M., (1997). Delphi: A technique to harness expert opinion for critical decision making tasks in education. *Educational Psychology*, 17(4), 373-386. doi:10.1080/01443441970170401.
- Cohen, L., Manion, L., & Morrison, K. (2000). Naturalistic and ethnographic research. *Research Methods in Education*. Vol. 23.
- Coakes, S., & Steed, L. (2009). *SPSS: Analysis without anguish using SPSS version 14.0 for Windows*. John Wiley & Sons, Inc.
- Dalkey, N., & Helmer, O. (1963). An experimental application of the Delphi Method to the use of experts. *Management Science*, 9(3), 458-467. doi:10.1287/mnsc.9.3.458.
- Darling-Hammond, L., LaPointe, M., Meyerson, D., Orr, M., & Cohen, C. (2007). Preparing school leaders for a changing world: Lessons from exemplary leadership development programs. *The Wallace Foundation*, (April).
- Davies, B. (2006). Developing a model for strategic leadership in schools. *Educational Management Administration & Leadership*, 34(1), 121-139. doi:10.1177/1741143206059542.
- Delbecq, A., Van de Ven, A., & Gustafson, D. (1975). Group techniques for program planning: A guide to nominal group and Delphi processes. Retrieved September 13, 2014, from library.wur.nl.
- Denison, D., Hooijberg, R., & Quinn, R. (1995). Paradox and performance: Toward a theory of behavioral complexity in managerial leadership. *Organization Science*, 6(5), 524-540. Retrieved February 25, 2015.
- Denzin, N., & Lincoln, Y. (2000). *Handbook of qualitative research*. Thousand Oaks, CA: Sage Publications.
- Derrington, M., & Sharratt, G. (2008). Evaluation of school principals using interstate school leaders licensure consortium (ISLLC) standards. *AASA Journal of Scholarship and Practice*. Retrieved from <http://www.aasa.org>.

- Diamond, I., Grant, R., Feldman, B., Pencharz, P., & Ling, S. (2014). Defining consensus: A systematic review recommends methodological criteria for reporting of Delphi studies. *Journal of Clinical Epidemiology*, 67, 401-409.
- Diller, K., & Phelps, S., (2008). Learning outcomes, portfolios, and rubrics, oh my! Authentic assessment of an information literacy program. *Libraries and the Academy*.
- Dillman, D., Smyth, J., Christian, L., & McBride, M. (2009). Open-ended questions in web surveys can increasing the size of answer boxes and providing extra verbal instructions improve response quality?. *Public Opinion Quarterly*, nfp029.
- Dillon, N. (2012). Avoiding a scandal. *American School Board Journal*, 199(5), 30-33.
- Edwards, J. (2015). Knowledge management concepts and models. *Advances in Knowledge Management Knowledge*, 25-44. doi:10.1007/978-3-319-09501-1\_2.
- Educational Leadership Constituent Council (2006). The research base supporting the ELCC standards. 3f17112qoj4l3y6ep2tqpwwr.wengine.netdna-cdn.com/.../ELCCComplete\_lowres.pdf. Retrieved on June 15, 2015.
- Franklin, K., & Hart, J. (2007). Idea generation and exploration: Benefits and limitations of the policy Delphi research method. *Innovative Higher Education*, 31(4), 237-246.
- Generally Accepted Accounting Principles (2015). *Financial Accounting Foundations*. Retrieved June 12, 2014, from [accountingfoundation.org/gaap](http://accountingfoundation.org/gaap).
- Gibson, M., & Miller, G.(1990). A Delphi model for planning "preemptive" regional economic diversification. *Economic Development Review*. Retrieved September 13, 2014, from [argris.fao.org](http://argris.fao.org).

- Glesne, C., & Peshkin, A. (1992). *Becoming qualitative researchers: An introduction*. White Plains, NY: Longman.
- Gonzales, K. (1997). *High school principals' knowledge of school budgeting and finances: Implications for professional development*. (Unpublished doctoral dissertation). University of New Orleans.
- Gonzales, K., & Bogotch, I. (1998). High school principals and money management. Retrieved June 13, 2014, from <http://www.ed.gov>.
- GoogleForms. (2005). <https://www.google.com/forms>. Retrieved on October 1, 2015.
- Graham, B., Regelar, & Wright (2003). Delphi as a method to establish consensus for diagnostic criteria. *Journal of Clinical Epidemiology*, 56(12), 1150-1156. doi:10.1016/S0895-4356(03)00211-7.
- Grissom, J., & Harrington, J. (2010). Investing in administrator efficacy: An examination of professional development as a tool for enhancing principal effectiveness. *American Journal of Education*, 116(4), 583-612. doi:10.1086/653631.
- Grogan, M. (2013). *The Jossey-Bass reader on educational leadership*. San Francisco: Jossey-Bass.
- Grogan, M., & Andrews, R. (2002). Defining preparation and professional development for the future. *Educational Administration Quarterly*, 38(2), 233-233. doi:10.1177/0013161X02038002008.
- Hale, E., & Moorman, H. (2003). Preparing school principals: A national perspective on policy and program innovations. *Illinois Education Research Council*.
- Hallinger, P., & Snidvongs, K. (2008). Educating leaders: Is there anything to learn from business management. *Management Administration*. [journals.sagepub.com](http://journals.sagepub.com).

- Hallinger, P., & Lu, J. (2013). Preparing principals: What can we learn from MBA and MPA programmes? *Educational Management Administration & Leadership*, 41(4), 435-452. doi:10.1177/1741143213485464.
- Hasson, F., Keeney, S., & McKenna, H. (2000). Research guidelines for the Delphi survey technique. *Journal of Advanced Nursing*, 32(4). doi:10.1046/j.13652648.2001.0442d.x.
- Helmer, O., & Rescher, N. (1959). On the epistemology of the inexact sciences. *Management Science*. Pubsonline.informs.org.
- Hess, F. (2003). A License to Lead? A New Leadership Agenda for America's Schools.
- Hess, F. (2005). An innovative look, a recalcitrant reality: The politics of principal preparation reform. *Educational Policy*, 19(1), 155-180. doi:10.1177/0895904804270776.
- Hess, F., & Kelly, A. (2005). "Learning to lead? What gets taught in principal preparation programs." *American Enterprise Institute: Olin Foundation*.
- Higgins, S., & Green, S. (2005). Cochrane handbook for systematic reviews of interventions 4.2. 5 [updated May 2005]. *The Cochrane Library*, (3).
- Hix, J. (2013). *Measuring the effectiveness of transfer of learning constructs and intent to transfer in a simulation-based leadership training program* (Unpublished doctoral dissertation). University of North Texas.
- Hsu, C., & Sandford, B. (2007). The Delphi Technique: Making sense of consensus. *Practical Assessment, Research & Evaluation*, 12(10).
- Kannapolis City Schools (2015). Handbook for district school financial secretary.
- Kavanagh, M. (2008). What skills and attributes does an accounting graduate need? Evidence from student perceptions and employee expectations. *Brisbane Graduate School of Business: Queensland University of Technology Australia*.

- Keeney, S., Hasson, F., & McKenna, H. (2006). Consulting the oracle: Ten lessons from using the Delphi technique in nursing research. *Journal of advanced nursing*, 53(2), 205-212.
- Kirkpatrick, D., (1975). *Evaluating training programs*. Tata McGraw-Hill Education. Chapters 3 - 5.
- Knowles, M. (1984). Andragogy in action: Applying modern principles of adult education.
- Ibrahim, N. (2011). Preparation and development of public secondary schools principals in Kenya. *International Journal of Humanities and Social Science*, 1(9).
- Jackling, B. (2005). Perceptions of the learning context and learning approaches: Implication for quality learning outcomes in accounting. *Accounting Education*.
- Jones, K. (2004). Mission drift qualitative research, or moving toward a systematic review of qualitative studies, moving back to a more systematic narrative review. *The Qualitative Report*. (9)1 March pp. 95-112.
- Landeta, J. (2006). Current validity of the Delphi method in social sciences. *Technological Forecasting and Social Change*, 73(5), 467-482.  
doi:10.1016/j.techfore.2005.09.002.
- LaPointe, M., Davis, S., & Cohen, C. (2007, August 01). *School leadership study: Developing successful principals* [Scholarly project]. In *Stanford Educational Leadership Institute: Commissioned by The Wallace Foundation*. Retrieved April 10, 2014.
- Lashway, L. (2006). Improving principal evaluation. *ERIC Digest 172*. Retrieved from <http://digest172.html>.
- Lasater, K., (2007). Clinical judgment development: Using simulation to create an assessment rubric. *Journal of Nursing Education*.

- Ley, A., Bennum, I., & McLaren, S. (2000). Delphi survey of opinion on interventions, service principles and service organization for severe mental illness and substance misuse problems. *Journal of Mental Health*, 9(4), 371-384. doi:10.1080/jmh.9.4.371.384.
- Linstone, H. & Turoff, M. (2002). The Delphi Method. *Techniques and Applications*, 2002.
- Marcoline, J. (2012). School finance – ALS 860-course syllabus. *Indiana University of Pennsylvania. Summer*, 2012.
- Marzano, R., Waters, T., & McNulty, B. (2005). *School leadership that works: From research to results*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Mestry, R. (2004). Financial accountability: The principal or the school governing body? *South African Journal of Education*, 24(2), 126-132.
- Mestry, R. (2006). The functions of school governing bodies in managing school finances. *South African Journal of Education*, 26(1), 27-38. Retrieved July 10, 2014.
- Miriti, J. (2014). Financial management: Training needs of public secondary school principals in Machakos County, Kenya. *Research on Humanities and Social Sciences*, 4(13). Retrieved July 10, 2014, from <http://www.iiste.org>.
- Mirra, D. (2004). The role of the school superintendent as a technology leader: A Delphi study. Virginia Polytechnic Institute and State University. ProQuest Dissertations Publishing: 3123700.
- Mitchell, V. (1991). The Delphi technique: An exposition and application. *Technology Analysis & Strategic Management*, 3(4), 333-358.
- Mitgang, L. (2012). The Making of the Principal: Five lessons in leadership training perspective. *Wallace Foundation*.
- Mitroff, I., & Turoff, M. (2002). Philosophical and methodological foundations of Delphi. <https://www.arips.com>. Retrieved on June 15, 2015.

- Mobegi, F., Ondigi, B., & Simatwa, E. (2012). Factors contributing to financial mismanagement and misappropriation in public secondary schools in Gucha District, Kenya. *IJEMR*, 2(5).
- Mohn, C., & Machell, J. (2005). Reconceptualizing school leader leaning: Blurring the lines between staff development and university-based principal preparation programs. *Planning and Changing*, 36(1&2), 120-127.
- Motsamai, M., Jacobs, L., & De Wet, C. (2011). Policy and practice: Financial management in schools in the Mafeteng District of Lesotho. *Journal of Social Science*, 26(2), 105-116.
- Murphy, J., & Shipman, N. (2000). Implementation of the interstate school leaders licensure consortium standards. *International Journal of Leadership in Education*, 3(1), 17-39.
- Murphy, J. (2003). Reculturing educational leadership: The ISLLC Standards ten years out. *National Policy Board for Educational Administration*.
- Murphy, J. (2005). Unpacking the foundations of ISLLC Standards and addressing concerns in the academic community. *Educational Administration Quarterly*, 41(1), 154-191. doi:10.1177/0013161X04269580.
- Mutter, D., & Parker, P., (2004). *School money matters: A handbook for principals*. Alexandria, VA: Association for Supervision and Curriculum Development.
- National College for School Leadership. (2015). Retrieved June 10, 2015 from <https://www.linkedin.com/.../ncsl-soon-to-be-national-college-for-leadership-of-schools->.
- National Policy Board for Educational Administration. (2015). Retrieved June 10, 2015 from [npbea.org/](http://npbea.org/).
- Navaratnam, M. (2014). *Best practices in training and developing high-potential leaders: A systematic review* (Doctoral dissertation, The Adler School of Professional Psychology, 2014). Ann Arbor, MI: ProQuest.

- North Carolina Department of Public Instruction. (2006). *North Carolina State Standards of Educational Leadership*. Retrieved June 10, 2014
- North Carolina Department of Public Instruction. (2008). *North Carolina State Standards of Educational Leadership*. Retrieved June 10, 2014.
- Okoli, C., & Pawlowski, S. (2004). The Delphi Method as a research tool: An example, design considerations and applications. *Information & Management*, 42(1), 15-29. Retrieved May 15, 2014.
- Orr, M. (2006). Mapping leadership preparation innovation in our nation's schools of education. *Phi Delta Kappan*.
- Petzko, V. (2008). The perceptions of new principals regarding the knowledge and skills important to their initial success. *NASSP Bulletin*, 92(224). Retrieved from <http://bul.sagepub.com/content/92/3/224>
- Pitre, P., & Smith, W. (2004). ISLLC Standards and school leadership: Who's leading this band? *The Teachers College Record*. Retrieved August 15, 2014, from <http://tcrecord.org/>
- Pollard, C., & Pollard, R. (2008, November). Using the Delphi Method for e-research. In *World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education* (Vol. 2008, No. 1, pp. 3117-3122).
- Rainwater Leadership Alliance. (2010). A new approach to principal preparation: Innovative programs share their practices and lessons learned. *Rainwater Leadership Alliance*. Retrieved June 10, 2014.
- Reeves, D. (2010). *Transforming professional development into student results*. Alexandria, VA: ASCD.
- Reyes, A. (2004). School finance: Raising questions for urban schools. *Education and Urban Society*, 37(1), 3-21. doi:10.1177/0013124504268103.
- Rosenthal, G. (2012). ED 532: School finance and budgeting syllabus-C5: 2012. *Saint Joseph's College of Maine*. <http://www.sjcme.edu/gpscatalog/>.



- Rowe, G & Wright, G. (1999). The Delphi technique as a forecasting tool: Issues and analysis. *International Journal of Forecasting*. repec.org.
- Rubenstein-Montano, B., Liebowitz, J., Buchwalter, J., McCaw, D., Newman, B., Rebeck, K., & Team, T. K. M. M. (2001). A systems thinking framework for knowledge management. *Decision support systems*, 31(1), 5-16.
- Saint-Germain, M., Ostrowski, J., & Dede, J. (2000). Oracles in the Ether: Using an email Delphi to revise an MPA Curriculum. *Journal of Public Affairs Education*, 161-172.
- Sanchez, R. & Heene, A. (2004). Understanding competence-based management: Identifying and managing five modes of competence. *Journal of Business research*, 57(5), 518-532.
- Sergiovanni, T. (2006). *The principalship: A reflective practice perspective*. Pearson. pp - 1-22.
- Shelton, K. (2010). *A quality scorecard for the administration of online education programs: A Delphi study* (Doctoral dissertation, University of Nebraska).
- Skulmoski, G., Hartman, F., & Krahn, J. (2007). The Delphi method for graduate research. *Journal of Information Technology Education*, 6.
- Spring, J., (2008). Research on globalization and education. *Review of Educational Research*.
- Somerville, J., (2008). Effective use of the Delphi process in research: Its characteristics. *Strengths and Limitations*.
- Southern Regional Education Board. (2010). Schools can't wait: Accelerating the redesign of university principal programs. *Leadership Preparation Initiative*. doi:www.sreb.org.
- Spender, J. (2008). Organizational learning and knowledge management: Whence and whither? *Management Learning*, 39(2), 159-176.  
doi:10.1177/1350507607087582.

- State Board of Education. (2006). North Carolina Standards for school executives. Retrieved July 10, 2014.
- Statistical Package for the Social Sciences. (SPSS, 2015). Retrieved from University of North Carolina at Charlotte Resource Center, June, 2017.
- Stewart, D., Shamdasani, N. & Rook, C. (2007). Focus groups: 6 Conducting the focus group. 89-109. doi:10.4135/9781412991841.
- Stoskopf, J. E. (2013). *Perceptions of high school principals' preparedness for their financial responsibilities* (Doctoral dissertation, Edgewood College, 2013). ProQuest LLC. Retrieved April 10, 2013.
- Streveler, R., Olds, B., Miller, R. & Nelson, M. (2003, June). Using a Delphi study to identify the most difficult concepts for students to master in thermal and transport science. In *Proceedings of the Annual Conference of the American Society for Engineering Education*.
- The Interstate Leadership Licensure Consortium (2008). Retrieved June 12, 2015 from <https://www2.fgcu.edu/coe/faculty/valesky/isllcstandards.htm>.
- Torrance, E., (2012). Triangulation, respondent validation, and democratic participation in mixed methods research. *Journal of Mixed Methods Research*.
- Trainor, C. (2007). Where the money is. *American School Board Journal*, 194(9), 66-67.
- Vernon, W. (2009). The Delphi technique: A review. *International Journal of Therapy and Rehabilitation*. search.ebcoscohost.com.
- Wallace, C., Buckner, K., Wren, S., & Evans, R. (1997). Improving leadership development programs through collaborative restructuring. *Peabody Journal of Education*.
- Wallace Foundation. (2012). The making of the principal: Five lessons in leadership training. *The Wallace Foundation Perspective*, June. Retrieved January 02, 2015, from <http://www.wallacefoundation.org>.

- Williams, H., & Szal, D. (2011). Candidates' assessment of a principal preparation program. *Education, 131*(3), 481-485.
- Williams, P. & Webb, C. (1994). The Delphi technique: A methodological discussion. *Journal of Advanced Nursing*. January, 1994. doi: 10.1111/j.1365-2648.1994.tb01066.x.
- Wright, K. (2005). Personal knowledge management: Supporting individual knowledge worker performance. *Knowledge Management Research & Practice, 3*(3), 156-165.
- Yew-Wong, K. (2005). Critical success factors for implementing knowledge management in small and medium enterprises. *Industrial Management & Data Systems, 105*(3), 261279.
- Yukl, G. (1989). Managerial leadership: A review of theory and research. *Journal of Management, 15*(2), 251-289. doi:10.1177/014920638901500207.

## APPENDIX A: Anne's Internal Audit



Finance Department

701 East Second Street  
Charlotte, North Carolina 28202

October 25, 2006

Principal  
Elementary School

Charlotte, NC 28216

Dear

We have completed the internal audit of the Elementary School Activity Funds for the period October 1, 2005 to August 31, 2006. Our examination included such tests of the recorded transactions and tests for compliance with the administrative rules, regulations and accounting procedures detailed in the School Office Accounting Procedures Manual (the Manual), as we deemed necessary in the circumstances.

In general, we found the books and supporting records to be in poor condition. Financial documents such as bank statements and deposits were disorganized and filed incorrectly or missing altogether. Documentation on checks that had been written from the school checkbook was stapled to the back of check stubs instead of filing in the existing voucher/invoice file. Some disbursements were made without any form of support or approval as to what was purchased, the account posted or other required information.

Prior to the audit, the following situations occurred that raised concern and resulted in the immediate audit of the school activity funds:

Monthly financial reports for July and August 2006 had not been submitted to the Accounting Department. Various attempts to offer assistance and to determine the cause of the failure to submit the required financial reports went unanswered.

The financial secretary did not attend a required conversion class to conform to the revised Chart of Accounts after June 30, 2006. Emails and phone messages requesting that the school schedule a time for the conversion went unanswered. Central office staff finally had to convert the accounts for the school at a later date.

On September 12, 2006, while providing assistance to the financial secretary with reconciling the school's July 2006 bank statement, it was noted that on July 17 and 19, two over-the-counter withdrawals of \$600 and \$250 respectively, were made. The financial secretary stated the withdrawals were made by her to pay in cash for cleaning supplies and staff incentives.

CMS policies prohibit paying for purchases with cash. Cash withdrawals should never be made directly from a bank. Additionally, prior approval by the school's principal for purchases must be evidenced (in the form of written documentation) and available for review by auditors. Documentation of the principal's approval was not available during the audit. Documentation provided after the audit related to the two withdrawals was very suspect in nature and considered unreliable by the auditor.

During the audit, it was revealed that on July 7, 2006 the financial secretary received a reimbursement for \$210 for items she purchased for the school. However, review of supporting documentation for this reimbursement included invoices and receipts for purchases that were dated up to three months after the reimbursement was received by the financial secretary. The vendor was contacted twice, once on September 28, 2006 and again on October 16, 2006. Both times the vendor stated that the invoice remains unpaid. CMS policies prohibit cash

## APPENDIX A - continued

October 25, 2006

Page 2

advances for purchases using school activity funds. And since no payment has been made on this invoice, the cash advance now takes on the appearance of an employee loan and needs to be repaid as employee loans are also prohibited by CMS board policy.

The instances discussed above reinforce the need for adequate supervision and review of employee's job duties (especially when an employee's experience is limited). Additionally, it is the principal's responsibility to ensure that proper operating procedures are followed and that adequate internal controls are in place.

1. In our tests of cash receipts, the following issues were noted:
  - a. Media fees of \$830.61, state textbook fees of \$165.80, and escheats amounts of \$78.10 for the 2005-2006 school-year had not been remitted to the Board of Education on a timely basis. A check was written for office supplies to a vendor from the media account for \$356.42. Media fees are to be remitted at year-end (or more frequently as necessary) to enable the media center at the school to buy more books. State textbooks are submitted at year-end. Escheats must be remitted to the State Treasurer based on old outstanding checks that are one year old. No checks should be written from the media account except for checks to the central office and refunds to students/parents for lost books that are later found. A funds transfer for the office supplies should be made to reimburse the media account for the purchase of the office supplies. For rules related to collections for the board, refer to page 57 of the Manual and the year-end procedures memo.
  - b. The required form was not on file at the school for three contributions of \$250 or more that were received by the school in order to document compliance with Internal Revenue Code §170(f)(8) regarding such donations. A receipt must be furnished to any donor who contributes \$250 or more and should be documented on CMS Form 5137.B as shown on page 104. The procedures related to all contributions are outlined on pages 102-105 of the Manual.
  - c. In our test of teacher receipts, various teachers were holding money and not turning it in daily. Several teachers were not receipting students individually but as a "group". Teacher turn-in forms were not prepared by the teachers as required but by the financial secretary. The financial secretary also held money for multiple days during the time tested. Teachers receipt books with eighty (\$80) dollars was found in the financial secretary's unlocked desk drawer during the audit and had been held for at least 2 days. All funds collected by the teachers should be receipted on the day received and submitted to the financial secretary on the same day. A teacher turn-in form should be prepared by the person turning in the money to accompany and document the collection. Failure to comply with these procedures indicates a severe weakness of internal controls over cash. All money collected by the financial secretary should be deposited intact to the bank on a daily basis. In accordance with Section 115C-445 of the School Budget and Fiscal Control Act, deposits should be made whenever monies on hand exceed local School Board policy (\$25) and on the last day of the month for all monies on hand. Please see the Manual for pages 24-27.
  - d. Master receipts were not written on a timely basis for the period of March 2006 until September 2006 and were written as to ' ' instead of to the Receiptee as required. Pre-numbered master receipts provide the basic detail of cash and checks received by the school and should be written in the presence of the person turning in the money. Please refer to page 23 of the Manual.
  - e. Analyses of deposit were not done or prepared later than the actual deposit during the period mentioned above resulting in additional work to test the deposits to the ledger. Two deposits in September were noted on the September bank statement but these deposits were not available for review during the actual audit. Other September deposits, made later in the month, were accounted for while performing the audit. One for \$203 and one for \$250 offered no information related to the makeup of the deposits. The analysis of deposit provides information as to the posting account and posting amount comprising that day's deposit and should be done on the same day the collections are received. Attaching the



## APPENDIX A – continued

October 25, 2006

Page 3

deposit slip, the analysis of deposit and teacher-turn-in forms, along with other documentary evidence, provides sufficient detail as to the money received and date deposited to the bank. Please review page 27 of the Manual.

2. The tests of cash disbursements revealed the following:
  - a. A purchase order was not prepared for at least three purchases over \$750. One of the purchases was \$4,000 and another was \$1,700. The Purchasing Department must process all purchases of items over \$750 as well as purchases of computers, printers, furniture, audio visual equipment, telecommunication items and bus transportation using an approved vendor below this benchmark. Individual orders from the same vendor by various teachers should be aggregated to determine if the \$750 threshold has been reached. Please refer to the Purchasing website for more information.
  - b. The principal signed no vouchers during the period of March to August 2006. School vouchers should be prepared, detailing all relevant information and attached to the supporting documentation. All expenditures must be checked with the financial secretary as to available funds and legality of purpose. Before the check is issued, the signature by the principal on the voucher indicates the final step in the approval process. Page 31 in the Manual covers responsible actions related to disbursements.
  - c. Four check signers were listed on the checking account. An assistant principal was routinely signing in place of either the principal or the financial secretary. All checks issued by the school must bear the signatures of both the treasurer (financial secretary) and the principal. In cases of emergencies, facsimile signature stamps may be used when one is unable to sign a check. The person whose signature stamp was used should review and initial the stamped signature of the check or copy returned by the bank to indicate approval. Signature requirements are detailed on page 35 of the Manual.
  - d. Regional Superintendent approval was not obtained on several purchases over \$1,000 and one reimbursement to the principal for \$200.22. All reimbursements to the principal regardless of the amount and all disbursements exceeding \$1,000 require the approval of the school's regional superintendent during the approval process. Approval can be documented by having the regional superintendent sign a copy of the voucher (supported with underlying documents such as invoices or receipts). Please see page 35 and 37 of the Manual for more information.
  - e. Seven checks selected in the audit process lacked vouchers and the supporting documentation defining items purchased. Such documentation is a required part of the process and should be completed and approved before the check is written. All school records must be retained at the school for seven years to adhere to the record retention policy of CMS. Please refer to item # 5 on page 37 and page 162 of the Manual.
  - f. Two vendors provided goods and services to the school during the audit period. One vendor supplied cleaning supplies and products in the amount of \$1,507.88. The other vendor performed a magic show and provided concessions and was paid \$950. None of the required 1099 information was obtained before the checks were written as required to comply with Internal Revenue Service requirements. The Internal Revenue Service requires CMS to report all payments for goods and services totaling more than \$600 on Federal Form 1099 for the corresponding calendar year. Since service or product providers often provide services to more than one school, all payments to such vendors by schools must be reported to the Finance Department in January in order to facilitate data accumulation and accurate reporting. Please refer to page 100 of the Manual.
  - g. The principal was reimbursed directly from school funds for travel-related expenses. All reimbursements for travel and mileage must be processed through the central office to comply with IRS procedures covering employee-accountable plans. Reimbursements and advances for travel/mileage must be documented using the appropriate Mileage or Expense Report Form 3432.3 as required. All receipts for travel (hotel, airline tickets, meals, etc.) must be attached. This allows for "adequate accounting to the employer" as required by the Internal Revenue Service in relation to wage reporting.



## APPENDIX A – continued

October 25, 2006  
Page 4

Without adequate accounting, all reimbursements would have to be treated as taxable wages on the Federal Form W-2 and be claimed as a deductible employee business expense on the employee's individual tax return, per IRS regulations. Please see pages 119-124 of the Manual.

- h. A contract was not prepared on the Houdini Magic Show and Concessions before the event occurred. A CMS contract must be prepared and signed by all appropriate parties in advance of the performance of services, detailing the services to be performed and the terms and expectations of all parties. Please refer to page 128 of the Manual and the CMS contract manual issued by the Legal Department.
- 
4. The tests of fund-raising activity identified the following:
    - a. The school had a sales and use tax liability of approximately \$415 related to unreported sales of agendas and yearbooks and purchases from an out-of-state vendor. When a school or school-sponsored club sells "tangible personal property" (an actual physical product) of any type, they must collect and remit sales tax to the central office to be included in the Board of Education's monthly deposit for the NC Department of Revenue. When a school purchases an item from an out-of-state vendor and the vendor is not registered to collect and remit NC sales tax, the school is required to remit use tax to the central office on a monthly basis. CMS will then forward the payment of tax to the state department of revenue. See pages 106-107 of the Manual. *This was also noted in the audit letter dated November 15, 2005.*
    - b. The school did not reconcile picture receipts to commission received for the spring and fall pictures. As detailed in the Manual, records of the pictures purchased should be maintained and reconciled to the amount of commission received to ensure the school receives the appropriate amount. Class rosters may prove the easiest way to maintain this information by recording the dollars as shown on the picture envelope for the pictures selected before the envelope is returned to the photographer. The rosters can then be accumulated, totaled and used for the estimate to test the commissions received. See page 81 of the Manual.
    - c. A Father Daughter Dance was held May 12, 2006 and an admission of \$2 was charged to each father. Pre-number tickets were not used. The dance sponsor also did not use a ticket log or ticket sellers report to document and test the proceeds for reasonableness. Appropriate internal control procedures require that ticket logs be maintained to monitor used and unused tickets and that unused tickets be secured in a locked location. Ticket Sellers Reports should be prepared to reconcile tickets issued, used and unused with proceeds collected. This procedure serves to ensure that funds collected and deposited are reasonable and that no money is missing. See pages 91-94 of the Manual.
    - d. For the sale of agenda, yearbooks and staff shirts, Periodic Inventories and the related Test of Inventories were not performed during the entire audit period. Without such tests, ensuring that all money and inventory is properly accounted for is very difficult if not impossible. Any long-term activity with inventory of goods for sale should be tested at least quarterly (monthly is preferable). The purpose of the form is to ensure proceeds collected and related disbursements are reasonable in relation to the items sold. The Test of Inventory should be completed by the faculty sponsor on a regular basis and reviewed and signed by the principal. See pages 64-80 of the Manual.
    - e. The Fund Raising Report for 2006-2007 was not prepared and approved by the principal, financial advisory committee and the regional superintendent as required. School Pictures, Year Books, Agenda Sales, Father Daughter Dance and Staff T-shirt Sale should have been approved before those events began. The report, which lists all planned activities for the year, should be signed by the principal, the financial advisory committee and the school's regional superintendent at the beginning of the school year and be amended as new fund raising events are planned. See pages 61-62 of the Manual



October 25, 2006  
Page 5

5. During the tests of the revised Fair Labor Standards Act forms, none of the employees were preparing the required Non-Exempt Employee Weekly Time Report. A Compensatory Time Agreement form was not completed for any employees to indicate the method of overtime chosen by the employee. As a reminder, principals should emphasize with staff that time recorded by employees in the white "Time In" and "Time Out" sections of the CMS Non-Exempt Employee Weekly Time Report must reflect each employee's specific and complete in and out times while performing work for CMS, without rounding. Such time can then be rounded and recorded in the gray "Time In" and "Time Out" sections of the Weekly Time Report using the conversion chart provided on the form. Please refer to the CMS School Timekeeping and Payroll Basics Manual.
6. The school did not perform year-end procedures at June 30, 2006 as required. Negative balances were not eliminated and fundraising proceeds were not transferred to appropriate accounts. One check was written to a yearbook vendor, designating a field trip account for \$777 (a prohibited transfer, in essence) and 7210 contribution account for \$356.56 (a non-approved transfer, since a transfer form was never prepared to move the yearbook 4300 funds to the contribution account). Year-end procedure on page 22 of the Manual and also in the annual year-end memo, require that deficit balances be eliminated, fund raising remainders be transferred to other accounts to be spent, collections for the board be submitted for processing among other end of the year details. For transfer definitions and examples as well as limitations and prohibitions on transfers, and the year-end procedures, see pages 22 and 38-40 of the Manual.
7. In the test of the American Express "P-card" transactions, we noted that several monthly statements were not reviewed timely. An audio visual projector was purchased with the p-card on one occasion and none of the invoices, receipts or packing slips were signed by the person ordering them as required. One p-card violation was issued to the school by the Purchasing Department during the audit period and the account was locked due to Lawson System non-compliance. All transaction should be reviewed on a timely basis, p-card purchases should be made only for those items that are allowable and all packing slips, invoices and receipts should be signed by the person ordering them. The p-card is only appropriate for orders under \$1,000 on a per vendor basis and within a two week window. Certain items may not be purchased with a p-card since the purchasing agent must actually order them, such as computers, printers, telecommunication equipment, furniture and audio visual units. For more information, refer to the Purchasing Department's P-Card Website.
8. The Depository and Treasurer of School Funds report was not completed by September 1, 2006 as required. The schools are to complete this form and forward to the central office so that a complete report on all banking activity can be prepared for the board's approval. Multiple communications were required to obtain this form and for each request of additional information in relation to the financial audit itself. Email or phone messages often went unanswered in such matters as completing the required monthly Receipts and Disbursements report, Payroll Department inquiries related to payroll processing, Accounts Payable questions related to payment of vendor past due invoices and other important matters. Such matters should be addressed in a timely fashion to enable CMS to prepare required reports and facilitate regular monthly processing.

Incomplete and inaccurate financial record keeping processes can create situations where inappropriate financial decisions can be made and misappropriations or embezzlement of funds can occur. School Activity Funds transactions should be recorded accurately and timely. The principal should review and approve all documents related to these transactions in a timely manner to ensure appropriateness and accuracy. Communications in response to central office inquiries should be promptly addressed in order to facilitate school related functions.



## APPENDIX A – continued

October 25, 2006

Page 6

The Accounting Department is available to answer questions related to school activity funds and provide such training as deemed necessary.

Please respond to this letter within ten (10) days explaining the procedures in effect at your school to prevent these audit errors from occurring in the future. The response should be sent to Dr. Gorman with a copy provided to the Finance Department.

---

We would like to thank your staff for the assistance provided during the audit.

Sincerely,

Auditor  
Finance Department

Audit File (2)

## APPENDIX B: Institutional Review Board Approval



## IRB Notice - 17-0111

3 messages

IRB &lt;unco-irb@unco.edu&gt;

Mon, Apr 17, 2017 at 1:03 PM

To: achr1s18@unco.edu

Cc: unco-irbis@unco.edu, jjbird@unco.edu

To: Arthur Christian

From: IRB

Date: 4/13/2017

RE: Notice of Approval of Exemption

Exemption Category: 2.Survey, interview, public observation Study

# 17-0111

Study Title: Building Consensus for Principal Preparedness on School Financial Management using the Delphi Method

This submission has been reviewed by the IRB and was determined to meet the Exempt category cited above under 45 CFR 46.101(b).

This determination will expire one year from the date of this letter. It is the Principal Investigator's responsibility to submit for renewal of this determination. You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented.

## Study Description:

**Background.** Research on principal preparedness for school financial management is limited. Grounded in theory, principal preparation programs are without practical exercises for leadership readiness on budgets and finance. On its face, this topic is held the most responsible aspect of operations management, but the least studied in school leadership programs and sometimes the last facilitated in in-service professional development. Hence, a gap exists in both the theoretical and practical preparedness of developing effective financial stewards in school leadership.

**Aim.** This study seeks to build a consensus for principal competencies on managing school finance. It will identify appropriate knowledge and skills needed for principal preparation programs and professional development trainings to employ. It will argue a need for further research and the ramifications imposed without it.

**Planned Method.** Using Delphi, this research design is a hybrid that offers both quantitative and qualitative results providing data collection and analysis on the opinions of experts. Through an iterative process, a panel of experts will identify appropriate knowledge and competencies necessary to manage school finance. This method consists of sequential questionnaires (e.g., beginning with open ended followed by a Likert-Type Scale), quick feedback, and anonymity for its participants. This method is purposeful for building consensus among diverse professional experiences seeking agreement on a topic.

## Investigator's Responsibilities:

It is the investigator's responsibility to promptly inform the committee of any changes in the proposed research, and of any adverse events or unanticipated risks to participants or others. You are required to obtain IRB approval for any changes to any aspect of this study before they can be implemented.

If applicable, your approved consent forms and other documents are available online at [http://unco.myresearchonline.org/irb/index.cfm?event=home.dashboard.irbStudyManagement&irb\\_id=17-0111](http://unco.myresearchonline.org/irb/index.cfm?event=home.dashboard.irbStudyManagement&irb_id=17-0111).

Data security procedures must follow procedures as approved in the protocol and in accordance with ITS [Guidelines for Data Handling](#) and the [End User Checklist](#).

Please be aware that approval may still be required from other relevant authorities or "gatekeepers" (e.g., school principals, facility directors, custodians of records).

## APPENDIX C: Email Introduction to Study and Research Flyers




---

**RESEARCH STUDY PARTICIPATION: Educational Leadership Study on School Financial Management**


---

Sun., Apr. 29, 2017 at 5:12 PM

Most Noble Experts:

My name is Art Christian, and I am a student at the University of North Carolina Charlotte. I am doing a research study to see what competencies principals need to become effective stewards of school financial management. This research aims to provide principal preparation programs (e.g., university and licensure programs) and public school districts (e.g., professional developments and trainings units) pertinent information that may add to the limited research on this area of focus.

I would appreciate your help by participating in my study. I will ask you to answer three general research questions through an iterative process that consists of sequential questionnaires (e.g., beginning with open ended followed by Likert-Type Scale). This type of survey process is different than a "one and done" process. It is a series of rounds (approximately three to four), that seeks a group consensus. There are no right or wrong answers. This is not a test and you will not be graded.

You can ask questions at anytime. If you start the study, you can stop any time you want.

When I am done with the study I will write a report. Not only will I not know how you responded, but I will never say the names of anyone who participate in the report. Below are two links they are: (a) research flyers explaining the research in detail; and, (b) participation acceptance.

[Research Flyer \(1\).pptx](#)

[Panel Participant Survey](#)

Thank you in advance for your consideration,

\*\*\*\*\*

**Art Christian**

Doctoral Candidate

Educational Leadership & Administration



University of North Carolina Charlotte

704.793.3104 - cellular

"Attitude is Everything"

## .... District Research Participants Needed ...

*Would your district leadership team participate in this study?*

<u>Topic</u>	
Principal Preparedness on School Financial Management	
 <p><b><u>Duration of Participation</u></b></p> <ol style="list-style-type: none"> <li>1. To be deployed and completed during the months (May &amp; June, 2017)</li> <li>2. Communication is remote and electronic using GoogleDocs application</li> <li>3. Using less than 5 minutes of your time per Round (approximately 4 rounds needed for consensus building)</li> <li>4. Reciprocal feedback allows for 3 days to consider and reconsider group input before resubmittal</li> </ol>	 <p><b><u>Participants &amp; Selection</u></b></p> <p>This research will use opinions from a panel of experts and professionals closely related to the topic addressing three research questions:</p> <ol style="list-style-type: none"> <li>1. Superintendents</li> <li>2. Deputy Superintendents</li> <li>3. Directors of School Finance</li> <li>4. High School Principals</li> <li>5. School Financial Secretaries</li> <li>6. University Professors of Educational Leadership</li> <li>7. External School System Accountants (CPAs)</li> </ol>
	<p><b><u>Benefits</u></b></p> <ol style="list-style-type: none"> <li>1. There is a Amazon gift card of \$25.00 given upon completion to each participant</li> <li>2. There is full disclosure of results to participants that can be used for future leadership and professional development</li> </ol>



... Faculty Research Participants Needed ...  
*Would your Professors participate in this study?*

Topic  
Principal Preparedness on School Financial Management



Duration of Participation

1. To be deployed and completed during the months (May & June, 2017)
2. Communication is remote and electronic using GoogleDocs application
3. Using less than 5 minutes of your time per Round (approximately 4 rounds needed for consensus building)
4. Reciprocal feedback allows for 3 days to consider and reconsider group input before resubmittal



Participants & Selection

This research will use opinions from a panel of experts and professionals closely related to the topic addressing three research questions:

1. Superintendents
2. Deputy Superintendents
3. Directors of School Finance
4. High School Principals
5. School Financial Secretaries
6. University Professors of Educational Leadership
7. External School System Accountants (CPAs)



Benefits

1. There is a Amazon gift card of \$25.00 given upon completion to each participant
2. There is full disclosure of results to participants that can be used for future leadership and professional development

## ... Finance Director Research Participants Needed ...

*Would your School Executives participate in this study?*

### Topic

Principal Preparedness on School Financial Management



#### Duration of Participation

1. To be deployed and completed during the months (May & June, 2017)
2. Communication is remote and electronic using GoogleDocs application
3. Using less than 5 minutes of your time per Round (approximately 4 rounds needed for consensus building)
4. Reciprocal feedback allows for 3 days to consider and reconsider group input before resubmital



#### Participants & Selection

This research will use opinions from a panel of experts and professionals closely related to the topic addressing three research questions:



1. Superintendents
2. Deputy Superintendents
3. Directors of School Finance
4. High School Principals
5. School Financial Secretaries
6. University Professors of Educational Leadership
7. External School System Accountants (CPAs)



#### Benefits

1. There is a Amazon gift card of \$25.00 given upon completion to each participant
2. There is full disclosure of results to participants that can be used for future leadership and professional development

... CPA Research Participants Needed ...  
*Would your CPAs participate in this study?*

<u>Topic</u>	
Principal Preparedness on School Financial Management	
 <p><b><u>Duration of Participation</u></b></p> <ol style="list-style-type: none"> <li>1. To be deployed and completed during the months (May &amp; June, 2017)</li> <li>2. Communication is remote and electronic using Google-Docs application</li> <li>3. Using less than 5 minutes of your time per Round (approximately 4 rounds needed for consensus building)</li> <li>4. Reciprocal feedback allows for 3 days to consider and reconsider group input before resubmittal</li> </ol>	 <p><b><u>Participants &amp; Selection</u></b></p> <p>This research will use opinions from a panel of experts and professionals closely related to the topic addressing three research questions:</p> <ol style="list-style-type: none"> <li>1. Superintendents</li> <li>2. Deputy Superintendents</li> <li>3. Directors of School Finance</li> <li>4. High School Principals</li> <li>5. School Financial Secretaries</li> <li>6. University Professors of Educational Leadership</li> <li>7. External School System Accountants (CPAs)</li> </ol>
	 <p><b><u>Benefits</u></b></p> <ol style="list-style-type: none"> <li>1. There is a Amazon gift card of \$25.00 given upon completion to each participant</li> <li>2. There is full disclosure of results to participants that can be used for future leadership and professional development</li> </ol>



**UNC CHARLOTTE**  
Department of Educational Leadership

... Bookkeeper Research Participants Needed ...

*Would your School Financial Secretaries participate in this study?*

## Topic

Principal Preparedness on School Financial Management

### Duration of Participation

1. To be deployed and completed during the summer months the months (May & June, 2017)
2. Communication is remote and electronic using GoogleDocs application
3. Using less than 5 minutes of your time per Round (approximately 4 rounds needed for consensus building)
4. Reciprocal feedback allows for 3 days to consider and reconsider group input before resubmit



### Participants & Selection

This research will use opticons from a panel of experts and professionals closely related to the topic addressing three research questions:

1. Superintendents
2. Deputy Superintendents
3. Directors of School Finance
4. High School Principals
5. School Financial Secretaries
6. University Professors of Educational Leadership
7. External School System Accountants (CPAs)



### Benefits

1. There is a Amazon gift card of \$25.00 given upon completion to each participant
2. There is full disclosure of results to participants that can be used for future leadership and professional development





## ... High School Principal Research Participants Needed ...

*Would your Principals participate in this study?*

### Topic

Principal Preparedness on School Financial Management

#### Duration of Participation

1. To be deployed and completed during the months (May & June, 2017)
2. Communication is remote and electronic using GoogleDocs application
3. Using less than 5 minutes of your time per Round (approximately 4 rounds needed for consensus building)
4. Reciprocal feedback allows for 3 days to consider and reconsider group input before resubmital

#### Participants & Selection


This research will use opinions from a panel of experts and professionals closely related to the topic addressing three research questions:

1. Superintendents
2. Deputy Superintendents
3. Directors of School Finance
4. High School Principals
5. School Financial Secretaries
6. University Professors of Educational Leadership
7. External School System Accountants (CPAs)

#### Benefits

1. There is a Amazon gift card of \$25.00 given upon completion to each participant
2. There is full disclosure of results to participants that can be used for future leadership and professional development

## APPENDIX D: Level 1 - Delphi Pilot



## PRINCIPAL PREPAREDNESS ON SCHOOL FINANCIAL MANAGEMENT

\* Required

Beginning this week, I agree to be on the Panel of Experts for this study? \*

☐ YES

☐ NO

I will be available this summer (June) to respond to the iterative rounds (3 to 4) for this study? \*

☐ YES

☐ NO

[SUBMIT](#)

Page 1 of 1

This form was created inside of UNC Charlotte. [Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

Google Forms

## APPENDIX D - continued



---

## Pilot Study: Your Opinion is Valued

---

Mon., May 8, 2017 at 6:17 PM

Most Noble Expert:

Your opinion is valued.

As a person connected to School Finance, your review of the of the research questions and instrument is valued. Below is the sample.



As of 4/2017, the International Review Board of UNCC has approved this study for deployment.

Thank you in advance for your input,

\*\*\*\*\*

Art Christian

Doctoral Candidate


Educational Leadership & Administration

University of North Carolina Charlotte

704.793.3104 - cellular

"Attitude is Everything"

## APPENDIX D - continued



PRINCIPAL PREPAREDNESS ON  
SCHOOL FINANCIAL MANAGEMENT

NEXT

Page 1 of 3

Never submit passwords through Google Forms.

This form was created inside of Kannapolis City Schools. Report Abuse - Terms of Service - Additional Terms

Google Forms

## APPENDIX D - continued

## Informed Consent

Dear Professional Expert

:

Thank you in advance for participating in my research study.

### Purpose of the Study

This study aims to build a consensus for principal competencies on managing school finance. It will identify appropriate knowledge and skills needed for principal programs and professional development trainings to employ. It will argue a need for further research and the ramifications imposed without it.

### Investigator

This study is conducted by Art Christian, in the Department of Education and Administration at the University of North Carolina Charlotte in partial fulfillment for a doctoral degree. The responsible faculty member is Dr. James J. Bird, Professor of Educational Leadership, UNCC.

### Description of Participation:

In this study, careful consideration is given to identify professional experts that may contribute pertinent insight on school financial management. Because this study is designed to formulate rich description of knowledge needed for an effective and competent principal - the panel should consist of those that generally evaluate these proficient behaviors. These are superintendents, deputy superintendents, district financial officers, external financial auditors, and university professors.

## APPENDIX D - continued

## Length of Participation:

Using the Delphi Method, this researcher will collect and analyze opinions of you experts. Through an iterative process, you panel of experts will identify appropriate knowledge and competencies needed to manage school finance. This method consists of sequential questionnaires (e.g., beginning with open ended followed by Likert-Type Scale) with iterative rounds, quick feedback, and anonymity for participants. This design is purposeful for building consensus among professionals seeking agreement on a topic.

## Risks and Benefits of Participation:

POTENTIAL RISKS: Because this method is iterative, a “one and done” survey is not to be expected by its participants. Therefore, time commitment is longer and dropouts during the research process are expected. The risks for participating in this study are minimal. It is possible, as with any survey, some questions may raise concerns in its participants. If any misunderstandings are experienced, the researcher will be available to answer any questions during or after the survey.

POTENTIAL BENEFITS: Upon your completion of the iterative process, a \$25.00 Amazon.com gift card will be the honorarium to all participates. Additionally, consensus agreement results, full access and disclosure to your district, organization, and university will be provided.

## Confidentiality:

The data collected by the Investigator will be kept confidential to the full extent possible. The following steps will be taken to ensure this confidentiality:

## APPENDIX D - continued

- No participant will ever be mentioned by name in the reported results.
- Participants can end their participation at any time.
- Participants can choose not to respond to any question.
- Only the principal investigator and his research committee will have access to the raw data. All gathered raw data will be stored in a locked cabinet and/or electronic file and on a password protected computer.

## Fair Treatment and Respect:

UNC Charlotte wants to make sure that you are treated in a fair and respectful manner. Contact the

University's Research Compliance Office (704-687-1871) if you have any questions about how you are treated as a study participant. If you have any questions about the project, please call or text Art Christian at 704-793.3104 or [achris16@uncc.edu](mailto:achris16@uncc.edu) or Dr. James J. Bird at 704-687-1821 or [jjbird@uncc.edu](mailto:jjbird@uncc.edu).

## Participant Consent:

I have read the information in this consent form. I am professional with direct relation to the topic of school financial management with five (5) or more years of experience.

I agree to participate in this research project. I understand that I will receive a copy of this form after it has been signed by me and the Principal Investigator. If you have any questions or concerns, please call or text Art Christian at 704.793.3104.

If you want to participate in this study, click on the "I Agree" button below to begin.

This form was approved for use on 04/18/2017 for a period of one (1) year.

## APPENDIX D - continued

Do you agree to participate ? \*

- ☐ Yes, I Agree to Participate
- ☐ No, I Do Not Want to Participate
- ☐ Other: \_\_\_\_\_

BACK

NEXT

Page 2 of 3

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. Report Abuse - Terms of Service - Additional Terms

Google Forms



## APPENDIX D - continued

**Demographic Information**

What is/was your professional title related to this study? \*

Your answer

---

How many courses were required for your license related to finance? \*

- ☐ none
- ☐ one
- ☐ 3 to 5
- ☐ 5 or more

## APPENDIX D - continued

What is your highest degree earned? \*

- ☐ Baccalaureate
- ☐ Master
- ☐ Master + add-on
- ☐ Doctorate
- ☐ Associate or Other

To what extent is money management, budgets, or finance apart  
of your daily operations? \*

1 2 3 4 5 6 7 8 9 10

Least often

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most often

## APPENDIX D - continued

BACK

SUBMIT

Page 3 of 3

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. Report Abuse - Terms of Service - Additional Terms

Google Forms

### Research Questions

What competencies are necessary for principals to become effective in managing school finance ?

Your answer

To what extent are university principal preparation programs preparing students to manage budgets and financial matters?

Your answer

To what extent is professional development providing principal training for managing school finance ?

Your answer

## APPENDIX D - continued

BACK

SUBMIT

Page 3 of 3

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. [Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

Google Forms

## APPENDIX E: Level 2 - Delphi I Round One




---

## RESEARCH STUDY: DELPHI I ROUND ONE ON SCHOOL FINANCIAL MANAGEMENT

---

Thu, May 11, 2017 at 5:09 PM

Most Noble Experts:

Thank you in advance for your participation. I hope to keep you in this study throughout the duration.

The link below will begin the Delphi I of Round One of this study. Take time to consider as I plan to close this survey to analyze results in the next five (5) days.

[Round 1\\_Delphi Technique\\_Expert Panel](#)

\*\*\*\*\*

**Art Christian**

Doctoral Candidate


Educational Leadership & Administration

University of North Carolina Charlotte

704.793.3104- cellular

"Attitude is Everything"

## APPENDIX E - continued



PRINCIPAL PREPAREDNESS ON  
SCHOOL FINANCIAL MANAGEMENT

[NEXT](#)

Page 1 of 3

Never submit passwords through Google Forms.

This form was created inside of Kannapolis City Schools. [Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

Google Forms

## APPENDIX E - continued

## Informed Consent

Dear Professional Expert

:

Thank you in advance for participating in my research study.

### Purpose of the Study

This study aims to build a consensus for principal competencies on managing school finance. It will identify appropriate knowledge and skills needed for principal programs and professional development trainings to employ. It will argue a need for further research and the ramifications imposed without it.

### Investigator

This study is conducted by Art Christian, in the Department of Education and Administration at the University of North Carolina Charlotte in partial fulfillment for a doctoral degree. The responsible faculty member is Dr. James J. Bird, Professor of Educational Leadership, UNCC.

### Description of Participation:

In this study, careful consideration is given to identify professional experts that may contribute pertinent insight on school financial management. Because this study is designed to formulate rich description of knowledge needed for an effective and competent principal - the panel should consist of those that generally evaluate these proficient behaviors. These are superintendents, deputy superintendents, district financial officers, external financial auditors, and university professors.

**APPENDIX E - continued****Length of Participation:**

Using the Delphi Method, this researcher will collect and analyze opinions of you experts. Through an iterative process, you panel of experts will identify appropriate knowledge and competencies needed to manage school finance. This method consists of sequential questionnaires (e.g., beginning with open ended followed by Likert-Type Scale) with iterative rounds, quick feedback, and anonymity for participants. This design is purposeful for building consensus among professionals seeking agreement on a topic.

**Risks and Benefits of Participation:**

**POTENTIAL RISKS:** Because this method is iterative, a "one and done" survey is not to be expected by its participants. Therefore, time commitment is longer and dropouts during the research process are expected. The risks for participating in this study are minimal. It is possible, as with any survey, some questions may raise concerns in its participants. If any misunderstandings are experienced, the researcher will be available to answer any questions during or after the survey.

**POTENTIAL BENEFITS:** Upon your completion of the iterative process, a \$25.00 Amazon.com gift card will be the honorarium to all participates. Additionally, consensus agreement results, full access and disclosure to your district, organization, and university will be provided.

**Confidentiality:**

The data collected by the Investigator will be kept confidential to the full extent possible. The following steps will be taken to ensure this confidentiality:



**APPENDIX E - continued**

- No participant will ever be mentioned by name in the reported results.
- Participants can end their participation at any time.
- Participants can choose not to respond to any question.
- Only the principal investigator and his research committee will have access to the raw data. All gathered raw data will be stored in a locked cabinet and/or electronic file and on a password protected computer.

**Fair Treatment and Respect:**

UNC Charlotte wants to make sure that you are treated in a fair and respectful manner. Contact the

University's Research Compliance Office (704-687-1871) if you have any questions about how you are treated as a study participant. If you have any questions about the project, please call or text Art Christian at 704-793.3104 or [achris16@uncc.edu](mailto:achris16@uncc.edu) or Dr. James J. Bird at 704-687-1821 or [jjbird@uncc.edu](mailto:jjbird@uncc.edu).

**Participant Consent:**

I have read the information in this consent form. I am professional with direct relation to the topic of school financial management with five (5) or more years of experience.

I agree to participate in this research project. I understand that I will receive a copy of this form after it has been signed by me and the Principal Investigator. If you have any questions or concerns, please call or text Art Christian at 704.793.3104.

If you want to participate in this study, click on the "I Agree" button below to begin.

This form was approved for use on 04/18/2017 for a period of one (1) year.

## APPENDIX E - continued

Do you agree to participate ? \*

- ☐ Yes, I Agree to Participate
- ☐ No, I Do Not Want to Participate
- ☐ Other: \_\_\_\_\_

BACK

NEXT

Page 2 of 3

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. [Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

Google Forms

## APPENDIX E - continued

**Demographic Information**

What is/was your professional title related to this study? \*

Your answer

---

How many courses were required for your license related to finance? \*

- ☐ none
- ☐ one
- ☐ 3 to 5
- ☐ 5 or more

## APPENDIX E - continued

What is your highest degree earned? \*

- ☐ Baccalaureate
- ☐ Master
- ☐ Master + add-on
- ☐ Doctorate
- ☐ Associate or Other

To what extent is money management, budgets, or finance apart of your daily operations? \*

1 2 3 4 5 6 7 8 9 10

Least often

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most often

## APPENDIX E - continued

**Research Questions**

What competencies are necessary for principals to become effective in managing school finance ?

Your answer

---

To what extent are university principal preparation programs preparing students to manage budgets and financial matters?

Your answer

---

To what extent is professional development providing principal training for managing school finance ?

Your answer

---

[BACK](#)[SUBMIT](#) Page 3 of 3

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. [Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

Google Forms

## APPENDIX E - continued

## Results of Level 2 - Delphi I Responses - Competencies Needed to Become an Effective Principal of School Financial Management

Statement	Number of Responses
knowledge of financial sources, expenditures, and financial reporting	4
understanding the way funding is appropriated and how it can be used	4
need knowledge in basic accounting principles and budgeting to meet financial goals	4
understand how schools are funded and allotment protocols with discretionary funds	3
understand where to find and how to use the budget reference documents needed when budgeting governing vendors and procurement	3
bank reconciliations, chart of accounts, procedures and accounting guidelines	2
knowledge of budgeting codes and understanding federal, state, and local uses and the reconciliation of bank books	2
a knowledge for budget and fund accounting protocols	2
receiving of funds through fundraisers, etc.	2
to compare current year revenues/disbursements through the general ledger to previous year accounting	2
understanding controls and procedures that are supposed to be in place over receipts and disbursements and petty cash	2
understanding the development and management of a budget	2
principals need to have prior experience with allocation of funds	1
number sense: understanding the support for student learning and computer knowledge (i.e., Oracle)	1
knowledge of vendors being paid by schools to ensure expenditures are legitimate/not fictitious	1
understand potential warning signs of a bookkeeper committing fraud	1
what financial pressures or difficulties look like	1
bookkeeper with children in college or significant expenses	1
bookkeeper with family medical issues	1
bookkeeper that is living beyond his/her means	1
bookkeeper bouncing checks	1
bookkeeper acts disgruntled and/or talking about being overworked and underpaid	1
bookkeeper that never wants help with record keeping	1
bookkeeper that does not like time off	1
bookkeeper that is over eager to collect money from students or work concessions/fundraisers	1
basic knowledge of financial activity of parent/teacher organization operating on school behalf	1
Total responses	46

## APPENDIX E – continued

## Results of Level 2 - Delphi I Responses - The Extent to University or Principal Programs Preparing Students for School Financial Management

Statement	Number of Responses
not at all	4
only one course	4
very little	3
principals are learning more on the job than classes	3
students need more of this	2
no more than two classes	2
to the extent were supervising matters is more federal and state related not local operation	2
more theoretical than application based	2
the more practical application scenarios should be a part of the program preparation	1
most principals are not prepared to manage large budgets	1
unless students have previously majored in business, authentic learning is the only preparation	1
not doing much at all in this area of preparation	1
a trend is moving away from any course at all related to finance, equivalent to no law courses also	1
Total responses	27

## Results of Level 2 - Delphi I Responses - The Extent to School Districts Provide Professional Development to Principals on School Financial Management

Statement	Number of Responses
very little to none	8
professional development being done mainly above the local level	7
never a focus	5
principals are just thrown in and basically told don't mess up the money	2
very minimal direct instruction, mainly assumption is made that principals already understand	1
Total responses	23

## APPENDIX F: Level 2 - Delphi I Round Two



## RESEARCH STUDY: DELPHI I ROUND TWO ON SCHOOL FINANCIAL MANAGEMENT

Fri, May 19, 2017 at 2:37 PM

Most Noble Panel of Experts:

Thank you for the responses. In this Round, your review, consideration, and revision is offered. This is your opportunity to provide input before this responses are turned to statements for a Likert-Type Scale. The first three links are the list of responses separated by research question. The last link is an opportunity for you to comment on the review, consideration, and or revise due to the inputs of other panel members. You have five days before the survey is closed.

[Round I Responses for Question 1.docx](#)

[Round I Responses for Question 2.docx](#)

[Round I Responses for Question 3.docx](#)

[Round 2\\_Delphi I\\_Revisions](#)

Please stay with the process, I need you - THANK YOU!

\*\*\*\*\*

**Art Christian**

Doctoral Candidate

Educational Leadership & Administration


University of North Carolina Charlotte

704.793.3104 - cellular

"Attitude is Everything"



## APPENDIX F - continued



## PRINCIPAL PREPAREDNESS ON SCHOOL FINANCIAL MANAGEMENT

[NEXT](#)

Page 1 of 5

Never submit passwords through Google Forms.

### Informed Consent

Dear Professional Expert

:

Thank you in advance for participating in my research study.

#### Purpose of the Study

This study aims to build a consensus for principal competencies on managing school finance. It will identify appropriate knowledge and skills needed for principal programs and professional development trainings to employ. It will argue a need for further research and the ramifications imposed without it.

#### Investigator

This study is conducted by Art Christian, in the Department of Education and Administration at the University of North Carolina Charlotte in partial fulfillment for a doctoral degree. The responsible faculty member is Dr. James J. Bird, Professor of Educational Leadership, UNCC.

#### Description of Participation:

In this study, careful consideration is given to identify professional experts that may contribute pertinent insight on school financial management. Because this study is designed to formulate rich description of knowledge needed for an effective and competent principal - the panel should consist of those that generally evaluate these proficient behaviors. These are superintendents, deputy superintendents, district financial officers, external financial auditors, and university professors.

**APPENDIX F - continued****Length of Participation:**

Using the Delphi Method, this researcher will collect and analyze opinions of you experts. Through an iterative process, you panel of experts will identify appropriate knowledge and competencies needed to manage school finance. This method consists of sequential questionnaires (e.g., beginning with open ended followed by Likert-Type Scale) with iterative rounds, quick feedback, and anonymity for participants. This design is purposeful for building consensus among professionals seeking agreement on a topic.

**Risks and Benefits of Participation:**

**POTENTIAL RISKS:** Because this method is iterative, a "one and done" survey is not to be expected by its participants. Therefore, time commitment is longer and dropouts during the research process are expected. The risks for participating in this study are minimal. It is possible, as with any survey, some questions may raise concerns in its participants. If any misunderstandings are experienced, the researcher will be available to answer any questions during or after the survey.

**POTENTIAL BENEFITS:** Upon your completion of the iterative process, a \$25.00 Amazon.com gift card will be the honorarium to all participates. Additionally, consensus agreement results, full access and disclosure to your district, organization, and university will be provided.

**Confidentiality:**

The data collected by the Investigator will be kept confidential to the full extent possible. The following steps will be taken to ensure this confidentiality:

## APPENDIX F - continued

- No participant will ever be mentioned by name in the reported results.
- Participants can end their participation at any time.
- Participants can choose not to respond to any question.
- Only the principal investigator and his research committee will have access to the raw data. All gathered raw data will be stored in a locked cabinet and/or electronic file and on a password protected computer.

## Fair Treatment and Respect:

UNC Charlotte wants to make sure that you are treated in a fair and respectful manner. Contact the

University's Research Compliance Office (704-687-1871) if you have any questions about how you are treated as a study participant. If you have any questions about the project, please call or text Art Christian at 704-793.3104 or [achris16@uncc.edu](mailto:achris16@uncc.edu) or Dr. James J. Bird at 704-687-1821 or [jjbird@uncc.edu](mailto:jjbird@uncc.edu).

## Participant Consent:

I have read the information in this consent form. I am professional with direct relation to the topic of school financial management with five (5) or more years of experience.

I agree to participate in this research project. I understand that I will receive a copy of this form after it has been signed by me and the Principal Investigator. If you have any questions or concerns, please call or text Art Christian at 704.793.3104.

If you want to participate in this study, click on the "I Agree" button below to begin.

This form was approved for use on 04/18/2017 for a period of one (1) year.

## APPENDIX F - continued

I want to continue participation in this study ... \*

☐ Yes

☐ No

BACK

NEXT

Page 2 of 5

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. Report Abuse - Terms of Service - Additional Terms

Google Forms

### Research Questions

What competencies are necessary for principals to become effective in managing school finance ?

Your answer

To what extent are university principal preparation programs preparing students to manage budgets and financial matters?

Your answer

To what extent is professional development providing principal training for managing school finance ?

Your answer

## APPENDIX F - continued

BACK

SUBMIT

Page 3 of 3

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. [Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

Google Forms

## APPENDIX G: Level 2 - Delphi I Round Three



---

## ROUND THREE OF DELPHI I: RESEARCH STUDY OF SCHOOL FINANCIAL MANAGEMENT

---

Thu, May 25, 2017 at 6:33 PM

Most Noble Panelists:

This is the Round III of Delphi I. This is your opportunity to evaluate the importance of the statements. There are less than 30 statements for evaluation. You have five (5) before the window closes.

[Round 3\\_Delphi I](#)

Thank you in advance for your participation and patience,

\*\*\*\*\*

**Art Christian**

Doctoral Candidate

Educational Leadership & Administration

University of North Carolina Charlotte

704.793.3104- cellular

"Attitude is Everything"

## APPENDIX G - continued

**ROUND Research Question #1**

This Round is seeking consensus from the panel of experts. Based on the responses from Round 1, Research Question #1, (What competencies are necessary for principals to become effective in managing school finance?); and, elimination of duplicates, each of you should rank importance of these items.

There are only 20 items in this section.

Knowing and understanding budget codes (chart of accounts).

1 2 3 4 5 6 7 8 9 10

Least  
Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most  
Important

## APPENDIX G - continued

Knowing and understanding budgets relating to district/school financial goals

1 2 3 4 5 6 7 8 9 10

Least  
Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Most Important

Knowing and understanding the source(s) related to the allotment of funds

1 2 3 4 5 6 7 8 9 10

Least  
Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Most  
Important

## Knowing how to reconcile and balance monthly bank statements

1 2 3 4 5 6 7 8 9 10

Least  
Important

0 0 0 0 0 0 0 0 0 0

Most Important



## APPENDIX G - continued

Knowing and understanding accounting principles and protocols

1 2 3 4 5 6 7 8 9 10

Least  
Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Most  
Important

Knowing and understanding appropriate procedures for fundraising

1 2 3 4 5 6 7 8 9 10

Least  
Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Most  
Important

## Understanding the functionality of a general ledger

1 2 3 4 5 6 7 8 9 10

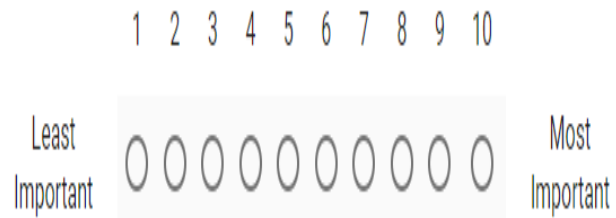
Least  
Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

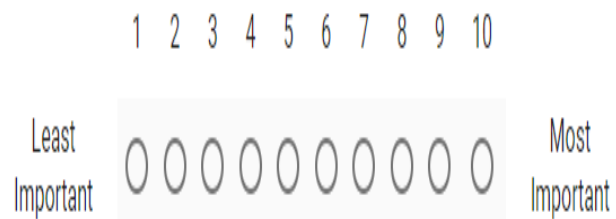
Most  
Important

## APPENDIX G - continued

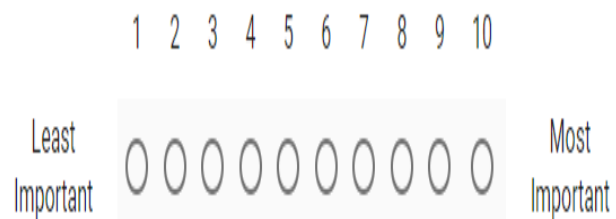
Knowing how to develop and manage a budget



Knowing and understanding monthly financial reporting



Knowledge on internal systems of controls (financial software)





## APPENDIX G - continued

## Understanding what potential fraud looks like

1 2 3 4 5 6 7 8 9 10

Least Important ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Most Important

### Detecting fictitious expenditures to that of legitimate transactions

1 2 3 4 5 6 7 8 9 10

Least Important Most Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

A bookkeeper that has personal financial pressures

1 2 3 4 5 6 7 8 9 10

Least Important ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Most Important

## APPENDIX G - continued

A bookkeeper that is disgruntled about being overworked and underpaid

1 2 3 4 5 6 7 8 9 10

Least Important Most Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

A bookkeeper that does not like to take time off

Least Important 1 2 3 4 5 6 7 8 9 10 Most Important

A bookkeeper that does not care for help or back up financial management

1 2 3 4 5 6 7 8 9 10

Least Important Most Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

## APPENDIX G - continued

A bookkeeper over eager to collect money from students or work concessions and or fundraisers

	1	2	3	4	5	6	7	8	9	10	
Least Important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most Important


Are there any other "competencies" you wish to add to Research Question #1...?

Your answer

---

BACK

NEXT

 Page 2 of 4

Never submit passwords through Google Forms.

## APPENDIX G - continued

**ROUND Research Question #2**

This Round is seeking consensus from the panel of experts. Based on the responses from Round 1, Research Question #2, (To what extent are university principal preparation programs preparing students to manage budgets and financial matters?); and, elimination of duplicates, each of you should rank importance of these items.

There are only 4 items in this section.

Preparation could be more practical based rather than theoretical

1 2 3 4 5 6 7 8 9 10

Least  
Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Most  
Important

## APPENDIX G - continued

ROUND

Research Question #3

This Round is seeking consensus from the panel of experts. Based on the responses from Round 1, Research Question #3, (To what extent is professional development providing principal training for managing school finance?); and, elimination of duplicates, each of you should rank importance of these items.

There are only 2 items in this section.

Minimal training is provided and it "should be" more of a priority

1 2 3 4 5 6 7 8 9 10

Least Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most Important

No training is provided and it "should be" more of a priority

1 2 3 4 5 6 7 8 9 10

Least Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most Important

Are there any other specifics you wish to add to Research Question #3 ...?

Your answer

BACK

SUBMIT

Page 4 of 4

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. Report Abuse - Terms of Service - Additional Terms

Google Forms



## APPENDIX G – continued

Results of Level 2 - Delphi I - Mean, Standard Deviation, Variance, and Percentage on Panel of Experts Rating Statements Pertaining to What Competencies are Needed for Principals to Become Effective Stewards of School Financial Management

	Statement	<i>N</i>	<i>M<sup>a</sup></i>	<i>SD</i>	$\sigma^2$	<i>%<sup>b</sup></i>
1.	Knowing how to develop and manage a budget	19	9.05	1.17	1.38	100.0
2.	Knowing the protocols for using discretionary funds	19	8.53	1.30	1.70	100.0
3.	Knowing and understanding the source(s) related to the allotment of funds	19	8.78	1.54	2.39	94.5
4.	Knowledge on internal systems of controls (financial software)	19	8.11	1.96	3.87	94.5
5.	Knowing the rules governing cash disbursements, receipts, and petty cash	19	8.84	1.97	3.91	94.5
6.	Knowing and understanding budgets relating to district/school financial goals	19	8.89	1.14	1.32	94.4
7.	Knowing and understanding monthly financial reporting	19	8.79	1.27	1.62	94.4
8.	Detecting fictitious expenditures to that of legitimate transactions	19	8.84	1.25	1.58	94.4
9.	The Principal should be “least concerned” vs. “most concerned” about a bookkeeper that does not care for help or backup on financial management	19	8.26	2.53	6.42	89.0
10.	Understanding what potential fraud looks like	19	9.06	1.30	1.70	88.2
11.	The Principal should be “least concerned” vs. “most concerned about a bookkeeper that has personal financial issues	19	7.79	2.74	7.50	83.4
12.	The Principal should be “least concerned” vs. “most concerned” about a bookkeeper that is over eager to collect money from students or work concessions and or fundraisers	19	7.95	2.65	7.05	83.4
13.	Knowing and understanding budget codes (chart of accounts)	19	8.36	2.11	4.46	83.3
14.	The Principal should be “least concerned” vs. “most concerned” about a bookkeeper that is disgruntled about being overworked and underpaid	19	7.74	2.51	6.31	83.3

## APPENDIX G - continued

15.	The Principal should be “least concerned” vs. “most concerned” about a bookkeeper that does not like to take time off	19	7.79	2.44	5.95	83.3
16.	Knowing the rules governing vendors and procurement	19	8.00	1.85	3.44	77.8
17.	Knowing how to reconcile and balance monthly bank statements	19	7.74	2.55	6.53	72.3
18.	Knowing and understanding accounting principles and protocols	19	7.37	1.89	3.57	72.3
19.	Knowing and understanding appropriate procedures for fundraising	19	7.95	1.98	3.94	72.2
20.	<del>Understanding the functionality of a general ledger</del>	<del>19</del>	<del>7.53</del>	<del>2.09</del>	<del>4.37</del>	<del>55.6</del>

<sup>a</sup> Rating scale used was 1-3 = least important, 4-6 = slightly important, 7-10 = most important.

<sup>b</sup> Percentage of Responses in the most favorable categories of the rating scale (most important, a 70% threshold).

Results of Level 2 - Delphi I - Mean, Standard Deviation, Variance, and Percentage on Panel of Experts Rating Statements Pertaining to What Extent are University or Principal Preparation Programs Preparing Students on School Financial Management

	Statement	<i>N</i>	<i>M<sup>a</sup></i>	<i>SD</i>	<i>σ<sup>2</sup></i>	<i>%<sup>b</sup></i>
1.	Preparation could be more practical based rather than theoretical	18	8.44	2.20	4.85	94.1
2.	On the job experience appears to be the primary preparation	19	8.21	1.58	2.50	88.8
3.	<del>Preparation could be more theoretical based rather than practical</del>	<del>19</del>	<del>4.17</del>	<del>2.30</del>	<del>5.32</del>	<del>26.6</del>
4.	<del>Preparation could be only one class</del>	<del>19</del>	<del>4.10</del>	<del>2.35</del>	<del>5.54</del>	<del>22.3</del>

<sup>a</sup> Rating scale used was 1-3 = least important, 4-6 = slightly important, 7-10 = most important.

<sup>b</sup> Percentage of Responses in the most favorable categories of the rating scale (most important, a 70% threshold).

Results of Level 2 - Delphi I - Mean, Standard Deviation, Variance, and Percentage on Panel of Experts Rating Statements Pertaining to What Extent are School Districts Providing Professional Development for Principals on School Financial Management

	Statement	<i>N</i>	<i>M<sup>a</sup></i>	<i>SD</i>	$\sigma^2$	% <sup>b</sup>
1.	Minimal training is provided and it “should be” more of a priority	19	8.95	1.64	2.71	94.5
2.	No training is provided and it “should be” more of a priority	19	8.42	2.31	5.36	83.4

<sup>a</sup> Rating scale used was 1-3 = least important, 4-6 = slightly important, 7-10 = most important.

<sup>b</sup> Percentage of Responses in the most favorable categories of the rating scale (most important, a 70% threshold).

## APPENDIX H: Level 3 - Delphi II Round One




---

## ROUND ONE OF DELPHI II: RESEARCH STUDY OF SCHOOL FINANCIAL MANAGEMENT

---

Thu, Jun 1, 2017 at 8:01 PM

Most Noble Educational Leaders:

Thank you for agreeing to be apart of this research study.

In this first Round, you have the opportunity of seeing the percentage results of Delphi I. Delphi I was set up for developing this instrument. Without any opportunity for you to revise Delphi I, you may consider additions to topics not considered previously. The first link allows you to review the percentage results. The second link allows you offer additions. They are as follows:

[Results of Delphi I Round 3](#)

[Round 1\\_Delphi II\\_Additions](#)

Please stay with the study, your opinion is greatly appreciated.

\*\*\*\*\*

**Art Christian**

Doctoral Candidate


Educational Leadership & Administration

University of North Carolina Charlotte

704.793.3104 - cellular

"Attitude is Everything"

## APPENDIX H – continued



## BUILDING CONSENSUS FOR PRINCIPAL PREPAREDNESS ON SCHOOL FINANCIAL MANAGEMENT USING THE DELPHI METHOD

Below are the results from THREE Rounds of participation by Expert Panel Members (e.g., Superintendents, District Executives, Directors of Finance, Professors of Educational Leadership, External Financial Auditors, and School Bookkeepers) in Delphi I. This group met the 70% threshold (consensus) on the items collected relating to all three Research Questions (RQ). For your review, I will send you another data set as Secondary Principals' responses to the same research questions in Delphi II which should be deployed in early August.

Thank you Expert Panel Member!

NEXT

Page 1 of 4

## APPENDIX H - continued

**RQ 1 RESULTS: What competencies are necessary for principals to become effective in managing school finance?**

Knowing and understanding budget codes (chart of accounts)	83.3
Knowing and understanding budgets relating to district/school financial goals	94.4
Knowing and understanding the source(s) related to the allotment of funds	94.5
Knowing how to reconcile and balance monthly bank statements	72.3
Knowing and understanding accounting principles and protocols	72.3
Knowing and understanding appropriate procedures for fundraising	72.2
Understanding the functionality of a general ledger	55.6
Knowing how to develop and manage a budget	100.0
Knowing and understanding monthly financial reporting	94.4
Knowledge on internal systems of controls (financial software)	94.5
Knowing the rules governing cash disbursements, receipts, and petty cash	94.5
Knowing the rules governing vendors and procurement	77.8
Knowing the protocols for using discretionary funds	100.0
Understanding what potential fraud looks like	88.2
Detecting fictitious expenditures to that of legitimate transactions	94.4

## APPENDIX H - continued

The Principal should be "least concerned" vs "most concerned" about a bookkeeper that has personal financial issues	83.4
The Principal should be "least concerned" vs "most concerned" about a bookkeeper that is disgruntled about being overworked and underpaid	83.3
The Principal should be "least concerned" vs "most concerned" about a bookkeeper that does not like to take time off	83.3
The Principal should be "least concerned" vs "most concerned" about a bookkeeper that does not care for help or backup on financial management	89.0
The Principal should be "least concerned" vs "most concerned" about a bookkeeper that is over eager to collect money from students or work concessions and or fundraisers	83.4

Do you have any questions/comments regarding RQ 1?

Your answer

---

BACK

NEXT

Page 2 of 4

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. [Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

Google Forms

## APPENDIX H - continued

**Informed Consent**

Dear Professional Expert

:

Thank you in advance for participating in my research study.

**Purpose of the Study**

This study aims to build a consensus for principal competencies on managing school finance. It will identify appropriate knowledge and skills needed for principal programs and professional development trainings to employ. It will argue a need for further research and the ramifications imposed without it.

**Investigator**


This study is conducted by Art Christian, in the Department of Education and Administration at the University of North Carolina Charlotte in partial fulfillment for a doctoral degree. The responsible faculty member is Dr. James J. Bird, Professor of Educational Leadership, UNCC.

**Description of Participation:**

In this study, careful consideration is given to identify professional experts that may contribute pertinent insight on school financial management. Because this study is designed to formulate rich description of knowledge needed for an effective and competent principal - the panel should consist of those that generally evaluate these proficient behaviors. These are superintendents, deputy superintendents, district financial officers, external financial auditors, and university professors.



## APPENDIX H – continued



BUILDING CONSENSUS FOR  
PRINCIPAL PREPAREDNESS ON  
SCHOOL FINANCIAL MANAGEMENT  
USING THE DELPHI METHOD

NEXT

Page 1 of 3

Never submit passwords through Google Forms.

**APPENDIX H - continued****Length of Participation:**

Using the Delphi Method, this researcher will collect and analyze opinions of you experts. Through an iterative process, you panel of experts will identify appropriate knowledge and competencies needed to manage school finance. This method consists of sequential questionnaires (e.g., beginning with open ended followed by Likert-Type Scale) with iterative rounds, quick feedback, and anonymity for participants. This design is purposeful for building consensus among professionals seeking agreement on a topic.

**Risks and Benefits of Participation:**

**POTENTIAL RISKS:** Because this method is iterative, a "one and done" survey is not to be expected by its participants. Therefore, time commitment is longer and dropouts during the research process are expected. The risks for participating in this study are minimal. It is possible, as with any survey, some questions may raise concerns in its participants. If any misunderstandings are experienced, the researcher will be available to answer any questions during or after the survey.

**POTENTIAL BENEFITS:** Upon your completion of the iterative process, a \$25.00 Amazon.com gift card will be the honorarium to all participates. Additionally, consensus agreement results, full access and disclosure to your district, organization, and university will be provided.

**Confidentiality:**

The data collected by the Investigator will be kept confidential to the full extent possible. The following steps will be taken to ensure this confidentiality:

## APPENDIX H - continued

- No participant will ever be mentioned by name in the reported results.
- Participants can end their participation at any time.
- Participants can choose not to respond to any question.
- Only the principal investigator and his research committee will have access to the raw data. All gathered raw data will be stored in a locked cabinet and/or electronic file and on a password protected computer.

### Fair Treatment and Respect:

UNC Charlotte wants to make sure that you are treated in a fair and respectful manner. Contact the

University's Research Compliance Office (704-687-1871) if you have any questions about how you are treated as a study participant. If you have any questions about the project, please call or text Art Christian at 704-793.3104 or [achris16@uncc.edu](mailto:achris16@uncc.edu) or Dr. James J. Bird at 704-687-1821 or [jjbird@uncc.edu](mailto:jjbird@uncc.edu).

### Participant Consent:

I have read the information in this consent form. I am professional with direct relation to the topic of school financial management with five (5) or more years of experience.

I agree to participate in this research project. I understand that I will receive a copy of this form after it has been signed by me and the Principal Investigator. If you have any questions or concerns, please call or text Art Christian at 704.793.3104.

If you want to participate in this study, click on the "I Agree" button below to begin.

This form was approved for use on 04/18/2017 for a period of one (1) year.

## APPENDIX H - continued

Do you agree to participate ? \*

- ☐ Yes, I Agree to Participate
- ☐ No, I Do Not Want to Participate
- ☐ Other: \_\_\_\_\_

BACK

NEXT

Page 2 of 3

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. Report Abuse - Terms of Service - Additional Terms

Google Forms

## APPENDIX H - continued

**Demographic Information**

What is/was your professional title related to this study? \*

Your answer

---

How many courses were required for your license related to finance? \*

- ☐ none
- ☐ one
- ☐ 3 to 5
- ☐ 5 or more

## APPENDIX H - continued

What is your highest degree earned? \*

- ☐ Baccalaureate
- ☐ Master
- ☐ Master + add-on
- ☐ Doctorate
- ☐ Associate or Other

To what extent is money management, budgets, or finance apart  
of your daily operations? \*

1 2 3 4 5 6 7 8 9 10

Least often

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most often

## APPENDIX H - continued

**Research Questions**

What competencies are necessary for principals to become effective in managing school finance ?

Your answer

---

To what extent are university principal preparation programs preparing students to manage budgets and financial matters?

Your answer

---

To what extent is professional development providing principal training for managing school finance ?

Your answer

---

[BACK](#)[SUBMIT](#) Page 3 of 3

Never submit passwords through Google Forms.

This form was created inside of UNC Charlotte. [Report Abuse](#) - [Terms of Service](#) - [Additional Terms](#)

Google Forms

## APPENDIX H – continued

## Level 3 – Delphi II Principal Additions to the Responses of Delphi I: The Competencies Needed to Become an Effective Steward on School Financial Management

Statements	Number of Responses
Identifying the financial needs for a school (i.e., sifting through what is most important for improving student achievement)	3
Knowledge on how to facilitate a School Improvement Team in building a budget that aligns with expenditures and goals	2
Knowledge on how to do a cost analysis on effective student learning programs to improve student performance	1
Engaging stakeholders to financially contribute to school programs/activities	1
Knowledge on how the State funding formula is used and the impact it has on school level budgets	1
Total responses	8



## APPENDIX I: Level 3 – Delphi II Round Two




---

## ROUND TWO OF DELPHI II: RESEARCH STUDY OF SCHOOL FINANCIAL MANAGEMENT

---

Fri, Jul 9, 2017 at 10:27 AM

Most Noble School Executives:

Round Two of Delphi II will now allow you the opportunity to place the statements of Delphi I and your group additions in order of importance (least important to most important). Using a Likert-Type Scale on a ten-point scale, this Round allows this researcher to check for group agreement at a 70% threshold.

The survey is as follows:

### Round 2 Delphi II\_Principals

You will have five (5) days before this Round will be closed.

Thank you once again for your participation!

\*\*\*\*\*

**Art Christian**

Doctoral Candidate

Educational Leadership & Administration

University of North Carolina Charlotte

704.793.3104- cellular

"Attitude is Everything"

[illegible]

## APPENDIX I – continued

Knowing and understanding the source(s) related to the allotment of funds

1 2 3 4 5 6 7 8 9 10

Least  
Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most  
Important

Knowing how to reconcile and balance monthly bank statements

1 2 3 4 5 6 7 8 9 10

Least  
Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most  
Important

Knowing and understanding accounting principles and protocols

1 2 3 4 5 6 7 8 9 10

Least  
Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most  
Important

## APPENDIX I - continued

Knowing and understanding appropriate procedures for fundraising

1 2 3 4 5 6 7 8 9 10

Least  
Important

0 0 0 0 0 0 0 0 0 0

Most  
Important

## Understanding the functionality of a general ledger

1 2 3 4 5 6 7 8 9 10

Least  
Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Most  
Important

### Knowing how to develop and manage a budget

1 2 3 4 5 6 7 8 9 10

Least  
Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Most  
Important

### Knowing and understanding monthly financial reporting

1 2 3 4 5 6 7 8 9 10

Least  
Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○

Most  
Important

## APPENDIX I - continued

Knowledge on internal systems of controls (financial software)

1 2 3 4 5 6 7 8 9 10

Least  
Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most  
Important

Knowing the rules governing cash disbursements, receipts, and petty cash

1 2 3 4 5 6 7 8 9 10

Least  
Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most  
Important

Knowing the rules governing vendors and procurement

1 2 3 4 5 6 7 8 9 10

Least  
Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most  
Important

Knowing the protocols for using discretionary funds

1 2 3 4 5 6 7 8 9 10

Least  
Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most  
Important

## APPENDIX I - continued

## Understanding what potential fraud looks like

1 2 3 4 5 6 7 8 9 10

Least Important ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Most Important

### Detecting fictitious expenditures to that of legitimate transactions

1 2 3 4 5 6 7 8 9 10

Least Most  
Important Important

○ ○ ○ ○ ○ ○ ○ ○ ○ ○

The Principal should be "least concerned" vs "most concerned" about a bookkeeper that has personal financial issues

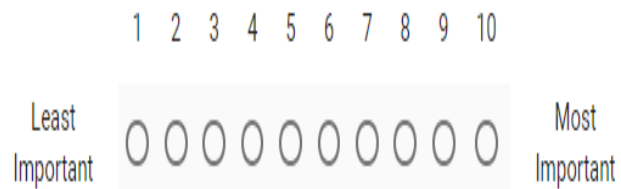
1 2 3 4 5 6 7 8 9 10

Least Most  
Important Important

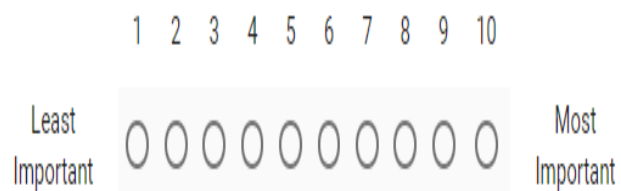
○ ○ ○ ○ ○ ○ ○ ○ ○ ○

## APPENDIX I – continued

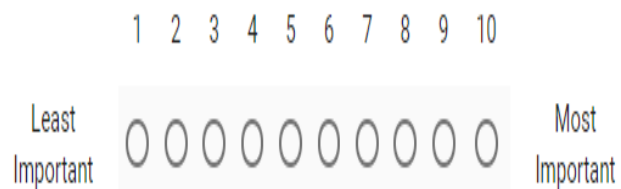
The Principal should be "least concerned" vs "most concerned" about a bookkeeper that is disgruntled about being overworked and underpaid



The Principal should be "least concerned" vs. "most concerned" about a bookkeeper that does not like to take time off



The Principal should be "least concerned" vs "most concerned" about a bookkeeper that does not care for help or backup on financial management







## APPENDIX I – continued

Knowledge on how to do a cost analysis on effective student learning programs to improve student performance

1 2 3 4 5 6 7 8 9 10

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Engaging stakeholders to financially contribute to school programs/activities

1 2 3 4 5 6 7 8 9 10

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐


Knowledge on how the State funding formula is used and the impact it has on school level budgets

1 2 3 4 5 6 7 8 9 10

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

BACK

NEXT

 Page 2 of 4

## APPENDIX I - continued

## ROUND 2: Research Question #2

This Round is seeking consensus from you, "Principal Panel of Experts." Based on your responses from Round 1 and the compilation of Delphi I, which includes Superintendents, District Executives, Finance Directors, Professors of Educational Leadership of Finance, Certified Public Accountants, and Financial Secretaries reaching a 70% threshold and agreement, please rank importance of each item listed below.

RQ#2: To what extent are university principal preparation programs preparing students to manage budgets and financial matters?

There are only 5 items in this section.

Preparation could be more practical based rather than theoretical

	1	2	3	4	5	6	7	8	9	10
--	---	---	---	---	---	---	---	---	---	----

Least Important ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Most Important

Least Important ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Most Important

Least Important ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Most Important

Preparation could be more theoretical based rather than practical

	1	2	3	4	5	6	7	8	9	10
--	---	---	---	---	---	---	---	---	---	----

Least Important ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Most Important

Least Important      Most Important

Least Important ○ ○ ○ ○ ○ ○ ○ ○ ○ ○ Most Important

## APPENDIX I – continued

On the job experience appears to be the primary preparation

1 2 3 4 5 6 7 8 9 10

Least  
Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most  
Important

Preparation could be more than one class

1 2 3 4 5 6 7 8 9 10

Least  
Important

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Most  
Important

BACK

NEXT

 Page 3 of 4

## APPENDIX I - continued

## ROUND 2: Research Question #3

This Round is seeking consensus from you, "Principal Panel of Experts." Based on your responses from Round 1 and the compilation of Delphi I, which includes Superintendents, District Executives, Finance Directors, Professors of Educational Leadership of Finance, Certified Public Accountants, and Financial Secretaries reaching a 70% threshold and agreement, please rank importance of each item listed below.

RQ#3: To what extent is professional development providing principal training for managing school finance?

There are only 2 items in this section.

Minimal training is provided and it "should be" more of a priority

1 2 3 4 5 6 7 8 9 10

Least Important ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Most Important

No training is provided and it "should be" more of a priority

1 2 3 4 5 6 7 8 9 10

Least Important ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ Most Important

BACK

SUBMIT

Page 4 of 4

## Prioritized Competencies Needed for Principals to Become Effective Stewards of School Financial Management

Statement		
1. Knowing the protocols for using discretionary funds	9.	Knowledge on how to do a cost analysis on effective student learning programs to improve student performance
2. Understanding what potential fraud looks like	10.	Knowing and understanding budgets relating to district/school financial goals
3. Identifying the financial needs for a school (i.e., sifting through what is most important for improving student achievement)	11.	Knowing and understanding appropriate procedures for fundraising
4. Knowledge on how to facilitate a School Improvement Team in building a budget that aligns with expenditures and goals	12.	Knowing the rules governing vendors and procurement
5. Knowing and understanding the source(s) related to the allotment of funds	13.	Detecting fictitious expenditures to that of legitimate transactions
6. Knowing how to develop and manage a budget	14.	The Principal should be "least concerned" vs "most concerned" about a bookkeeper that is disgruntled about being overworked and underpaid
7. The Principal should be "least concerned" vs "most concerned" about a bookkeeper that is over eager to collect money from students or work concessions	15.	The Principal should be "least concerned" vs "most concerned" about a bookkeeper that does not care for help or backup on financial management
8. Knowledge on how the State funding formula is used and the impact it has on school level budgets	16.	Knowing the rules governing cash disbursements, receipts, and petty cash
	17.	Knowing and understanding of monthly financial reporting
	18.	Knowing and understanding budget codes (chart of accounts)
	19.	The Principal should be "least concerned" vs "most concerned" about a bookkeeper that has personal financial issues