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Teachers' Perceptions On The Efficacy Of Curriculum Mapping As A Tool For Planning And Curriculum Alignment

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TEACHERS' PERCEPTIONS ON THE EFFICACY OF CURRICULUM MAPPING
AS A TOOL FOR PLANNING AND CURRICULUM ALIGNMENT

BY

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requirements of the Degree of Doctor of Education
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ABSTRACT

TEACHERS' PERCEPTIONS ON THE EFFICACY OF CURRICULUM MAPPING AS A TOOL FOR PLANNING AND CURRICULUM ALIGNMENT

Curriculum mapping has become a method by which many schools and school districts shape their curricula, examining them for gaps and overlaps across and within grade levels and content areas, and aligning them with required standards and assessments. This study of the curriculum mapping process in a suburban school district expanded the knowledge base by collecting and describing teachers' perceptions of the efficacy of curriculum mapping as a tool for instructional planning and curriculum alignment.

Data gathered in this study used both survey and focus group data to determine teacher perceptions on curriculum mapping as a planning and alignment tool. The data illustrated that teachers do perceive mapping as an effective tool for planning and alignment. This was shown to be true across both quantitative and qualitative measures. There were, however, significant differences based on the level of instruction (i.e. elementary, middle, and high), teaching experience, and the level of knowledge held with regard to the mapping process. There were no significant differences in perceptions based on the teachers' education level or certification.

This research study has corroborated much that has been written in the literature: curriculum mapping is an efficient and effective tool to plan for instruction and to align the taught and written curriculum with required assessments. Being the primary practitioners of mapping, classroom teachers provided evidence that curriculum mapping is a useful tool. They found the mapping process to be particularly effective for the alignment of curriculum and long range planning, and slightly less useful for short range planning.

DEDICATION

This dissertation is dedicated to my wonderful parents, Ralph and Annette Lucas. I want to thank them for instilling in me a desire to learn and achieve. They have been responsible for giving me the necessary skills to be successful in life. I appreciate their continued love, support, and guidance.

I also dedicate this dissertation to the faculty and staff of Dutch Fork Middle School. I will miss this committed staff as I leave my position of principal at the conclusion of the 2004-05 school year. Cheryl Tolleson, the world's greatest secretary, worked diligently to lighten my load as I engaged in graduate study and completed this dissertation. Connie Graham, the school's registrar, made wonderful decisions regarding scheduling in my absence over the summer sessions. And, the administrative team of Ann Pilat, Pat Hall, Michael Lofton, and Lula Thompson helped with every aspect of running the school while I was off to New Jersey for study at Seton Hall University.

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I truly appreciate the assistance of the district administration and schools in District Five of Lexington and Richland Counties. Support of the principals was required to conduct the research. Also, each school's 2004 Teacher of the Year was responsible for the distribution, collection, and return of the surveys. The teachers' support in this process surely helped to make sure that a return rate of over 60 percent was achieved, and I am extremely grateful for their assistance with the project.

I am indebted to Dr. Min Ching of Richland One, Dr. Lais Zachary and Missy Wall Mitchell of School District Five, and Dr. Michael Seaman of the University of South Carolina for their assistance and advice on the survey instrument and appropriate statistical analyses.

I would also be remiss in failing to acknowledge the wonderful team effort found among my colleagues in the cohort experience at Seton Hall University. Cohort VII members provided me with support and advice, and I will forever remember this experience as a wonderful and challenging interaction among professional educators.

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CHAPTER I

Introduction

The curriculum mapping process has become a method by which many schools and school districts shape their curricula, examining it for gaps and overlaps across and within grade levels and content areas, and align it with required standards and assessments. Although curriculum mapping has been used as a planning tool by teachers in many schools and districts across the country, few studies have gathered long-term empirical data.

There is a substantial void in existing education research into curriculum mapping, and this research study attempts to expand the knowledge base in this area. Teachers, being the primary practitioners of curriculum mapping, have a valid insight into the usefulness of this methodology. Therefore, this study is an attempt to collect and describe teachers' perceptions on the efficacy of curriculum mapping as a tool for instructional planning and curriculum alignment.

Background of the Problem

A series of events over the past thirty years has contributed to the current climate, demanding school accountability and reform. Beginning in the 1970s, it was learned that the nation's average Scholastic Aptitude Test score had been in decline (Ravitch, 1995). *A Nation at Risk* was issued in 1983 by the National Commission on Excellence in

Education, and many state departments of education moved into action to bring about state reforms (Odden, 1991). The federal government also became involved with the introduction of Goals 2000: Educate America Act (1994) and the recently enacted No Child Left Behind Act (2001).

There is intense pressure on today's schools to perform well according to academic measures such as state standardized tests. The cause of the pressure is legislation, requiring locally published school report cards, financial incentives or disincentives for school academic performance, increased competition from charter and private schools, and attempts to reconstitute schools suffering from repeatedly poor performance.

Schools have responded to this pressure. In an effort to bring about improved academic performance, both the curriculum and instructional practices have become the source of close scrutiny. State and district expectations have been translated into standards and benchmarks. The curriculum is "the vehicle through which educators make manifest their goals for student learning" (Danielson, 2002, p. 77). And it is the quality of instruction that "represents the single most important aspect of any school's program for ensuring student success" (Danielson, 2002, p. 106).

Teaching, being an extremely complex act, requires planning and preparation, and ...planning for the productive activity of 30 or more individuals (some of them present reluctantly) and successfully executing those plans, all within the context of multiple (and sometimes conflicting) demands from the school, district, community, and state, leave many teachers -- particularly novices -- buffeted, confused, or discouraged." (Danielson, 1996, p. 4)

Teaching has become a responsibility to “teach what matters most to the increasingly diverse students who face us in our classrooms” (Strong, Silver, & Perini, 2001, p. 1). Student and school performance is dependent upon this responsibility. Therefore, the act of planning and organizing the content into a sequence of activities, assignments, and assessments based on standards and benchmarks is critical for student success (Danielson, 2002).

In this era of accountability, educators may seize the opportunity to improve teaching and learning (Burns, 2001, p. 1). Curriculum mapping has been a method utilized in that way; it has been employed by many districts to plan and align the curriculum with standards, benchmarks, and assessments. Curriculum mapping has been added to the educational repertoire in an effort to help teachers avoid confusion, and to teach “smarter.”

Curriculum mapping has been a tool used by the schools of Lexington/Richland School District Five for a number of years. Curriculum mapping is a methodology for developing a systematic, calendar based, instructional plan outlining the needs of students as they progress through the K-12 educational system.

The *ASCD Curriculum Handbook* describes curriculum mapping as “identifying the taught curriculum and allowing teachers to compare their curriculum with others who teach the same grade or subject, to view curriculum content longitudinally, and, ultimately, to compare their curriculum to state and national standards” (Burns, 2001, p. 1).

Curriculum mapping is becoming an important tool for teachers and curriculum specialists across the country; it is useful for aligning the school or district curriculum

with state and national standards. It is this researcher's contention that curriculum mapping has grown out of the pressure exerted on educators by the standards movement in the United States; therefore, in order to understand the need for curriculum mapping, it is necessary to have at least a basic understanding of the standards movement in the United States.

The standards movement started in the 1970s when the Department of Health, Education, and Welfare convened a national conference on curriculum. Senator Claiborne Pell (D-Rhode Island), a strong proponent for a national curriculum, asked the audience for a show of support in favor of a national test. Only a few hands, in an audience of hundreds, were raised. Twelve years later, a national commission of governors, members of Congress, state policy makers, researchers and educational leaders debated the merits of a national test. Instead of a national test, the group opted for a new "system of standards and assessments that would rise from state initiatives" (Lewis, 1995, p. 746). Due to the Goals 2000 legislation and the reauthorization of the Elementary and Secondary Education Act such a system became national policy.

The first real group to establish standards was the National Council of Teachers of Mathematics (NCTM). Over a ten-year period, NCTM established a task force to research, develop, seek feedback, and refine its national standards. The math standards were released in 1989 and became the benchmark for other standard-setting projects. The organization was praised for the process of soliciting feedback, focusing on critical thinking skills, and the application of knowledge to real problems. During George Bush's presidency, the U.S. Department of Education funded subject-area groups and coalitions

to prepare national standards in the areas of science, history, civics, language arts, and geography. Additionally, the arts and foreign languages have been added to the list.

As the number of standards grew for each of the core content areas, and more responsibility was assumed by the classroom teacher, mapping has provided a framework for managing a difficult and challenging task. Heidi Hayes Jacobs (1997), one of the first proponents and writers on the topic of curriculum mapping, stated in her work *Mapping the Big Picture: Integrating Curriculum and Assessment K-12*, “Teachers always have used the school year calendar to make their plans. But in the past they have not had the technology to collect real-time information about the actual curriculum including content, skills, and assessment data” (p. 2).

Statement of the Problem

The curriculum mapping process has become a method by which many schools and school districts shape their curricula, examining it for gaps and overlaps across and within grade levels and content areas, and align it with required standards and assessments. Although curriculum mapping has been used as a planning tool by teachers in many schools and districts across the country, few studies have gathered long-term empirical data.

There is a substantial void in existing educational research into curriculum mapping, and this research study will attempt to expand the knowledge base in this area. Teachers, being the primary practitioners of curriculum mapping, have a valid insight into the usefulness of this methodology. The purpose of this study is to collect and describe teachers’ perceptions on the efficacy of curriculum mapping as a tool for instructional planning and curriculum alignment.

Because it is not possible to research all districts, this study will focus on School District Five of Lexington and Richland Counties, a suburban district outside of Columbia, South Carolina. The district has been involved in the mapping process for a number of years, and is therefore excellent for research purposes.

As a condition for conducting this research, and as a valuable source of information, the conclusions and recommendations in this study will be shared with the decision-makers of the participating school district in the form of an executive summary report.

Purpose of the Study

The curriculum mapping process has become a method by which many districts shape their curricula, examining it for gaps and overlaps across and within grade levels and content areas, and align it with required standards and assessments. Although curriculum mapping has been used as a planning tool by teachers in many schools and districts across the country, only three dissertation studies have been completed that have examined curriculum mapping, and no study has gathered empirical data regarding this method for long-term planning and curriculum alignment.

The purpose of this study is to collect and describe teachers' perceptions of the efficacy of curriculum mapping as a tool for instructional planning and curriculum alignment. This is a mixed design study that employs a qualitative methodology (i.e., focus-groups) and quantitative measures (i.e., statistical analysis of a Likert scale survey instrument).

Research Questions

Three major research questions will be addressed in this study:

1. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for long-range planning?
2. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for short-range planning?
3. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for curriculum alignment?

However, to uncover teacher perceptions, subsidiary questions were posed in the survey and in the focus group sessions. Demographic data (i.e., level of instruction, teacher education, knowledge of the mapping process, teacher certification, and teacher experience) was also examined to reveal any statistical differences in responses made by the teachers involved in the study.

Hypotheses

Based on the three research questions (and subsidiary questions), five null hypotheses were developed to guide the quantitative portion of the research study.

1. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping among the instruction level groups (Elementary, Middle, High) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.
2. There will be no significant differences in teacher perceptions of the efficacy

of curriculum mapping among the education level groups (Bachelor's, BA+18, Master's, MA+30, Doctorate) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

3. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping among the teaching experience groups (1-5 years, 6-10 years, 11-15 years, 16-20 years, 21+ years) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

4. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping based on prior experience with mapping (No experience, Very Little Experience, Some Experience, Experienced/Knowledgeable) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

5. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping between NBPTS Certification groups (No, Yes) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

Significance of the Problem

There is intense pressure on today's schools to perform well according to academic measures such as state standardized tests. The cause of the pressure is legislation, requiring locally published school report cards, financial incentives or disincentives for school academic performance, increased competition from charter and private schools, and attempts to reconstitute schools suffering from repeatedly poor performance.

Schools have responded to this pressure. In an effort to bring about improved academic performance, both the curriculum and instructional practices have become the source of close scrutiny. State and district expectations have been translated into standards and benchmarks. The curriculum is “the vehicle through which educators make manifest their goals for student learning” (Danielson, 2002, p. 77). It is the quality of instruction that “represents the single most important aspect of any school’s program for ensuring student success” (Danielson, 2002, p. 106).

Teaching, being an extremely complex act, requires planning and preparation, and ... planning for the productive activity of 30 or more individuals (some of them present reluctantly) and successfully executing those plans, all within the context of multiple (and sometimes conflicting) demands from the school, district, community, and state, leave many teachers – particularly novices – buffeted, confused, or discouraged.” (Danielson, 1996, p. 4)

Teaching has become a responsibility to “teach what matters most to the increasingly diverse students who face us in our classrooms” (Strong, Silver, & Perini, 2001, p. 1). Student and school performance is dependent upon this responsibility. Therefore, the act of planning and organizing the content into a sequence of activities, assignments, and assessments based on standards and benchmarks is critical for student success (Danielson, 2002).

Curriculum mapping has become a method by which many schools and school districts shape their curricula, examining them for gaps and overlaps across and within grade levels and content areas, and aligning them with required standards and assessments. It is a calendar based planning process in which a teacher records the

content and skills that are actually taught (Jacobs, 1997). However, based on the review of available literature, there is a substantial knowledge gap in the assessment of the usefulness of curriculum mapping as an appropriate tool for curriculum planning and standards alignment.

This is the first research study to attempt to examine teacher perceptions on the efficacy of curriculum mapping as a tool for planning and curriculum alignment in an entire school district. District Five of Lexington and Richland Counties is unusual in that the entire district has embarked upon curriculum mapping as a vehicle for planning and alignment of state standards and benchmarks. Staff development sessions occurred at the district level, rather than at the individual school level. Additionally, the district introduced the concept of curriculum mapping coaches for each school campus in order to provide teacher leadership in the curriculum development process. The coaches were classroom teachers who received a small stipend to assist and facilitate in the mapping and alignment process .

In an attempt to alleviate increased pressure on today's schools as their performance is gauged according to standardized test measures, this study will highlight curriculum mapping as a vehicle for both long and short-range planning, as well as the alignment of content with standards and assessment practices.

Nature of the Study

This descriptive study employed two methodologies: administering the survey, *Curriculum Mapping as a Planning and Alignment Tool* (quantitative design), and conducting three focus group sessions (qualitative design), in an attempt to discover

teacher perceptions of the efficacy of curriculum mapping as a tool for curriculum planning and standards alignment.

Figure 1 illustrates the overall research design that will be employed in this mixed-design study.

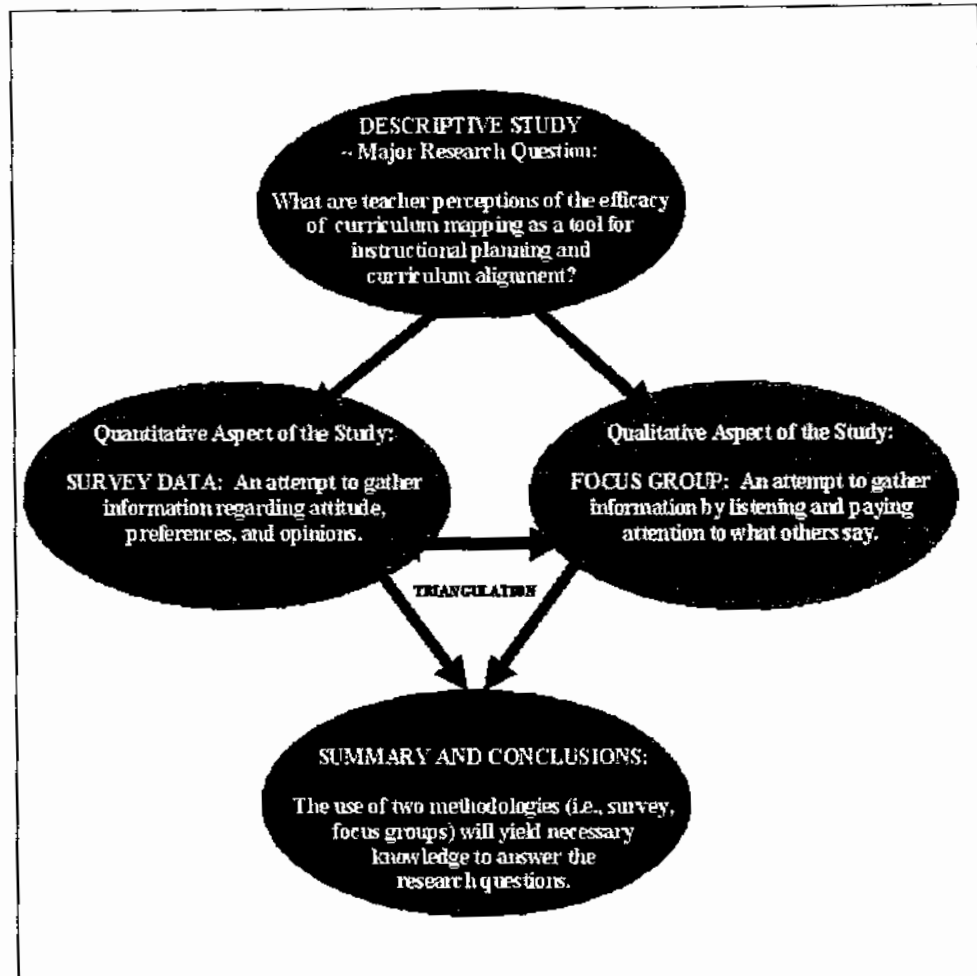


Figure 1. Research concept map for study design.

Data were assembled from the survey and the focus group sessions for analysis. Quantitative analysis procedures included basic descriptive statistics and a Multivariate Analysis of Variance (MANOVA) to examine differences between the different teacher

groups involved in the study. Qualitative analysis included coding of teacher comments according to themes and patterns.

Definition of Terms

The following definitions will serve as explanations of significant terms used through this research study.

Alignment: The link among standards and the curriculum, instructional materials, methods, and assessments (Carr & Harris, 2001).

Curriculum: “All of the experiences that individual learners have in a program of education whose purpose is to achieve broad goals and related specific objectives, which is planned in terms of a framework of theory and research or past and present professional practice” (Parkay & Hass, 2000, p. 3).

Curriculum Mapping: A calendar based planning process in which a teacher records the content and skills that are actually taught (Jacobs, 1997).

Long-range Planning: The overall strategy for facilitating student achievement by establishing long-range learning and developmental goals in an efficient and logical manner.

Short-range Planning: The use of periodic short-range instructional units or integrated lessons designed to accomplish specific learning and developmental objectives related to a curricular theme, area of knowledge, or skill.

Standards: The essential knowledge and skills that should be taught and learned as one progresses through the curriculum.

Assumptions

For the purposes of this study, it was assumed that teachers responded honestly to the anonymous survey, *Curriculum Mapping as an Alignment Tool*. Further, it was assumed that focus group participants were honest in sharing their opinions of curriculum mapping as a tool for planning and curriculum alignment.

In an attempt to elicit honest responses, teacher proxies were used to administer the survey. The survey administrator was the school's currently elected *Teacher of the Year*, rather than an administrator. In addition, survey responses were handled and packaged and returned by this same teacher.

To ensure that honest opinions were shared during the focus groups, three teachers facilitated the sessions (one facilitator and two note-takers at each session). No names were collected from participants, and only teachers were allowed to be present at each session. There could be no repercussions for comments made by teachers during the sessions.

Limitations

Limitations identify potential weaknesses of the research conducted. One of the main research methodologies used in this study was the development and administration of a survey to assess teacher perceptions on curriculum mapping as a tool for planning and curriculum alignment. Problems often arise from the survey instrument itself as one must define and assess an intangible (e.g., teacher perceptions) with a variety of survey questions. Careful attention must therefore be given to how the variables are defined and assessed with the instrument.

Survey research is typically strong on reliability (i.e., repeated observations yield the same results), but weak on validity (i.e., the concept of interest may not be truly measured). To enhance validity, the survey stem questions were adapted from the planning criteria developed by the South Carolina Department of Education and based upon the Model Standards for Beginning Teacher Assessment and Support Consortium and the National Board of Teaching Standards.

The survey was also reviewed for content validity by a panel of experts in school statistical data analysis. Their suggestions relating to content validity were incorporated into the revised survey instrument.

A secondary research methodology was employed to help control these limitations. Focus groups, a qualitative methodology, were used in an attempt to place the survey results within the proper context and to triangulate the results.

There are inherent limitations in the use of focus groups, too. Often no attempt is made to use research sampling methods in composing focus groups; the purpose of the focus group is to explore (i.e., to gain a depth of understanding), rather than to describe, for which survey methodology would be used. Focus group participants were volunteers recruited at an elementary, a middle, and a high school.

Babbie (2002) sites several limitations of focus group studies. These include less control of the interview sessions, difficulty in data analysis, training and skill deficiencies for group facilitators, difficulty in assembling the groups, and problems establishing an appropriate environment for the focus group process. To control this problem, a specific focus group protocol was developed and used consistently at each of the three sessions.

In addition, the same facilitators/note-takers were used, and they completed necessary training given by the researcher.

Since the purpose of this study was to examine teacher perceptions in one suburban school district in South Carolina, the topic was narrowed in scope. No attempt was made by this researcher to examine and compare districts or schools that have employed the mapping process. Also, no attempt was made to examine test score measures to compare schools and districts employing curriculum mapping. The study focuses on teacher perceptions in one suburban school district.

Delimitations

This study confined itself to surveying classroom teachers in the nineteen schools in District Five of Lexington and Richland Counties. This suburban district in South Carolina has been involved in the mapping process for a number of years. In addition, the district's teachers have worked with a national leader in the curriculum mapping process.

This study looked at the following dependent variables: (a) Long Range Planning Efforts, (b) Short Range Planning Efforts, and (c) Alignment Efforts.

A Likert scale survey was used to measure the dependent variables (i.e., 1-*Strongly Disagree*, 2-*Disagree*, 3-*Undecided*, 4-*Agree*, and 5-*Strongly Agree*). The scores for each of these variables were continuous (a high score means more, a low score means less). This plan assumes that a high score indicates more Long Range Planning Efforts, a low score means less Long Range Planning Efforts, a high score indicates more Short Range Planning Efforts, a low score means less Short Range Planning Efforts, etc.

The following independent variables were used:

1. *Instruction Level*: A categorical independent variable. The groups in this study are Elementary, Middle, and High.
2. *Education Level*: A categorical independent variable. The groups in this study are Bachelor's, BA+18, Master's, MA+30, and Doctorate.
3. *Teaching Experience*: A categorical independent variable. The groups in this study are 1-5 years, 6-10 years, 11-15 years, 16-20 years, and 21+ years.
4. *Experience with Mapping*: A categorical independent variable. The groups in this study are No experience, Very little experience, Some Experience, and Experienced/Knowledgeable.
5. *NBPTS Certification*: A categorical independent variable. The groups in this study are Yes (a NBPTS certified teacher) and No (not a NBPTS certified teacher).

Summary

The focus of the curriculum should be on student learning, quality and depth of understanding, and a constancy of purpose that leads to continuous improvement (Glatthorn, 1994). Effective planning is necessary to accomplish this feat. Curriculum mapping is one such tool that is employed in school districts across the country.

There are certain core processes identified as being essential for achieving a high quality curriculum. First, there is shared leadership, "the district provides dynamic, supportive, and coordinated leadership that ensures a concerted movement toward curricular excellence" (Glatthorn, 1994, p. 6). Second, all decisions are made based on the available data with "major decisions using a problem-solving approach that draws from systematic data, sound research, and informed practice" (Glatthorn, 1994, p. 6).

Third, there must be both cooperation and teamwork among the professionals. And, finally, systematic professional development is provided for both school leaders and teachers. According to Glatthorn (1994), “high quality staff development, delivered in quality time, is provided to support curriculum reform. Peers work together to give one another feedback and acquire the new skills and knowledge required by the new curriculum” (p. 7).

Based on this information, curriculum mapping may be a tool to help districts develop a high quality curriculum. Teachers, the primary practitioners of lesson-planning and learning goals establishment, have valid insight into the usefulness of this methodology for planning and alignment. This study collects and describes teachers’ perceptions of the efficacy of curriculum mapping.

CHAPTER II

Literature Review

There is intense pressure on today's schools to perform well according to academic measures, such as state standardized tests. The cause of the pressure is legislation, requiring locally published school report cards, financial incentives or disincentives for school academic performance, increased competition from charter and private schools, and attempts to reconstitute schools suffering from repeatedly poor performance.

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community, and state, leave many teachers – particularly novices – buffeted, confused, or discouraged. (Danielson, 1996, p. 4)

Teaching has become a responsibility to “teach what matters most to the increasingly diverse students who face us in our classrooms” (Strong, Silver, & Perini, 2001, p. 1). Student and school performance is dependent upon this responsibility. Therefore, the act of planning and organizing the content into a sequence of activities, assignments, and assessments based on standards and benchmarks is critical for student success (Danielson, 2002).

Curriculum mapping has become a method by which many schools and school districts shape their curricula, examining them for gaps and overlaps across and within grade levels and content areas, and aligning them with required standards and assessments.

Documentation

This review of relevant literature provides a basis for the current knowledge in the field of planning a curriculum and its associated instruction as it relates to the methodology of curriculum mapping. Articles, journals, books, research studies, and other references have been gathered and grouped into several categories. A weaving together of information has been necessary in order to understand why curriculum mapping and other planning tools have become a major focus in today’s professional literature.

The work of Glatthorn (1994), Loughland and Parkes (2004), Lounsbury (1992), Marzano (2000, 2003), Marzano, Pickering, and Pollock (2001), Parkay and Hass (2000),

Pate, Homestead, and McGinnis (1997), and Seels and Glasgow (1990) became the basis for an examination of the curriculum. One work by Tyler (1949) seems to be the seminal work for linking curriculum and teacher planning, and has proved to be highly beneficial.

The standards movement within the field of curriculum was also very important in understanding the current climate that exists for school accountability. Works by Berry, Turchi, Johnson, Hare, Owens, and Clements (2003), Hoyle, English, and Steffy (1998), Jennings (1998), Lewis (1995), Ravitch (1995), Reeves (2004), Sagor (2003), Stecher and Kirby (2004), and Strong, Silver, and Perini (2001) provided knowledge regarding the history and current practice in standards development.

Articles on assessment and alignment were reviewed because curriculum mapping relates to the alignment of standards and benchmarks through testing and assessment protocols. Material by Anderson (2003), Danielson (2002), English (2000), English and Steffy (2001), Gray (1999), Leithwood and Riehl (2003), and Porter (2004) were used for this area of research.

Instructional planning is the process through which teachers plan for implementation of the curriculum and systematic instruction. Articles by Danielson and McGreal (2000), Danielson (1996), Heacox (2002), Kitsantas and Baylor (2001), Richard (2004), Stronge (2002), Taylor (2004), Tomlinson (1999, 2001), and Wenglinsky (2000) provided much of the background in teacher planning and pedagogy.

Finally, the area of writings on curriculum mapping provided a wealth of material for understanding the rationale and processes used in this planning and alignment protocol. Works by Burns (2001), DeClark (2002), Deets (2000), English (1980), Gross (1998), Harden (2001), Huffman (2002), Jacobs (1997, 2000, 2003, 2004), Jarchow and

Look (2001), Koppang (2004), Lenz, Adams, Bulgren, Pouliot, and Laroux (2002), Mills (2001, 2003), Minkel (2002), North Central Regional Educational Laboratory (2003), Plavins (2003), and Shanks (2002) were consulted in regard to the current philosophy and use of curriculum mapping.

A history of the curriculum mapping process in the school district under study in this dissertation can be found in Appendix A, which forms a chapter in the recently released book, *Getting Results from Curriculum Mapping*, edited by Heidi Hayes Jacobs (2004). The excerpt “Use of Curriculum Mapping to Build a Learning Community” was written by Truesdale, Thompson, and Lucas (2004).

Literature Review

Curriculum can be defined as

all of the experiences that individual learners have in a program of education whose purpose is to achieve broad goals and related specific objectives, which is planned in terms of a framework of theory and research or past and present professional practice. (Parkay & Hass, 2000, p. 3)

Further, the focus of the curriculum should be on student learning, quality and depth of understanding, and a constancy of purpose that leads to continuous improvement (Glatthorn, 1994).

There are certain core processes identified as being essential for achieving a high quality curriculum. First, there is shared leadership, “the district provides dynamic, supportive, and coordinated leadership that ensures a concerted movement toward curricular excellence” (Glatthorn, 1994, p. 6). Second, all decisions are made based on

the available data with “major decisions using a problem-solving approach that draws from systematic data, sound research, and informed practice” (Glatthorn, 1994, p. 6). Third, there must be both cooperation and teamwork between the professionals. Finally, systematic professional development is provided for both school leaders and teachers. According to Glatthorn (1994), “high quality staff development, delivered in quality time, is provided to support curriculum reform. Peers work together to give one another feedback and acquire the new skills and knowledge required by the new curriculum” (p. 7).

Curriculum Themes and Theory

A review of curriculum theory reveals that there are four primary and interconnected themes in curriculum construction. They include a philosophical perspective, an understanding of knowledge of learning/learning processes, existing beliefs regarding the organization of knowledge of content, and an understanding of human growth and development (Parkay & Hass, 2000). Figure 2 illustrates these themes.

Any curriculum planner internalizes these four themes and forms a construct by which they develop and justify curriculum. Curriculum development is a complex process that requires both divergent and convergent thinking (Glatthorn, 1994). Ideas are generated, refined, and set into practice based on these underlying themes. And, with the current era of standards-based reform and emphasis on accountability, teachers are playing a greater role in the process of developing curriculum to reform and improve professional development and practice (Berry, Turchi, Johnson, , Hare, Owens, & Clements, 2003).

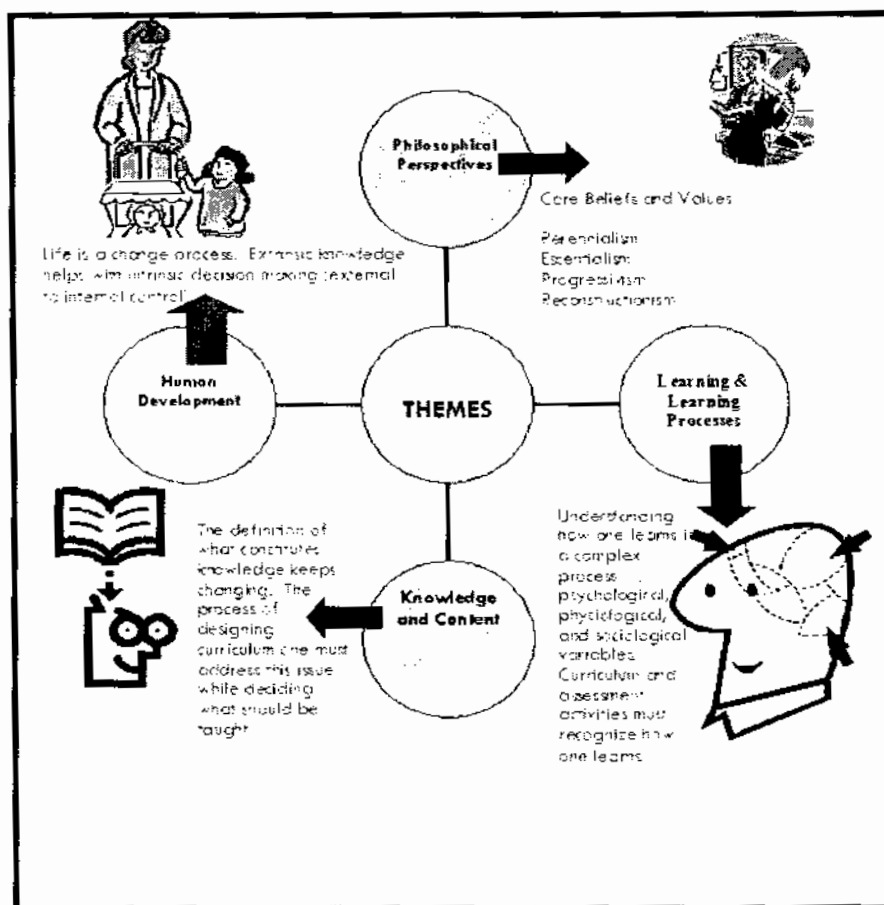


Figure 2. Interconnected themes of curriculum.

It must also be understood that there are many types of curriculum. In fact, much of the research in curriculum construction speaks of eight types:

1. the recommended (from experts in the field),
2. the written (from state and school district guidelines),
3. the supported (from published materials, software, and multimedia resources),
4. the tested (the curriculum measured by teachers and on various standardized assessments),
5. the taught (the content and skills that teachers actually deliver in their classroom),
6. the learned (the skills, concepts, and content absorbed by students as a result

of instruction),

7. the hidden (what students learn from their day-to-day interactions and from the culture and climate), and

8. the excluded (items either intentionally or unintentionally left out of the curriculum).

Examining curriculum mapping within this context, it is a planning methodology which primarily aims at the taught curriculum, placing it in light of the other curricula. Further, it is a planning protocol that requires dialogue between teachers and forces debate among the purposes (i.e., themes) of schooling, as well as a way to align the curriculum with necessary assessments.

Standards and Assessment Practices

Assessment is the process of gathering necessary information in order to make an informed decision. This is done both informally (e.g., by questioning) or formally (e.g., through a test). According to Anderson (2003), assessment requires that one "... knows why the assessment is being made (the purpose), what information is needed to make the decision (the basis), when information is needed (the timing), and how the information is best collected (the method)" (p. xi).

The need for such planning methodologies in the form of curriculum mapping arose in a climate of increased demand for school accountability. Beginning in the 1970s, it was learned that the nation's average Scholastic Aptitude Test score had been in decline (Ravitch, 1995). *A Nation at Risk* was issued by the National Commission on Excellence in Education in 1983, and many state departments of education moved into action to bring about state reforms (Odden, 1991). The federal government also became

involved with the introduction of Goals 2000: Educate America Act (1994) and the recently enacted No Child Left Behind Act (2001).

There is intense pressure on today's schools to perform well according to academic measures such as state standardized tests, hence the increased concentration on assessments and standards. Such pressure comes from enacted legislation that requires locally published school report cards, financial incentives or disincentives for school academic performance, increased competition from charter and private schools, and/or attempts to reconstitute schools with repeated poor performance. Schools have responded to these requirements.

In an effort to bring about improved academic performance, the curriculum and instructional practice have become the source of closer scrutiny. State and district expectations have been translated into standards and benchmarks. The curriculum is "the vehicle through which educators make manifest their goals for student learning" (Danielson, 2002, p. 77). And it is the quality of instruction that "represents the single most important aspect of any school's program for ensuring student success" (Danielson, 2002, p. 106).

To understand why these problems continue to exist, it is important to look at the history of the standards movement. The standards movement actually started in the 1970s when the Department of Health, Education, and Welfare convened a national conference on curriculum. Senator Claiborne Pell (D-Rhode Island), a strong proponent of a national curriculum, asked an audience of hundreds to show support for a national test. Only a few hands went up. Twelve years later, a national commission of governors, members of Congress, state policy makers, researchers, and educational leaders debated the merits of

a national test. Instead of a national test, the group opted for a new “system of standards and assessments that would rise from state initiatives” (Lewis, 1995, p. 746). The Goals 2000 legislation and the reauthorization of the Elementary and Secondary Education Act turned such a system into national policy.

The first real group to establish standards was the National Council of Teachers of Mathematics (NCTM). Over a ten-year period, NCTM established a task force to research, develop, seek feedback, and refine its national standards. The math standards were released in 1989 and became the benchmark for other standard-setting projects – the organization was praised for the process of soliciting feedback, focusing on critical thinking skills, and the application of knowledge to real problems. During George Bush’s presidency, the U.S. Department of Education funded subject-area groups and coalitions to prepare national standards in the areas of science, history, civics, language, the arts, and geography. The result is a very large number of standards which are disjointed from other disciplines.

In reviewing the literature related to standards development, it becomes evident that researchers often question whether it was necessary to establish national standards. Those favoring standards development feel that “...standards are the linchpins around which assessment efforts are to be made more meaningful. They are providing the public with the hallmarks to use in assessing effectiveness of the schools” (Eisner, 1994, p. 8). And there is much broad-based consensus on the need for standards. However, other researchers such as Howe (1995) claim that there was a sense of a looming bandwagon – and it was politically incorrect to question these efforts. Those feelings have become

stronger with the recent move to accountability under No Child Left Behind. It must be understood that content and instructional practice are inseparable.

The standards movement attempted to bring about school reform. Primarily it has been viewed as a way to increase the level of expectation for America's students in the new millennium. Many standards advocates hold that every effort should be made to sharply focus instruction and organizational planning toward improved academic performance.

A major problem continues to be the perception that educators have done too little to identify the main skills that students should learn, that content should be focused very sharply so as to promote depth of understand, and, finally, that educators must understand that content and instructional practice are inseparable. The prevailing feeling is that there has been a failure to do so adequately, as has been identified in various assessments with the existing standards, benchmarks, and instructional practices.

Teacher Planning and Pedagogy

The first research related to instructional planning came from Ralph Tyler (1949). Tyler, a professor at the University of Chicago, developed four classic tenets of curriculum planning:

1. What are the purposes of the school? Teachers must define, justify, and delineate what they will teach and the curriculum's relevance to the purpose of the school in society.
2. What educational experiences are related to those purposes? Teachers must identify the content, processes, and methods that will be used for instructional delivery.
3. What are the organizational methods which will be used in relation to those

purposes? Teachers must effectively organize information and presentations based on the context of the educational purpose.

4. How will those purposes be evaluated? Teachers must insure that they have taught the content or skill successfully.

Over the years, Tyler's framework has become the basis for other instructional planning models. Some expanded on his notions of a linear model, while others developed new conceptual models. For instance, Grant Wiggins and Jay McTighe (1998) added to the literature with the concept of "backward design" in curriculum planning. Focusing on current standards and benchmarks, Wiggins and McTighe's systematic model required a close examination of the assessments (the desired results of learning – the ends) prior to designing the instructional unit.

Considerations from additional writers and researchers have emphasized instructional design. Such works as *The Differentiated Classroom* (Tomlinson, 1999), *Strategies that Work* (Harvey & Goudvis, 2000), and *Classroom Instruction that Works: Research-Based Strategies for Increasing Student Achievement* (Marzano, Pickering, & Pollock, 2001) help to provide guidance for teachers as they plan for student learning based on learning styles, brain research, and higher order thinking.

This body of literature on teaching pedagogy reinforces the concept that to be effective teaching requires much forethought. It is obvious that good teaching is related to the importance of decisions made by the teacher (Anderson, 2003). Teaching is both an art and science that requires reflective practice (Heacox, 2002) in order to be successfully accomplished.

Curriculum Mapping

Heidi Hayes Jacobs (1997) has written extensively on curriculum mapping. It is her contention that often teachers have only a limited knowledge of what goes on in each others' classrooms. Schools are essentially "a collection of one-room schoolhouses" (Jacobs, 1997, p. 3). She goes on to say "if there are gaps among teachers within buildings, there are virtual Grand Canyons among buildings in a district" (p. 3).

The term "curriculum mapping" was first used in professional journals in 1980, by Fenwick W. English. English (1980) stated that

curriculum mapping reveals to a staff, principal, or supervisor what is actually being taught, how long it is being taught, and the match between what is being taught and the district's testing program. Curriculum mapping invents no 'new' curriculum. Rather it attempts to describe the curriculum that currently exists. The curriculum developer can use the results to gradually make the written curriculum and the real curriculum more congruent with one another. (p. 559)

With the release of *Mapping the Big Picture: Integrating Curriculum & Assessment K-12* (Jacobs, 1997), curriculum mapping was introduced to many schools and districts. "Using comprehensive, easy-to-understand tables, curriculum mapping lays out what students are actually taught, and when – as opposed to what's supposed to be taught" (Minkel, 2002, p. 60).

Curriculum mapping is an inventory of educational practices in which data is collected on the content (the discipline-based topics), skills (statements or key words referenced to in benchmark statements), and assessments (products and/or performances

providing evidence of student learning) using a calendar-based template. This data is then used for reflecting and revising what is taught (i.e., the “taught” curriculum).

A visual description of the process, based on the works of English (1980) and Jacobs (1997), was developed by Bengier (2000, p. 9), as shown below.

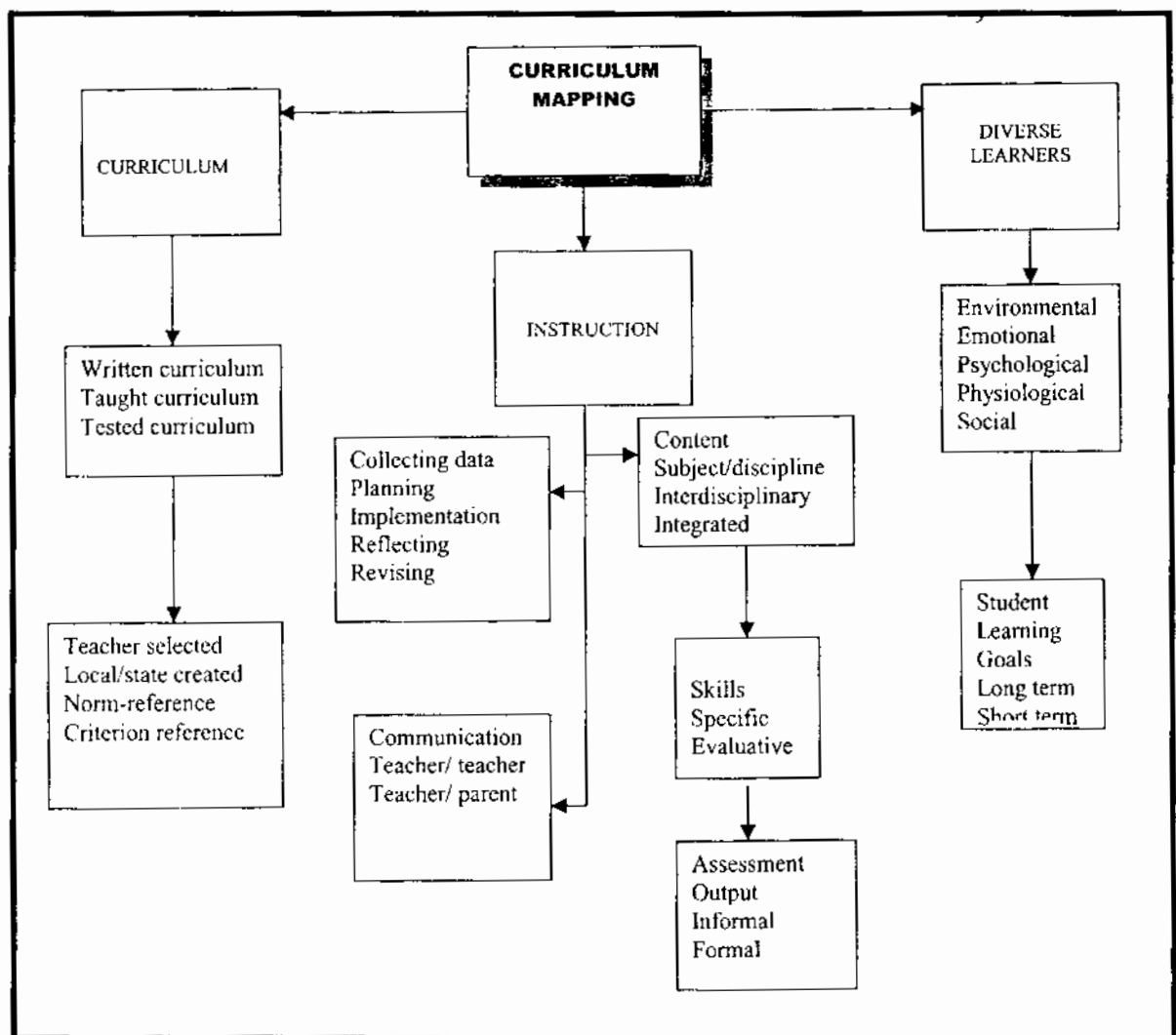


Figure 3. Curriculum mapping process.

Jacobs (1997) describes the seven phases in the curriculum mapping process as follows:

1. *Data Collection*: Individual teachers develop a curriculum map outlining the content, skills, and assessment types for their content area.
2. *First Read-Through*: Teachers read each others' maps looking for gaps, repetitions, meaningful assessments, etc.
3. *Mixed Group Review*: A small group of teachers from different grade levels and/or content areas share the findings from the first read-through.
4. *Large Group Review*: All members of the faculty meet to share findings.
5. *Determine Points that Need Immediate Revision*: Teachers address changes that can be made without further study.
6. *Determine Points that Need Long-Term Research and Development*: A task force is formed to do research and make recommendations to the entire faculty.
7. *The Review Cycle Continues*: Revised maps are viewed and further revisions are made.

If done correctly, the mapping process accomplishes three main goals. The process allows

the standards and benchmarks to be taken off a shelf and put into a teacher's hands. Second, upon completion, mapping guarantees that all standards and benchmarks are taught. Third, teachers can discuss and share units and lessons. This sharing occurs across grade levels, buildings, and disciplines, and can be extremely powerful. (DeClark, 2002, p. 31)

Teachers are "responsible for the pace, scope, and sequence of instruction, their commitment to raising test scores is vital. You can expect their commitment to grow as they discuss instructional strategies, share ideas, and increase students' learning time" (Gray, 1999, p. 48). Curriculum mapping is a tool that allows this to happen.

Curriculum mapping also invests in teachers' skills and expertise as curriculum developers. It is "a powerful way to sharpen teachers' curriculum-design and teaching skills while promoting collaboration across subject and grade levels" (Mills, 2003, p. 1). It allows teachers to be a part of the analysis and alignment process that is essential for school improvement.

Recently, curriculum mapping has evolved with the advent of computer-based mapping tools. "Because curricula are documented and archived electronically, faculty can easily look at what has transpired in the past class settings that helped or hindered student progress" (Jacobs, 2003, p. 1). The map becomes data that can be easily developed and shared with technology. The ability to look for gaps and overlaps are greatly enhanced by the search capabilities of the computer.

Research identifies much impetus for planning tools such as curriculum mapping. Standardized test scores are being used across the nation to report school performance. Under current federal legislation (i.e., No Child Left Behind Act) there are severe punitive measures for schools that do not demonstrate adequate yearly progress for students (i.e., the entire student body and specific subgroups). There is tremendous pressure for schools to improve their academic performance as measured by standardized tests, and curriculum mapping is increasingly being used in an effort to accomplish this task.

Conclusion

Curriculum mapping has evolved from our knowledge of curriculum and assessment. It has gained importance as standards and benchmarks were introduced. The

process has moved from its introduction by English (1980), through an elaboration of the mapping process and protocols by Jacobs (1997, 2000, 2003, 2004), and into the advent of mapping using computer and web-based technology. The evolution of this planning methodology has been hastened by state and federal legislation calling for increased school accountability.

To understand the current climate related to planning methodologies, one must have a background in curriculum, assessment, standards development, and teacher planning and pedagogy. By building upon the literature base, this review has attempted to show why curriculum mapping is considered to be an important tool by many in the curriculum development field.

CHAPTER III

Methodology

Curriculum mapping is a calendar-based planning process in which a teacher records the content and skills that are actually taught (Jacobs, 1997). Increasing numbers of districts are using this planning methodology to shape their curricula, examining them for gaps and overlaps and aligning them with required standards and assessments. However, based on the review of the literature, there is a substantial knowledge gap in the assessment of the usefulness of curriculum mapping as an appropriate tool for curriculum planning and standards alignment.

This is the first research study to attempt to examine teacher perceptions of the efficacy of curriculum mapping as a tool for planning and curriculum alignment in an entire school district. District Five of Lexington and Richland Counties is unusual in that the entire district has embarked upon curriculum mapping as a vehicle for planning and alignment of state standards and benchmarks, and the district is an appropriate site to conduct such a study.

Research Design

This descriptive study employed two methodologies: administering a survey (quantitative design) and conducting three focus group sessions (qualitative design), to

find out about teacher perceptions of the efficacy of curriculum mapping as a tool for instructional planning and curriculum alignment.

Three major research questions were addressed in this study:

1. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for long-range planning?
2. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for short-range planning?
3. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for curriculum alignment?

To answer each research question, a survey entitled *Curriculum Mapping as a Planning and Alignment Tool* (CMPAT) was developed. The survey stems were adapted from the planning criteria developed by the South Carolina Department of Education and was based upon the *Model Standards for Beginning Teacher Assessment and Support Consortium* and the National Board of Teaching Standards.

Focus group protocols were developed to assist with understanding teacher perceptions of curriculum mapping as a planning and alignment tool. Eight open-ended questions were posed to three groups of teachers in different settings (i.e., an elementary school, a middle school, and a high school).

Figure 1 illustrates the overall research design that was employed in this mixed-design study.

This research study provided descriptive information regarding overall teacher perceptions of this planning tool. Demographic data (i.e., level of instruction, teacher education, knowledge of the mapping process, teacher certification, and teacher

experience) was also used to reveal any statistical differences in responses made by the teachers involved in the study.

This research study looked at the following dependent variables: (a) Long Range Planning Efforts, (b) Short Range Planning Efforts, and (c) Alignment Efforts.

Teacher perceptions were measured for the dependent variables based on responses on the Likert scale instrument. The scores on each of these dependent variables were continuous (a high score means more, a low score means less). This plan assumed that a high score indicated more Long Range Planning Efforts, a low score meant less Long Range Planning Efforts, a high score indicated more Short Range Planning Efforts, a low score meant less Short Range Planning Efforts, etc.

The following scale was used for each variable (Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts): 1 = *strongly disagree*, 2 = *disagree*, etc., 5 = *strongly agree*. Each survey item was then averaged.

There were five independent variables in the study:

1. *Instruction Level*: A categorical independent variable. The groups in this study are Elementary, Middle, and High.

2. *Education Level*: A categorical independent variable. The groups in this study are Bachelor's, BA+18, Master's, MA+30, and Doctorate.

3. *Teaching Experience*: A categorical independent variable. The groups in this study are 1-5 years, 6-10 years, 11-15 years, 16-20 years, and 21+ years.

4. *Experience with Mapping*: A categorical independent variable. The groups in this study are No experience, Very little experience, Some Experience, and Experienced/Knowledgeable.

5. *NBPTS Certification*: A categorical independent variable. The groups in this study are Yes (a NBPTS certified teacher) and No (not a NBPTS certified teacher).

Appropriateness of Design

Dictionaries define research as an attempt to carefully study and investigate an area of interest. Such an investigation often results in new facts and information on the topic. Research “is an enterprise dedicated to ‘finding out.’ No matter what you want to find out, though, there will likely be a great many ways of doing it” (Babbie, 2002, p. 81). The method one employs for a study or investigation directly affects the types of facts and discoveries that are uncovered. Much thought must be put into decisions regarding the methodology used with a research design.

This descriptive study employed two methodologies: administering a survey (quantitative design) and conducting three focus groups sessions (qualitative design), to answer the research questions. It was felt that by employing two distinct methodologies the study would be strengthened. According to Bogdan and Biklen (2003) “multiple sources lead to a fuller understanding of the phenomena” (p. 107).

The research was conducted in three distinct phases. The first phase required the development of a survey instrument and focus group protocols. The work of Rea and Parker (1997) was used as a resource for the survey design. Additionally, focus group protocols were developed using the work of Krueger and Casey (2000). The survey and focus group protocols were developed and approved prior to the administration to teachers. The survey instrument, *Curriculum Mapping as a Planning and Alignment Tool*, was evaluated for validity by a panel of experts in school statistical data analysis.

The survey was found to have content validity. Several of the suggestions from the reviewers were incorporated into the final version of the survey.

The second phase of the study consisted of the survey instrument being administered in nineteen schools across the school district (eleven elementary schools, four middle schools, three high schools, and one alternative school). This administration of the survey was handled by each school's *Teacher of the Year*. By using each school's *Teacher of the Year*, the entire classroom teaching population could be surveyed in an efficient manner.

During the second phase, three focus group sessions were also held (i.e., one at each instruction level: elementary, middle, and high school). These focus groups were by invitations to classroom teachers. The purpose was "to promote self-disclosure among participants" (Krueger & Casey, 2000, p. 7) using appropriate focus group protocols. The focus group session included a teacher facilitator and two teacher recorders who received training on this research methodology and the focus group protocols developed by the researcher.

Once all of the data had been assembled from the survey and the focus group sessions, analyses were conducted in the third phase of the research study. Quantitative analysis procedures (i.e., descriptive statistics and multivariate analysis of variance) were performed on the survey data so as to make the information meaningful. The researcher used appropriate qualitative methods to analyze the focus group data. According to Krueger and Casey (2000), "analysis begins by going back to the intent of the study ... the depth or intensity of the analysis is determined by the purpose of the study" (p. 127). The focus group analysis concentrated on patterns that emerged from the three sessions.

Research Questions

There were three major research questions addressed in this study:

1. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for long-range planning?
2. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for short-range planning?
3. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for curriculum alignment?

Subsidiary questions were necessary to uncover teacher perceptions of these major research questions. In the area of long-range planning (research question 1), question stems were developed to reveal teacher perceptions of curriculum mapping as a tool allowing teachers to: (a) plan for differing ability levels, backgrounds, and developmental needs of students; (b) plan appropriate long-range learning and developmental goals for students; (c) sequence appropriate instructional units of study; (d) develop appropriate timelines for the completion of instructional units of study; (e) organize instructional materials and resources; (f) evaluate student progress and achievement; and (g) maintain necessary records of long-range planning efforts.

With regard to short-range planning efforts (research question 2), the researcher had to ascertain teacher perceptions of curriculum mapping as a planning tool allowing teachers to: (a) plan instructional units that build upon students' learning and development from previous units of study; (b) plan for connections of knowledge and skills to be covered in future units of study; (c) plan unit objectives that are appropriate for the ability and developmental levels of students; (d) plan for levels and sources of

content appropriate for the ability and developmental levels of students; (e) plan for appropriate and logical sequence instructional strategies; (f) plan for instructional strategies which can accommodate learning styles and rates of learning; (g) plan for instructional strategies that promote varied levels of thinking and problem-solving; (h) plan activities that promote independent and collaborative learning; and (i) revise and adjust short-range plans based on student needs.

Research question 3 required for the researcher to discover teacher perceptions of curriculum mapping as an alignment tool allowing teachers to: (a) identify the key concepts and skills that are most important in the grade and/or subject area; (b) align concepts and skills with grade level standards and benchmarks; (c) align concepts and skills within the various subject disciplines (e.g., reading, math, social studies); (d) articulate the curriculum between schools (elementary to middle, middle to high); and (e) work as a team to provide a quality instructional program.

The subsidiary questions were adapted from the planning criteria developed by the South Carolina Department of Education and based on the *Model Standards for Beginning Teacher Assessment and Support Consortium* and the National Board of Teaching Standards. These survey stems became the questions that required a Likert response from teachers participating in the survey.

The focus group protocol attempted to find out teacher perceptions of curriculum mapping by asking open-ended questions. The focus group protocol questions included:

1. How do you perceive mapping as a tool for long-range planning of instructional units? Is it helpful or does it hinder your ability to plan for instructional units?
2. What about the concept of using such a calendar-based approach in planning?

3. What about standards and benchmarks? How does mapping help or hinder this process?
4. What has been the strength of using a curriculum map? What about weaknesses?
5. Have you had any particular difficulties with the mapping process in your building or level?
6. What about mapping and its relationship with planning classroom activities?
7. Is mapping helpful as you attempt to address the standards that are in your content area (or grade level).
8. Do you have any other comments regarding the use of curriculum mapping as a tool for planning and curriculum alignment?

Demographic data (i.e., level of instruction, teacher education, self-assessment of the knowledge level of the mapping process, teacher certification, and teacher experience) was also collected on the surveys to understand the makeup of the teachers involved in the focus group component of the research study.

Based on the research questions in this study, five null hypotheses were developed to guide the quantitative portion of the research study:

1. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping among the instruction level groups (Elementary, Middle, High) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.
2. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping among the education level groups (Bachelor's, BA+18, Master's, MA+30, Doctorate) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

3. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping among the teaching experience groups (1-5 years, 6-10 years, 11-15 years, 16-20 years, 21+ years) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

4. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping based on prior experience with mapping (No experience, Very little experience, Some Experience, Experienced/Knowledgeable) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

5. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping between NBPTS certification groups (No, Yes) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

Population

Teachers must understand the curriculum mapping process in order to have an informed opinion. It was necessary, therefore, to focus on a district that had used this planning process for a number of years and had provided teachers and staff with the necessary training. School District Five of Lexington and Richland Counties is a suburban district outside Columbia, South Carolina. The district had been involved in the mapping process for a number of years, and, therefore, proved to be an excellent site to conduct such research. The entire school district had embarked upon curriculum mapping as a vehicle for planning and alignment. Staff development sessions were planned at the district level rather than at individual schools. Additionally, the district introduced the concept of curriculum mapping coaches, classroom teachers who assisted their peers, on

each school campus. The coaches received a small stipend to assist and facilitate in the mapping process, and the coaches met frequently with one another to reflect and study the mapping process.

Informed Consent

Each participant in the survey and focus group session received an Informed Consent notice. This notice was approved by the Seton Hall Institution Review Board. The document stated that teacher participation in either the survey or the focus group sessions was completely voluntary.

Sampling Frame

The entire population of classroom teachers in District Five of Lexington and Richland Counties was used in the study. The survey instrument was distributed to the 835 classroom teachers in the 19 schools in the district. Of this number, 573 surveys were returned in time for inclusion in this study (a return rate of 69 percent).

Confidentiality

All responses to the survey and focus group questions were confidential. No names were collected from survey or focus group participants. Notes were taken during focus group sessions by trained teacher observers, but names were not permitted to be collected. The survey and focus group data was stored in a secure office in a locked file cabinet with only the researcher having access.

Potential Risks

There were no anticipated risks or discomforts from participation in this research. The aim of this research was to gather teacher perceptions regarding curriculum mapping as a tool for planning and curriculum alignment.

Participants understood that an executive summary of this research would be provided to representatives of School District Five of Lexington & Richland Counties. The executive summary is expected to be helpful to district leaders as they consider teacher input in the curriculum planning and alignment process.

Geographic Location

Based on the review of relevant research, this is the first study to examine teacher perceptions of the efficacy of curriculum mapping as a tool for planning and curriculum alignment in an entire school district. District Five of Lexington and Richland Counties embarked upon curriculum mapping as a vehicle for planning and alignment of state standards and benchmarks, and the district is an appropriate site to conduct such a study.

There are nineteen schools that comprise the School District Five of Lexington and Richland Counties. The school district straddles two county lines (Richland and Lexington), and the schools included:

1. 11 Elementary Schools: Ballentine, Chapin, Dutch Fork, H. E. Corley, Harbison West, Irmo, Lake Murray, Leaphart, Nursery Road, River Springs, and Seven Oaks.
2. 4 Middle Schools: Chapin Middle, Cross Roads Middle, Dutch Fork, and Irmo.

3. 4 High Schools: Alternative Academy, Chapin, Dutch Fork, Irmo.

Data Collection

Data for the study was collected from the administration of the survey instrument in all nineteen of the district's schools. The survey, *Curriculum Mapping as a Planning and Alignment Tool*, had four parts. Classroom teachers provided demographic data (e.g., level of instruction, educational and experience level, self-assessment of mapping experience, and NBPTS certification status) and responded to stems related to mapping as a tool for long-range, short-range, and curriculum alignment. Survey responses were recorded on optical scan sheets that were used to transfer data into a digital format. Data from the surveys was imported into a statistical analysis program.

Focus groups sessions included two parts: teachers provided demographic data (e.g., instruction, educational and experience level, self-assessment of mapping experience, and NBPTS certification status) as they entered the focus group session, and responded to open-ended questions related to the usefulness of curriculum mapping for long and short-range planning, and for curriculum alignment. Notes on their responses, but no identities, were taken by two trained teacher observers.

Data Analysis

Quantitative analysis procedures included basic descriptive statistics: mean, median, mode, range, and central tendency. Further, each hypothesis was answered with a multivariate analysis of variance (MANOVA). MANOVA is the appropriate statistical method because each hypothesis has more than one continuous dependent variable (Long

Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts) and a single categorical independent variable (e.g., Instruction Level).

This type of quantitative analysis examined significant differences between the groups (e.g., Instruction level on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts overall). In addition, the analysis provided secondary output that examined differences between the groups of Instruction level on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts individually (ordinary univariate *F* tests).

If any of these *F* tests were found to be statistically significant, post-hoc comparisons were used to clarify which group means were different. The post hoc tests were specific between group comparisons (e.g., Elementary with Middle, or Elementary with High).

Qualitative analysis included the coding of teacher comments according to themes and patterns. The researchers' professional judgment was used in coding based on an analysis of words used in the focus groups (e.g., word repetitions, key-indigenous terms, and key-words-in contexts).

To assist with quantitative and qualitative data analysis, works by the American Statistical Association (1997), Bogdan and Biklen (2003), Landau and Everitt (2004), the National Study of School Evaluation (2003a and 2003b), Pallant (2004), Rea and Parker (1997), and Wilson (2005) were consulted.

Validity and Reliability

The primary purpose of this research study was to describe teacher perceptions of curriculum mapping as a tool for planning and curriculum alignment. Therefore, the major quantitative research methodology in this study was the development and administration of a survey. Problems often arise from the survey instrument itself as one has to define and assess an intangible (e.g., teacher perceptions) with a variety of survey questions. Careful attention must therefore be given to how the variables are defined and assessed with the instrument. Survey research is typically strong on reliability (i.e., repeated observations yield the same results), but weak on validity (i.e., only what the study sets out to measure is measured).

To prevent some of the issues related to content validity, the survey instrument stems were adapted from the planning criteria developed by the South Carolina Department of Education. The South Carolina Department of Education model was based upon the *Model Standards for Beginning Teacher Assessment and Support Consortium* and the National Board of Teaching Standards. These survey stems became the questions that required a Likert response on the survey instrument used by classroom teachers.

In addition, a panel of school testing experts (doctoral level) was chosen to review the survey instrument for content validity. Their comments and suggestions were used to refine the final instrument, *Curriculum Mapping as a Planning and Alignment Tool*.

Other numerous difficulties and weaknesses may arise with a fixed-response survey. A standardized questionnaire or survey often limits the types of responses one gets, and it relies solely on an individual's self-assessment. Therefore, a secondary research methodology was employed in this study. Focus groups, a qualitative

methodology, were used in an attempt to place the survey results within proper context and to triangulate the results.

There are, however, inherent limitations with the use of focus groups as a research methodology. It must be noted that often there is no attempt to use research sampling methods in composing focus groups; the purpose of the focus group is to explore (i.e., to gain a depth of understanding), rather than to describe, for which survey methodology would be used. Teachers were invited to participate at the three selected schools; no attempt was made to have them represent the larger body of teachers within the school district.

Babbie (2002) discusses also several limitations of focus group studies. These include less control of the interview sessions, difficulty in data analysis, training and skill deficiencies for group facilitators, difficulty in assembling the groups, and problems establishing an appropriate environment for the focus group process.

To increase reliability, focus group facilitators and note-takers completed training and were expected to follow the same protocol at each of the focus group sessions. Again, the number of focus group sessions (three) and the levels used (one elementary, one middle, and one high) were intended to increase the reliability of the results in the qualitative portion of the research design. In addition, for consistency, the same three teacher facilitators/observers were used at each focus group session.

Finally, sampling was not used for the quantitative portion of this study; rather, the entire classroom teacher population of the school district was given the opportunity to participate in the study. Having such a large number participate allowed for an accurate

description of teacher perceptions of curriculum mapping as a tool for planning and curriculum alignment.

Summary

There is a substantial knowledge gap in the area of curriculum mapping. A review of the literature revealed only three dissertations on the topic of curriculum mapping. Each of these dissertations attempted to broaden the knowledge base. Huffman (2002) examined middle school teachers' perceptions of the reform process (i.e., the introduction of curriculum mapping and state standards) in one middle school. Bengier (2000) documented the initial planning process of sixth grade teachers involved in implementing the curriculum mapping process over a period of six months. Shanks (2002) performed a comparative study of student achievement test score performance in reading, language, arts, mathematics, science, and social studies (scores of students with teachers using the mapping process were compared with those of a control group where traditional planning methods were used).

As becomes evident, this is the first study to attempt to examine teacher perceptions of the efficacy of curriculum mapping as a tool for planning and curriculum alignment in an entire school district. District Five of Lexington and Richland Counties is unusual in that the entire district embarked upon curriculum mapping as a vehicle for planning and alignment. Staff development sessions were planned at the district level rather than at the instruction level. Additionally, the district introduced the concept of curriculum mapping coaches on each school campus. These coaches were classroom teachers who received a small stipend to assist and facilitate in the mapping process.

This descriptive study employed two methodologies: administering a survey (quantitative design) and conducting three focus group sessions (qualitative design) to find out about teacher perceptions of the efficacy of curriculum mapping as a tool for instructional planning and curriculum alignment. It is believed that using the entire population of classroom teachers in the school district will result in conclusions that may be generalized to the larger population of teachers who have been trained to use curriculum mapping as a planning and alignment tool.

CHAPTER IV

Presentation and Analysis Of Data

Curriculum mapping is a calendar-based planning process in which a teacher records the content and skills that are actually taught (Jacobs, 1997). In today's standards driven instructional environment, increasing numbers of districts are using this planning methodology to shape their curricula, examining them for gaps and overlaps and aligning them with required benchmarks and assessments. However, based on the review of the literature, there is a substantial knowledge gap in the assessment of the usefulness of curriculum mapping as an appropriate tool for curriculum planning and standards alignment.

This is the first research study to attempt to examine teacher perceptions of the efficacy of curriculum mapping as a tool for planning and curriculum alignment in an entire school district. District Five of Lexington and Richland Counties was chosen as the classroom teacher population for this study. This school district embarked upon curriculum mapping as a district-wide vehicle for planning and alignment of state standards and benchmarks. Each school received staff development in this planning methodology, and each school campus had two to three classroom teachers serve as coaches to assist and facilitate in the mapping and alignment process .

Data for this study will be presented by methodology. This descriptive study employed two research methodologies: administering a survey (quantitative design) and

conducting three focus group sessions (qualitative design), to answer the research questions. The researcher felt that by employing two distinct methodologies the study would be strengthened. According to Bogdan and Biklen (2003) “multiple sources lead to a fuller understanding of the phenomena” (p. 107).

The major purpose of the research was to find out about teacher perceptions of the efficacy of curriculum mapping as a tool for instructional planning and curriculum alignment.

Three major research questions were addressed in this study:

1. What are teachers’ perceptions of the efficacy of curriculum mapping as a tool for long-range planning?
2. What are teachers’ perceptions of the efficacy of curriculum mapping as a tool for short-range planning?
3. What are teachers’ perceptions of the efficacy of curriculum mapping as a tool for curriculum alignment?

To answer each research question, a survey entitled *Curriculum Mapping as a Planning and Alignment Tool* (CMPAT) was created. The survey stems were adapted from the planning criteria developed by the South Carolina Department of Education and based upon the *Model Standards for Beginning Teacher Assessment and Support Consortium* and the National Board of Teaching Standards.

Focus group protocols were developed to assist with understanding teacher perceptions of curriculum mapping as a planning and alignment tool. Eight open-ended questions were posed to three groups of teachers in different settings (i.e., an elementary school, a middle school, and a high school).

Quantitative Research Results

To answer each research question, a survey entitled *Curriculum Mapping as a Planning and Alignment Tool* (CMPAT) was created. The survey stems were adapted from the planning criteria developed by the South Carolina Department of Education and was based upon the *Model Standards for Beginning Teacher Assessment and Support Consortium* and the National Board of Teaching Standards.

There were three major research questions that will be addressed in this study:

1. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for long-range planning?
2. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for short-range planning?
3. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for curriculum alignment?

Subsidiary questions were necessary to determine teacher perceptions in regard to these major research questions. In the area of long-range planning (research question 1), question stems were developed to uncover teacher perceptions of curriculum mapping as a tool allowing teachers to: (a) plan for differing ability levels, backgrounds, and developmental needs of students; (b) plan appropriate long-range learning and developmental goals for students; (c) sequence appropriate instructional units of study; (d) develop appropriate timelines for the completion of instructional units of study; (e) organize instructional materials and resources; (f) evaluate student progress and achievement; and (g) maintain necessary records of long-range planning efforts.

With regard to short-range planning efforts (research question 2), the researcher had to ascertain teacher perceptions of curriculum mapping as a planning tool allowing teachers to: (a) plan instructional units that build upon students' learning and development from previous units of study; (b) plan for connections of knowledge and skills to be covered in future units of study; (c) plan unit objectives that are appropriate for the ability and developmental levels of students; (d) plan for levels and sources of content appropriate for the ability and developmental levels of students; (e) plan for appropriate and logical sequence instructional strategies; (f) plan for instructional strategies which can accommodate learning styles and rates of learning; (g) plan for instructional strategies that promote varied levels of thinking and problem-solving; (h) plan activities that promote independent and collaborative learning; and (i) revise and adjust short-range plans based on student needs.

Research question 3 required that the researcher discover teacher perceptions of curriculum mapping as an alignment tool allowing teachers to: (a) identify the key concepts and skills that are most important in the grade and/or subject area; (b) align concepts and skills with instruction level standards and benchmarks; (c) align concepts and skills within the various subject disciplines (e.g., reading, math, social studies); (d) articulate the curriculum between schools (elementary to middle, middle to high); and (e) work as a team to provide a quality instructional program.

The subsidiary questions were adapted from the planning criteria developed by the South Carolina Department of Education and based upon the *Model Standards for Beginning Teacher Assessment and Support Consortium* and the National Board of

Teaching Standards. These survey stems became the questions that required a Likert response from teachers participating in the survey.

Teacher perceptions were measured for the dependent variables based on responses on the Likert scale instrument. The following scale was used for each variable (Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts): 1 = *strongly disagree*, 2 = *disagree*, etc., 5 = *strongly agree*. Each survey item was then averaged.

The scores on each of these dependent variables were continuous (a high score means more, a low score means less). This plan assumed that a high score indicated more Long Range Planning Efforts, a low score meant less Long Range Planning Efforts, a high score indicated more Short Range Planning Efforts, a low score meant less Short Range Planning Efforts, etc.

There were five independent variables in the study:

1. *Instruction level*: A categorical independent variable. The groups are Elementary, Middle, and High.
2. *Education Level*: A categorical independent variable. The groups are Bachelor's, BA+18, Master's, MA+30, and Doctorate.
3. *Teaching Experience*: A categorical independent variable. The groups are 1-5 years, 6-10 years, 11-15 years, 16-20 years, and 21+ years.
4. *Experience with Mapping*: A categorical independent variable. The groups are No experience, Very little experience, Some Experience, and Experienced/Knowledgeable.

5. *NBPTS Certification*: A categorical independent variable. The groups are Yes and No.

The entire population of classroom teachers in District Five of Lexington and Richland Counties was used in the administration of the survey instrument. Surveys were distributed to the 835 classroom teachers in the 19 schools in the district. Of this number, 573 surveys were returned in time for inclusion in this study (a return rate of 69 percent). Frequencies for the five independent variables are represented in Tables 1, 2, 3, 4, and 5.

Table 1

Independent Variable: Instruction Level

	Frequency	Percent	Valid Percent	Cumulative Percent
Elementary	304	53.1	53.1	53.1
Middle	178	31.1	31.1	84.3
High	90	15.7	15.7	100.0
Valid Total	572	99.8	100.0	
Missing	1	0.2		
Total	573	100.0		

Table 2

Independent Variable: Education level

	Frequency	Percent	Valid Percent	Cumulative Percent
BA	92	16.1	16.1	16.1
BA+18	113	19.7	19.8	35.8
Masters	199	34.7	34.8	70.6
Masters+30	162	28.3	28.3	99.0
Doctorate	6	1.0	1.0	100.0
Valid Total	572	99.8	100.0	
Missing	1	0.2		
Total	573	100.0		

Table 3

Independent Variable: Teaching Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
1-5 Years	112	19.5	19.6	19.6
6-10 Years	130	22.7	22.8	42.4
11-15 Years	81	14.1	14.2	56.6
16-20 Years	71	12.4	12.4	69.0
21+ Years	177	30.9	31.0	100.0
Valid Total	571	99.7	100.0	
Missing	2	0.3		
Total	573	100.0		

Table 4

Independent Variable: Knowledge of Mapping

	Frequency	Percent	Valid Percent	Cumulative Percent
None	14	2.4	2.5	2.5
Very Little	65	11.3	11.5	14.0
Some	216	37.7	38.2	52.1
Experienced	271	47.3	47.9	100.0
Valid Total	566	98.8	100.0	
Missing	7	1.2		
Total	573	100.0		

Table 5

Independent Variable: National Board Certification

	Frequency	Percent	Valid Percent	Cumulative Percent
Certified	71	12.4	12.5	12.5
Not Certified	499	87.1	87.5	100.0
Valid Total	570	99.5	100.0	
Missing	3	0.5		
Total	573	100.0		

Five null hypotheses were formulated based on the variables in the research study.

These included:

1. There will be no significant differences among the instruction level groups (Elementary, Middle, High) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

2. There will be no significant differences among the education level groups (Bachelor's, BA+18, Master's, MA+30, Doctorate) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

3. There will be no significant differences among the teaching experience groups (1-5 years, 6-10 years, 11-15 years, 16-20 years, 21+ years) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

4. There will be no significant differences among the experience with mapping groups (No experience, Very Little Experience, Some Experience, Experienced/Knowledgeable) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

5. There will be no significant differences between NBPTS Certification groups (No, Yes) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

Formal statistical analyses were conducted to test each of the null hypotheses. Multivariate Analysis of Variance (MANOVA) is a method of data analysis that seeks to examine differences between the groups of an independent variable on a number of dependent variables at the same time (Pallant, 2004). A MANOVA was an appropriate statistical method because there were several dependent variables that were continuous (Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts) and one categorical independent variable (c.g., Instruction level).

MANOVA produces an overall significance test (e.g., Wilk's Lambda) for differences between groups. When the design has a number of dependent variables, individual F tests on each dependent variable may be completed separately. However, this is less desirable in the absence of an overall test since doing multiple tests drives up the Type 1 error (false positive) rate. MANOVA yields an overall test first; therefore, there is less of a concern about an inflated Type 1 error rate. In addition to the multivariate Wilk's Lambda test, MANOVA output gives univariate F tests for each dependent variable separately. If there are more than two groups on the independent variable, post-hoc comparisons are used to examine which groups are significantly different from one another.

MANOVA assumes that the dependent variables are continuous which means that a higher score on the variable means more of the construct and a lower score means less. Further, the independent variable is assumed to be categorical. MANOVA assumes that the variances within groups are approximately equal (also referred to as the assumption of homogeneity of variance). This assumption can be tested with a Box's M test. When significant, the Box's M suggests that the equal variances assumption has been violated. When non-significant, the Box's M test implies that the variance of scores for each group was not statistically different (the desired result). However, it is well known that F tests are robust to violation of this assumption when the sample size within each of the groups is nearly equal. A Box's M test is not used to evaluate if a given hypothesis was supported or not supported by the data. This evaluates if the equal variances assumption was met. The Box's M Test is a test to see if the variance (i.e., the spread of scores) was approximately equal for the groups of the independent variable – a Box's M test is *not* a

test of differences between group means. Another assumption of MANOVA is multivariate normality of the dependent variables. This can be examined with frequency distributions and/or graphs. However, it is well known that F tests are robust to violation of the assumption of normality when the sample size of the groups is large (about 30 or more). Another assumption of MANOVA models is that the groups are independent (for example, a classroom teacher cannot be in Elementary and Middle school at the same time).

Hypothesis 1 – Instruction Level

Table 6 shows the mean, standard deviation, and number of participants in each group. The participants in Middle school had the highest average on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts. Participants from Elementary Schools scored lowest on Long Range Planning Efforts and Short Range Planning Efforts, while participants from High School scored lowest on Alignment Efforts.

The MANOVA statistical procedure examines if there are significant differences among group means on all of the dependent variables simultaneously (Pallant, 2004).

One assumption of MANOVA is that there are equal variances for the groups of the independent variable (i.e., homogeneity of variance). In this context, it means that the variance of the Elementary, Middle, and High School groups were approximately equal for all dependent variables. The Box's M Test of Equality of Covariance Matrices determines if the data violates the assumption of homogeneity of variance-covariance matrices (Pallant, 2004). The value of Box's M was not statistically

significant: $F(12, 298664) = .423, p = .955$). This suggests that the assumption of equal variances was not violated.

Table 6

Descriptive Statistics for Curriculum Mapping Variables by Instruction Level

	Instructional Level	Mean	Standard Deviation	<i>N</i>
Long-Range	Elementary	3.5482	.82782	280
	Middle	3.8910	.85625	164
	High	3.5549	.77357	82
	Total	3.6561	.84213	526
Short-Range	Elementary	3.3939	.91546	280
	Middle	3.7415	.94186	164
	High	3.3573	.86467	82
	Total	3.4966	.92926	526
Alignment	Elementary	3.7988	.84349	280
	Middle	3.9817	.88501	164
	High	3.7093	.85379	82
	Total	3.8419	.86231	526

According to Pallant (2004), “multivariate tests of significance will indicate whether there are statistically significant differences among the groups on a linear combination of the dependent variables” (p. 229). The Wilks’ Lambda was significant, which implies that there were significant differences among the groups of Instruction

level on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts. This data is represented in Table 7.

Table 7

Multivariate Tests for Variables by Instruction level

	Test	Value	<i>F</i>	Sig.
Instruction level	Wilks' Lambda	.956	3.907	.001

Because the results were significant, the relationships were further investigated using univariate tests. This data is represented in Table 8.

Table 8

Univariate Test for Dependent Variables by Instruction level

Variable	df	Mean Square	<i>F</i>	Sig.
Long-Range	2	6.574	9.573	.000
Short Range	2	7.188	8.564	.000
Alignment	2	2.583	3.507	.031

Each univariate tests determines significant differences among the Instruction level groups on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts separately. As illustrated in Table 8, the univariate *F* test was significant for all three variables.

Since the Univariate F test was significant for Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts, post-hoc tests were used to clarify exactly which groups were statistically different from each other. There are many post-hoc tests; however, the results from Tukey's LSD test were used.

Please note that in this and all post-hoc tables that follow, the output shows a separate test for X vs. Y and Y vs. X. In the context of the research, the test of Elementary with Middle school is the same as the test for Middle with Elementary on a given variable. Post-hoc comparisons by instruction level are illustrated in Table 9.

As can be seen in Table 9, the following groups had mean differences that were statistically significant on Long Range Planning Efforts: Elementary and Middle as well as Middle and High School. In addition, the following groups had mean differences that were statistically significant on Short Range Planning Efforts: Elementary and Middle as well as Middle and High School. Finally, the following groups had mean differences that were statistically significant on Alignment Efforts: Elementary and Middle as well as Middle and High School.

Hypothesis 1 predicted that there would be no significant differences among the instructional level groups (Elementary, Middle, High) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts. This hypothesis, however, was not supported by the statistical analyses. The overall statistical tests were significant, and there were significant differences among the instruction level groups.

Table 9

Tukey Post Hoc Comparisons for Dependent Variables by Instruction level

	Instruction Level (I)	Instruction Level (J)	Mean Difference (I-J)	Sig.
Long-Range	Elementary	Middle	-.3428	.000
		High	-.0067	.949
	Middle	Elementary	.3428	.000
		High	.3361	.003
	High	Elementary	.0067	.949
		Middle	-.3361	.003
Short-Range	Elementary	Middle	-.3475	.000
		High	.0366	.750
	Middle	Elementary	.3475	.000
		High	.3841	.002
	High	Elementary	-.0366	.750
		Middle	-.3841	.002
Alignment	Elementary	Middle	-.1829	.031
		High	.0895	.407
	Middle	Elementary	.1829	.031
		High	.2724	.019
	High	Elementary	-.0895	.407
		Middle	-.2724	.019

Hypothesis 2 – Education Level

This statistical analysis (MANOVA) examined the effect of a teacher's education level on the dependent variables. The means by education level were similar, with the exception of the "Doctorate" level (which was noticeably lower on Long Range Planning Efforts and Alignment Efforts; however, the mean for the "Doctorate" group was based on only 6 participants). The "Doctorate" group had comparatively high standard deviations. The descriptive statistics can be seen in Table 10.

The data illustrated that teachers with the least formal education (e.g., BA with a mean of 3.7399 for Long Range, 3.5931 for Short Range, and 3.8123 for Alignment Efforts) had the higher mean score. In addition, the mean scores on the use of curriculum maps as an alignment tool were much higher than in other categories.

One assumption of MANOVA is that there are equal variances for the groups of the independent variable (i.e., homogeneity of variance). In this context, it means that the variance of the teachers' education level (i.e., Bachelor's, BA+18, Master's, MA+30, Doctorate) were approximately equal for all dependent variables. The Box's Test of Equality of Covariance Matrices determines if the data violates the assumption of homogeneity of variance-covariance matrices (Pallant, 2001). The value of Box's M was statistically significant: $F(24, 2023) = 1.576, p = .037$. This suggests that the assumption of equal variances was violated. The large standard deviation for the "Doctorate" group foreshadowed this problem. When the Box's Test is significant, a researcher should be wary of committing a Type I (false positive) error.

Table 10

Descriptive Statistics for Curriculum Mapping Variables by Education Level

	Instructional	Standard		N
	Level	Mean	Deviation	
Long-Range	Bachelors	3.7399	.73364	87
	BA+18	3.6663	.79759	103
	Masters	3.6236	.83603	184
	Masters+30	3.6473	.90897	146
	Doctorate	3.4583	1.56857	6
	Total	3.6559	.84205	526
Short-Range	Bachelors	3.5931	.83496	87
	BA+18	3.5039	.87514	103
	Masters	3.4560	.94809	184
	Masters+30	3.4856	.07486	146
	Doctorate	3.4833	1.53937	6
	Total	3.4966	.92926	526
Alignment	Bachelors	3.8123	.76453	87
	BA+18	3.9061	.79987	103
	Masters	3.8324	.88028	184
	Masters+30	3.8459	.91645	146
	Doctorate	3.3889	1.38511	6
	Total	3.8422	.86240	526

When the equal variance assumption appears to be violated, there are several alternatives that can be used to get a reliable result:

- 1) The researcher can often ignore the results because F tests are robust to

violation of equal variances when the sample size is relatively equal. However, the sample sizes (87, 103, 184, 146, and 6) differed widely. Having only six participants in the Doctorate group was problematic.

2) The researcher may remove all or part of all of the problem data. In this case, the Doctorate category was removed and the results recomputed. However, the Box's test was still significant, $F(18, 538827) = 1.705, p = .031$.

3) The researcher may transform the data and rerun the analysis with the transformed variables. The transformation is nonlinear, so the shape of the data changes. Options included square root, Logarithm, and inverse. However, this did not help with the equal variances problem. The square root transformation was significant, $F(24, 2023) = 2.015, p = .002$; the Logarithm transformation was significant, $F(24, 2023) = 2.831, p = .000$; and the inverse transformation was significant, $F(24, 2023) = 6.730, p = .000$.

4) The researcher can use a nonparametric alternative test. Nonparametric tests do not make assumptions about the shape of data (Wilson, 2005). The Kruskal-Wallis Test is the nonparametric test that was used as an alternative to the analysis of variance. According to Pallant (2004), "it allows you to compare the scores on some continuous variable for three or more groups ... scores are converted to ranks and the mean rank for each group is compared" (p. 263). The results were non-significant for Education level on each of the dependent variables and the results are illustrated in Table 11.

Univariate tests (see Table 12) were completed and were found non-significant. This suggests that there are no significant differences among the education level groups on all variables simultaneously. Post-hoc analysis was not needed since both the multivariate and univariate tests were non-significant.

Table 11

Nonparametric Kruska Wallis Tests by Education Level

	Long-Range	Short-Range	Alignment
Chi-Square	.966	1.297	1.833
df	4	4	4
Asymp. Sig.	.915	.862	.766

Table 12

Univariate Test for Dependent Variables by Education Level

Variable	df	Mean		
		Square	F	Sig.
Long-Range	4	.266	.373	.828
Short Range	4	.284	.328	.859
Alignment	4	.438	.587	.672

The null hypothesis assumed that there would be no significant differences among the education level groups (Bachelor's, BA+18, Master's, MA+30, Doctorate) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts. This hypothesis was supported by the data. The overall multivariate test (Wilks Lambda) was non-significant and each of the univariate F tests was non-significant. Although there were concerns about the reliability of these tests, they were supported by the use of a nonparametric test.

Hypothesis 3 – Teaching Experience

Table 13 shows the mean, standard deviation, and number of participants in each group based on the number of years experience for the participating teacher.

Table 13

Descriptive Statistics for Curriculum Mapping Variables by Teaching Experience

	Instructional Level	Mean	Standard Deviation	N
Long-Range	1-5 years	3.6365	.64247	109
	6-10 years	3.5129	.88117	116
	11-15 years	3.6558	.84952	77
	16-20 years	3.7108	.86334	67
	21+ years	3.7476	.91233	156
	Total	3.6545	.84127	525
Short-Range	1-5 years	3.5752	.81082	109
	6-10 years	3.3233	.98417	116
	11-15 years	3.4169	.90429	77
	16-20 years	3.4642	.93415	67
	21+ years	3.6288	.96179	156
	Total	3.4981	.92974	525
Alignment	1-5 years	3.7768	.77818	109
	6-10 years	3.6882	.92327	116
	11-15 years	3.8333	.89058	77
	16-20 years	3.9353	.84684	67
	21+ years	3.9733	.84973	156
	Total	3.8441	.86209	525

An assumption of MANOVA is that there are equal variances for the groups of the independent variable (i.e., homogeneity of variance). In this context, it means that the variance of the teachers' experience level was approximately equal for all dependent variables. The Box's M Test of Equality of Covariance Matrices determines if the data violates the assumption of homogeneity of variance-covariance matrices (Pallant, 2004). The value of Box's M was statistically significant: $F(24, 422194) = 1.624, p = .027$. This suggests that the assumption of equal variances was violated. When the Box's Test is significant, a researcher may commit a Type 1 (false positive) error.

A multivariate test of significance indicated that there was a statistically significant difference among the groups on a linear combination. The specific multivariate test was the Wilks' Lambda because there were unequal numbers in the various groups. The results of Wilks' Lambda were $F(12, 1370) = 1.784, p = .046$. However, because the multivariate test was significant, a false conclusion showing significant differences was possible.

A univariate F test was completed on the data. The results, as seen in Table 14, were non-significant, but they were approaching the .05 level.

Table 14

Univariate Test for Dependent Variables by Experience Level

Variable	df	Mean		
		Square	F	Sig.
Long-Range	4	.981	1.391	.236
Short Range	4	1.861	2.173	.071
Alignment	4	1.621	2.201	.068

As in Hypothesis 2, transformations had to be performed because of the possibility of a Type 1 error. The square root, logarithm, and inverse transforms did not impact the unequal variances problem. Therefore, a nonparametric test was performed and the results are displayed in Table 15. The Kruska Wallis Test was significant for Long Range Planning ($p = .047$), but not for Short Range Planning or Alignment.

Table 15

Nonparametric Kruska Wallis Tests by Experience Level

	Long-Range	Short-Range	Alignment
Chi-Square	9.625	8.718	6.975
df	4	4	4
Asymp. Sig.	.047	.069	.137

Based on the analysis, there is a significant difference in long-range planning based on the experience level of the classroom teacher. Since the nonparametric test was significant for Long Range Planning Efforts, post-hoc tests were used to clarify exactly which groups were statistically different from each other. The results from Tukey's LSD test for the dependent variable Long Range Planning was used (see Table 16).

The significant differences were the 6-10 years of experience group and the 21+ years group with regard to Long Range Planning. Therefore, the null hypothesis was not supported for Long Range Planning, but was supported for Short Range Planning Efforts and alignment.

Table 16

Tukey Post Hoc Comparisons for Dependent Variables by Experience Level

	Instruction level (I)	Instruction level (J)	Mean Difference (I-J)	Sig.
Long-Range	1-5 years	6-10 years	.1235	.271
		11-15 years	-.0194	.877
		16-20 years	-.0744	.569
		21+ years	-.1111	.290
	6-10 years	1-5 years	-.1235	.271
		11-15 years	-.1429	.248
		16-20 years	-.1979	.125
		21+ years	-.2347	.023
	11-15 years	1-5 years	.0194	.877
		6-10 years	.1429	.248
		16-20 years	-.0550	.695
		21+ years	-.0918	.433
	16-20 years	1-5 years	.0744	.569
		6-10 years	.1979	.125
		11-15 years	.0550	.695
		21+ years	-.0368	.765
21+ years	1-5 years	.1111	.290	
	6-10 years	.2347	.023	
	11-15 years	.0918	.433	
	16-20 years	.0368	.765	

Hypothesis 4 – Experience with Mapping

Table 17 shows the mean, standard deviation, and number of participants in each group. The participants in Middle School had the highest average on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts. Participants from Elementary Schools scored lowest on Long Range Planning Efforts and Short Range Planning Efforts while participants from High School scored lowest on Alignment Efforts.

Table 17

Descriptive Statistics for Mapping Variables by Experience with Mapping

	Instruction Level	Mean	Standard Deviation	N
Long-Range	None	3.8571	.55871	14
	Very Little	3.4133	.70732	62
	Some	3.5255	.83473	201
	Experienced	3.8030	.86690	243
	Total	3.6507	.84282	520
Short-Range	None	3.9286	.71299	14
	Very Little	3.4500	.74981	62
	Some	3.3552	.93171	201
	Experienced	3.5901	.96461	243
	Total	3.4917	.92968	520
Alignment	None	3.9405	.74135	14
	Very Little	3.5887	.70692	62
	Some	3.7131	.93158	201
	Experienced	3.9979	.82203	243
	Total	3.8375	.86472	520

The Box's M Test was not significant; therefore, the assumption of equal variances was not violated: $F(18, 9343) = 1.155, p = .290$. The resulting multivariate and univariate tests were significant (see Tables 18 and 19). A Tukey Test was used to examine these differences, and the significant cells are provided in Table 20.

Table 18

Multivariate Tests for Variables by Experience with Mapping

	Test	Value	<i>F</i>	Sig.
Experience	Wilks' Lambda	.926	4.470	.000

Table 19

Univariate Test for Dependent Variables by Experience with Mapping

Variable	df	Mean Square	<i>F</i>	Sig.
Long-Range	3	4.292	6.225	.000
Short Range	3	2.959	3.473	.016
Alignment	3	4.451	6.129	.000

In this hypothesis, it is assumed that there will be no significant differences among the classroom teachers based on their experience level with mapping. Based on the statistical analysis, this hypothesis was not supported by the data. There were significant differences between the groups. Those knowledgeable and experienced with

mapping had significantly different means from those with none or limited experience with mapping.

Table 20

Tukey Post Hoc Comparisons for Dependent Variables by Experience with Mapping

Experience with Mapping – Significant Cells Only				
	Instruction level	Instruction level	Mean Difference	
	(I)	(J)	(I-J)	Sig.
Long-Range	Very Little	Experienced	-.3897	.001
	Some	Experienced	-.2775	.000
Short-Range	None	Some	.5733	.025
	Some	Experienced	-.2349	.008
Alignment	Very Little	Experienced	-.4092	.001
	Some	Experienced	-.2848	.000

Hypothesis 5 - NBPTS Certification

The final hypothesis examined the differences between means for Long Range, Short Range, and Alignment Efforts based on the classroom teachers' status with regard to national certification. It must be noted that the means did not differ markedly for the two groups. Data is provided in the next series of tables.

The overall multivariate test based on certification was not significant (Table 22). Also, the univariate tests (Table 23) were not significant, and post-hoc tests were not needed.

Table 21

Descriptive Statistics for Curriculum Mapping Variables by Type Certification

	Instructional		Standard	N
	Level	Mean	Deviation	
Long-Range	Yes	3.5985	.89591	66
	No	3.6626	.83384	459
	Total	3.6545	.84127	525
Short-Range	Yes	3.3636	.99253	66
	No	3.5174	.91989	459
	Total	3.4981	.92974	525
Alignment	Yes	3.8207	.95017	66
	No	3.8475	.84975	459
	Total	3.8441	.86209	525

Table 22

Multivariate Tests for Variables by Type Certification

	Test	Value	F	Sig.
Certification	Wilks' Lambda	.994	.978	.403

The final null hypothesis stated that there would be no significant difference based on teacher certification (i.e., NBPTS Certified and Not NBPTS Certified). This hypothesis was supported by the data. Both the overall multivariate test and the

Table 23

Univariate Test for Dependent Variables by Type Certification

Variable	df	Mean Square	<i>F</i>	Sig.
Long-Range	1	.237	.335	.563
Short Range	1	1.365	1.581	.209
Alignment	1	.041	.056	.814

individual univariate tests were non-significant.

Qualitative Research Results

Three focus group sessions were held as part of a qualitative design for this study. It was believed that the introduction of this technique would be helpful in understanding and interpreting the quantitative survey data.

Three focus group sessions were held at each instructional level (i.e., Elementary, Middle, High) in an effort to understand teacher perceptions on the efficacy of curriculum mapping as a tool for planning and curriculum alignment. Focus groups were led by teachers trained in the process. One teacher facilitated the discussion and the other two took notes to record teacher comments.

The composition of focus groups was similar to the set up for those who participated in the survey. There was no attempt, however, to create a scientific sample of the district teaching population. Teachers were invited to participate in the session that was held at the end of the regular school day. It must be noted that no participants in the

focus group sessions identified themselves as having little or no knowledge of mapping.

Table 24 gives a breakdown of the focus group participants.

Table 24

Focus Group Composition

		Elementary	Middle	High	Total
<i>N</i>		7	4	6	17
Education	Bachelors	0	0	0	0
	BA+18	1	2	0	3
	Masters	3	1	2	6
	Masters+30	3	1	3	7
	Doctorate	0	0	1	1
Teaching experience	1-5 Years	1	1	0	2
	6-10 Years	2	1	1	4
	11-15 Years	1	1	0	2
	16-20 Years	1	1	0	2
	21+ Years	2	0	5	7
Mapping Knowledge	None	0	0	0	0
	Little	0	0	0	0
	Some	3	1	3	7
	Experienced	4	3	3	10
NBPTS certification	Yes	2	1	1	4
	No	5	3	5	13

There were eight questions posed at each afternoon session. The questions included:

1. How do you perceive mapping as a tool for long-range planning of

instructional units? Is it helpful or is it a hindrance in your ability to plan for instructional units?

2. What about the concept of using such a calendar-based approach in planning?
3. What about standards and benchmarks? How does mapping help or hinder this process?
4. What has been the strength of using a curriculum map? What about weaknesses?
5. Have you had any particular difficulties with the mapping process in your building or level?
6. What about mapping and its relationship with planning classroom activities?
7. Is mapping helpful as you attempt to address the standards that are in your content area (or grade level)?
8. Do you have any other comments regarding the use of curriculum mapping as a tool for planning and curriculum alignment?

Researchers are often overwhelmed when they look at the qualitative data they have received. Analysis begins by going back to the purpose of the study (Kruger and Casey, 2000). There were three questions that formed the nexus for this study:

1. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for long-range planning?
2. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for short-range planning?
3. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for curriculum alignment?

These questions became the basis for analyzing the qualitative data, and the operational word in each question was the word 'efficacy.' Efficacy can be defined as the power or capacity to produce a desired effect. Focus group comments were examined in this context (the ability to produce the desired effect).

The comments were examined according to whether teachers saw mapping as positive, neutral, or negative in light of their ability to plan or align a curriculum. Table 25 encapsulates this information based on the eight questions posed during the focus group sessions. It is interesting to note that comments became increasingly negative as the session progressed. This may have been a result of teachers becoming more comfortable with expressing their opinions.

The comments made during the focus group session often highlighted the helpfulness of mapping. However, the teachers often pointed out specific problems that existed within their building. Typically, these problems were related to staff development issues, systems problems, and philosophical differences of opinion.

In summary, teachers viewed mapping as an effective tool for providing long-range and short-range planning and curriculum alignments. There were, however, problems with the implementation of the strategy resulting in many comments unrelated to the nature of this research. An attempt to put this into context can be found in Chapter V.

Table 25

Focus Group Response Analysis – Positive, Neutral, Negative Comments

		Elementary	Middle	High	Total
1. Long-range planning	Positive	7	8	5	20
	Neutral	0	0	2	2
	Negative	4	1	3	8
2. Calendar-based approach	Positive	1	4	6	11
	Neutral	1	0	0	1
	Negative	1	1	6	8
3. Helpful/hinders standards approach	Positive	0	3	6	9
	Neutral	2	0	1	3
	Negative	2	1	1	4
4. Strengths and weaknesses	Positive	2	3	2	7
	Neutral	1	1	1	3
	Negative	6	4	0	10
5. Difficulties at building Level	Positive	1	1	1	3
	Neutral	1	0	0	1
	Negative	11	5	1	17
6. Planning classroom activities	Positive	0	2	0	2
	Neutral	1	0	0	1
	Negative	9	3	6	18
7. Addressing content/grade standards	Positive	0	1	0	1
	Neutral	0	0	1	1
	Negative	3	0	4	7
8. Other comments about mapping	Positive	0	0	0	0
	Neutral	0	0	1	1
	Negative	3	3	2	8

Summary

Data gathered in this study used both quantitative and qualitative data to determine teacher perceptions on the efficacy of curriculum as a planning and alignment tool. The data presented in this chapter illustrated that teachers do perceive mapping as an effective tool for planning and alignment. This was shown to be true across both quantitative and qualitative results. There were, however, differences based on the level of instruction (i.e., Elementary, Middle, and High), differences based on the total teaching experience of the professional, and also the level of knowledge held by teachers with regard to the mapping process. There were no differences in teacher perceptions based on education level or certification. The qualitative data provided information in regard to system problems that may hinder the efficacy of curriculum mapping. Qualitative and quantitative data will be placed in the proper context in the next chapter of this research study.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

The curriculum mapping process has become a method by which many schools and school districts shape their curricula, examining them for gaps and overlaps across and within grade levels and content areas, and aligning them with required standards and assessments. While curriculum mapping is being used as a planning tool by teachers in many schools and districts across the country, only three dissertation studies have examined curriculum mapping, and no study has gathered empirical data regarding this method for long-term planning and curriculum alignment.

This research study attempted to expand the knowledge base in the area of curriculum planning and alignment. Teachers, being the primary practitioners of curriculum mapping, have valid insight into the usefulness of this methodology. The study attempted to collect and describe teachers' perceptions of the efficacy of curriculum mapping as a tool for instructional planning and curriculum alignment.

Three major research questions guided the design of this study:

1. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for long-range planning?
2. What are teachers' perceptions of the efficacy of curriculum mapping as a tool for short-range planning?
3. What are teachers' perceptions of the efficacy of curriculum mapping as a tool

for curriculum alignment?

To find answers to these questions, a survey entitled *Curriculum Mapping as a Planning and Alignment Tool (CMPAT)* was created. Focus group protocols were developed to assist with understanding teacher perceptions of curriculum mapping as a planning and alignment tool; these sessions were held specifically to bring about greater understanding of the results provided by the survey instrument. During focus group sessions, eight open-ended questions were posed to three groups of teachers in different settings (i.e., an elementary school, a middle school, and a high school).

Descriptive statistical data regarding overall teacher perceptions of curriculum mapping as a planning tool was provided by this study. Demographic data (i.e., level of instruction, teacher education, knowledge of the mapping process, teacher certification, and teacher experience) was also used to uncover any statistical differences in responses made by the various teacher groups involved in the study.

The dependent variables were as follows: Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts. Teacher perceptions were measured for the dependent variables based on responses on the Likert scale instrument. The scores on each of these dependent variables was continuous (a high score meaning more, a low score meaning less). This plan assumed that a high score indicated more Long Range Planning Efforts, a low score meant less Long Range Planning Efforts, a high score indicated more Short Range Planning Efforts, a low score meant less Short Range Planning Efforts, etc.

The following scale was used for each variable (Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts): 1 = *strongly disagree*, 2 = *disagree*, and so on up to 5 = *strongly agree*. Each survey item was then averaged.

All five independent variables were categorical. They included Instruction Level (with the categories of Elementary, Middle, and High), Education Level (with the categories of Bachelor's Degree, BA+18, Master's, Master's+30, and Doctorate), Teaching Experience (with the categories of 1-5 years, 6-10 years, 11-15 years, 16-20 years, and 21+ years), Experience with Mapping (with the categories of No Experience, Very Little Experience, Some Experience, and Experienced/Knowledgeable), and NBPTS Certification (with the categories of Yes and No).

Based on the three research questions and the dependent and independent variables, five null hypotheses were developed to guide the statistical analysis of the study. These included:

1. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping among the instruction level groups (Elementary, Middle, High) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.
2. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping among the education level groups (Bachelor's Degree, BA+18, Master's, Master's+30, Doctorate) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.
3. There will be no significant differences in teacher perceptions of the efficacy

of curriculum mapping among the teaching experience groups (1-5 years, 6-10 years, 11-15 years, 16-20 years, 21+ years) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

4. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping based on prior experience with mapping (No experience, Very Little Experience, Some Experience, Experienced/Knowledgeable) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

5. There will be no significant differences in teacher perceptions of the efficacy of curriculum mapping between NBPTS Certification groups (No, Yes) on Long Range Planning Efforts, Short Range Planning Efforts, and Alignment Efforts.

Certain assumptions were inherent to this study. It was assumed that teachers responded honestly to the anonymous survey. Further, it was assumed that focus group participants were honest in sharing their opinions of curriculum mapping as a tool for planning and curriculum alignment.

As with any research study, limitations exist that may pose a threat to finding true answers to the research questions. Survey research is typically strong on reliability (i.e., repeated observations yield the same results), but weak on validity (i.e., the concept of interest may not be truly measured). To enhance validity, the survey stems were adapted from the planning criteria developed by the South Carolina Department of Education and based upon the Model Standards for Beginning Teacher Assessment and Support Consortium and the National Board of Teaching Standards. Further, the survey instrument was also examined for content validity by a panel of experts in school statistical data analysis.

A qualitative research methodology was employed to help control limitations and the inability of teachers to provide open-ended responses. Focus groups were used in an attempt to place the survey results within proper context. However, it must be noted that focus group participants were volunteers recruited at elementary, middle, and high school levels and did not fully represent the entire population of classroom teachers in the district.

Conclusion

Curriculum mapping is one of several methodologies used by school systems in an attempt to align standards and benchmarks with assessments. The development of such planning tools have evolved primarily because of increased pressure on today's school systems to produce improved student performance according to various state and national assessment measures.

Curriculum designers realized that teachers and building level administrators had the capacity to strengthen instructional performance by aligning the written, taught, and tested curricula. Curriculum mapping helps to identify the taught curriculum, to compare it with the required standards and benchmarks, and to make necessary adjustments to it in order to align it with the assessments used to measure student performance (Burns, 2001).

No research, however, had been done to see how classroom teachers, the practitioners of curriculum mapping, perceived its efficacy as a tool for planning and curriculum alignment. This study has attempted to provide such insight.

The teachers involved in this study felt that curriculum mapping was a useful tool for planning and alignment efforts. On the whole, they believed that mapping was a better

tool for aligning curriculum ($M = 3.8419$), followed by long-range planning ($M = 3.6561$); short range planning had the lowest mean ($M = 3.4966$) of the three dependent variables, however, it appears that teachers still felt it was an effective tool for short range planning.

Examining the focus group data, all groups indicated that curriculum mapping was an appropriate tool for planning and alignment. The focus groups found it especially helpful for first-year teachers or those recently assigned a new preparation. Comments indicated it was especially helpful with the pacing of instruction and identifying essential curriculum; such comments reinforced research by Kitsantas and Baylor (2001) which show that experienced teachers believe in the value of instructional planning tools being taught to novice teachers.

Additional examination of focus group comments reinforced the idea that curriculum mapping is less beneficial for short-term planning (i.e., not as helpful as a daily lesson plan or a standards verification document that are currently in use) which helped to explain the lower mean score for this particular dependent variable.

The survey and focus group data reinforced the idea that mapping can be an effective tool for planning and aligning a curriculum. However, the null hypotheses looked at differences in the various groups of teachers. Interestingly, the survey data indicated that middle school teachers saw more value in mapping. The overall means for middle school teachers (alignment efforts, 3.9817; long term planning, 3.8910; and short term, 3.7415) differed statistically from both elementary and high school teachers. However, one must note that they followed the same trend as the larger teacher

population (i.e., higher for alignment, followed by long-term planning, and then short term planning)

The focus group data did not reveal a significant amount regarding the statistical differences between the levels, but several comments indicated that middle school teachers saw a greater impact in regards to a spiraling curriculum than did elementary and high school teachers. Many of the focus group comments at the elementary level indicated that repetitions still existed with the curriculum at that level. High school teachers did mention some benefit, especially in the math curriculum; however, these teachers seemed to see curriculum somewhat divided by content area rather than the natural building of content upon content.

As might have been predicted, there was a statistical difference in the means between those who had knowledge of mapping and those who had little or no experience with it. Specifically in long range planning, there were statistical differences between those with very little experience ($M = 3.4133$) and those who were knowledgeable or experienced with mapping ($M = 3.8030$). With alignment efforts, the same pattern was repeated regarding statistical significance: very little experience ($M = 3.5901$) as opposed to those experienced or knowledgeable ($M = 3.9979$), and some experience ($M = 3.7131$) as opposed to those experienced or knowledgeable ($M = 3.9979$). Also, with short range planning there were statistical differences in the groups: no experience ($M = 3.9286$) versus classroom teachers having some experience ($M = 3.3552$), and some experience ($M = 3.3552$) with those who were experienced in mapping ($M = 3.5901$).

What is interesting with the data is that the means in long range planning and alignment tended to be very similar for those with no experience and those with

experience in mapping. This also showed through in the focus group sessions. Although there were no participants in the focus groups that professed to have no experience with mapping, those present in the sessions tended to point out its helpfulness for those who were new to the curriculum mapping process (e.g., those new to the profession, those new to the district).

With regard to differences based on teaching experience, there was limited statistical significance. There were statistical differences in long range planning for those with 6-10 years experience ($M = 3.5129$) and those with 21 or more years experience ($M = 3.7476$). It is interesting that there is a significant difference between those in mid-career and those with the most experience. The focus group sessions did not shed any light on why such a difference exists.

However, the means did show that in regards to teacher experience, the more experienced teachers seemed to support mapping as a more effective tool in planning and alignment (i.e., the mean scores were higher in this category than in any other comparison group).

The remaining two hypotheses were not supported by the data. There was no statistically significant difference between teacher views on alignment and planning based on NBPTS certification. NBPTS teachers had lower mean scores for curriculum mapping as a planning alignment tool than those who did not hold such certification. It must be noted that the NBPTS sample was small (66) compared to the larger classroom teaching population (459). Focus group data did not provide any relevant information regarding this teacher category. Again, the number of NBPTS teachers was small in the focus group session (4 NBPTS teachers versus 13 regular teachers).

There were also no significant differences in relation to the teachers' education levels. It is interesting to note that teachers with the least education tended to see greater value in curriculum mapping, with both long and short range planning. As for the area of alignment, there were very little differences in the means. Again, alignment had the highest means when compared to the other two dependent variables. Focus group data did not give any indication in relation to these patterns.

Implications

This study, dealing with the curriculum mapping process in a suburban school district, has corroborated what has been stated in the literature: curriculum mapping is an efficient and effective tool for instruction planning and curriculum alignment between the taught and written curriculum. Teachers, being the primary practitioners of mapping, have provided evidence that mapping is a useful tool for them as they plan for instruction.

Classroom teachers also see mapping as particularly effective towards curriculum alignment and long range planning, and to a lesser degree, supportive for short range planning.

The school district under review engaged in a systematic process to train teachers in the use of mapping for alignment and planning (Truesdale, Thompson, & Lucas, 2004). This was carried out to enhance instructional effectiveness. It is believed that such results can be generalized towards the larger teaching population that has been trained in curriculum mapping.

The study (i.e., the data collected from the focus groups) also indicated that there continues to be some systemic problems related to the implementation of large term staff

development programs across districts. These problems will remain unsolved as long as there is insufficient training, lack of leadership or support at the school level, and/or philosophical differences. Teachers viewed mapping as beneficial to planning and alignment; however, they also tended to voice concerns that echoed recent systemic problems with this staff development initiative.

There are numerous implications from this research study. Teachers indicate that planning and alignment of standards and benchmarks are a worthy practice given the current climate for school accountability. Teachers see planning efforts as an important pedagogical practice as preparations are made for instruction. Further, they think training in planning methodologies for new educators is a worthy endeavor for staff development. The research study has also given credence to the idea that teachers are important partners in the processes of refining and developing curriculum.

There are implications of this study for administrators. Administrators, especially the school principal, hold responsibility and the ultimate accountability for a school's performance on accountability measures. Administrators may analyze and disaggregate school performance data to find strands of strengths and/or weaknesses. However, this information is meaningless unless there is an alignment of the standards and benchmarks that are tested with those that are taught in the classroom. Planning tools such as a curriculum map help to foster a sense of responsibility and accountability between the taught and tested curriculum. Planning tools like maps help administrators understand what is actually happening within the classroom.

There are implications for parents. Parents are partners with the school in the educational process. Parents have access to grade level standards and benchmarks;

however, they are rarely provided with enough information on what occurs within the classroom in the various grade levels. Providing parents with knowledge of the taught curriculum through curriculum maps may help to increase the chances of creating effective support as their children navigate the K-12 curriculum. Curriculum maps may provide the vehicle through which parents can become informed and knowledgeable about their child's curriculum and instruction.

There are implications of this research study for students, too. If teachers work together to develop curriculum maps, it may be possible for teachers to use these documents to help understand areas of difficulty that a student may be encountering in a given subject. In the past a teacher may have missed gaps that existed as a child progressed in the spiraling math curriculum. Knowledge of such gaps would help teachers pinpoint problems and to provide instructional support. With the expansion of technology for curriculum mapping, maps may one day be tied to individual students, helping teachers to see the actual curriculum history of a student as they progress through the school system.

Curriculum mapping may lead to improved communication. Curriculum maps require teachers to engage in discussions on what is actually taught. Maps provide administrators with an idea of what happens when the classroom door closes. Administrators are able to use these tools, along with teacher comments, to identify gaps and repetitions in the curriculum. Parents can play a greater role in their child's education by having knowledge of what is actually taught as students progress through the spiraling K-12 curriculum.

Recommendations

Educators, by their very nature, are decision-makers. However, not all decisions can be made based on intuition or prior experience. We can learn from both inductive reasoning (i.e., inference of a generalized conclusion from particular instances) and deductive reasoning (i.e., the deriving of a conclusion by reasoning) that have resulted in reliable answers within the sciences. Now, professionals in the social sciences realize that decisions must be planned, and it is the scientific approach in the educational process that bring about decisions that make a contribution to the field.

This was the first research attempt to determine teacher perceptions of the efficacy of curriculum mapping as a tool for alignment and planning. Curriculum mapping is only one of several methodologies used by school systems in an attempt to align standards and benchmarks with assessments. Curriculum designers recognized the capacity of teachers and building level administrators for strengthening instructional performance. Curriculum mapping is one method by which educators can identify the taught curriculum, compare it with the required standards and benchmarks, and make necessary adjustments to align it with the assessments that are used to measure student performance (Burns, 2001). The discussion and interaction of teachers in this process enhances both student and school performance.

It may be beneficial to continue gathering additional quantitative and qualitative data on various planning methodologies in order to evaluate differences in teacher perceptions in regards to the usefulness of these tools. Also, there are additional districts who have engaged in the mapping process; therefore, it is suggested that this study be replicated in districts such as Ankeny, Iowa. Ankeny is a mid-western district that has

worked to develop K-12 maps, and it could be beneficial to see if their perceptions are similar to those of a district in suburban South Carolina.

It may also be beneficial to examine student performance on standardized tests in districts that have similar demographics but use differing curriculum planning and alignment tools. The ultimate goal is to improve instructional practice; and additional studies, of test scores or pedagogical practices associated with mapping, may provide the necessary knowledge for future planning and alignment.

With the advent of technology, there is a growth in the number of mapping tools available. Technology has the power to make the mapping process more efficient. Teachers can use technology to see other maps, to share pedagogical practices, or to ensure that all standards and benchmarks have been addressed. This is an area that is ripe for study regarding teacher planning and alignment practices.

The goal of any profession is to enhance performance and improve conditions. This is certainly the case for an educator. In addition to establishing high expectations for student performance, an educator is required to perform careful long and short term instructional planning. As Strong (2001) points out, more effective teachers have consistency and organization in teaching and learning, spend appropriate amounts of time establishing priorities for instruction, and allocate suitable amounts of time for the teaching/learning process. Effective school districts likewise must provide consistency and organization of resources, help teachers in establishing appropriate priorities for instruction, and discourage distractions and inappropriate use of time. This is of critical importance in the current climate for accountability. Curriculum mapping is certainly an effective tool in helping to accomplish this task.

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APPENDIX A

Use of Curriculum Mapping to Build a Learning Community

Use of Curriculum Mapping to Build a Learning Community¹

Learning communities don't just magically appear. They must be built with a vision for how individual educators can support the achievement of each student through an articulated, seamless curriculum. Schools in District Five of Lexington and Richland Counties, a district close to the capital city of Columbia, South Carolina, are building their learning community using the tools provided in curriculum mapping. The history of the district shows how curriculum mapping was used to build a cohesive learning community. This chapter describes the support beams, processes, professional development, critical elements, obstacles, map development, and ways the process was sustained. The key points of the blueprint, presented as a closing summary, will remind readers of how important mapping tools can be in building a collaborative learning community through the development of a cohesive curriculum.

History of the District

School District Five is composed of nineteen schools that serve almost 16,000 students from child development through adult education. District schools are located in three distinct communities: Irmo, Chapin, and Dutch Fork. Historically, the communities were relatively homogenous in socioeconomic and demographic aspects. Equal resources have been provided for all schools, and excellence was expected and achieved. Schools in District Five led the state on all standardized measures of achievement for many years.

¹ Originally published as Chapter 2, "Use of Curriculum Mapping to Build a Learning Community" by Valerie Truesdale, Claire Thompson, and Michael Lucas, in *Getting Results with Curriculum Mapping*, edited by Heidi Hayes Jacobs (Alexandria, Va.: Association for Supervision and Curriculum Development, 2004, pp. 10-24). Copyright 2004 by ASCD. All rights reserved. Reprinted with permission.

More than 90 percent of students have attended college, and rarely did a student fail the state's high school exit exam.

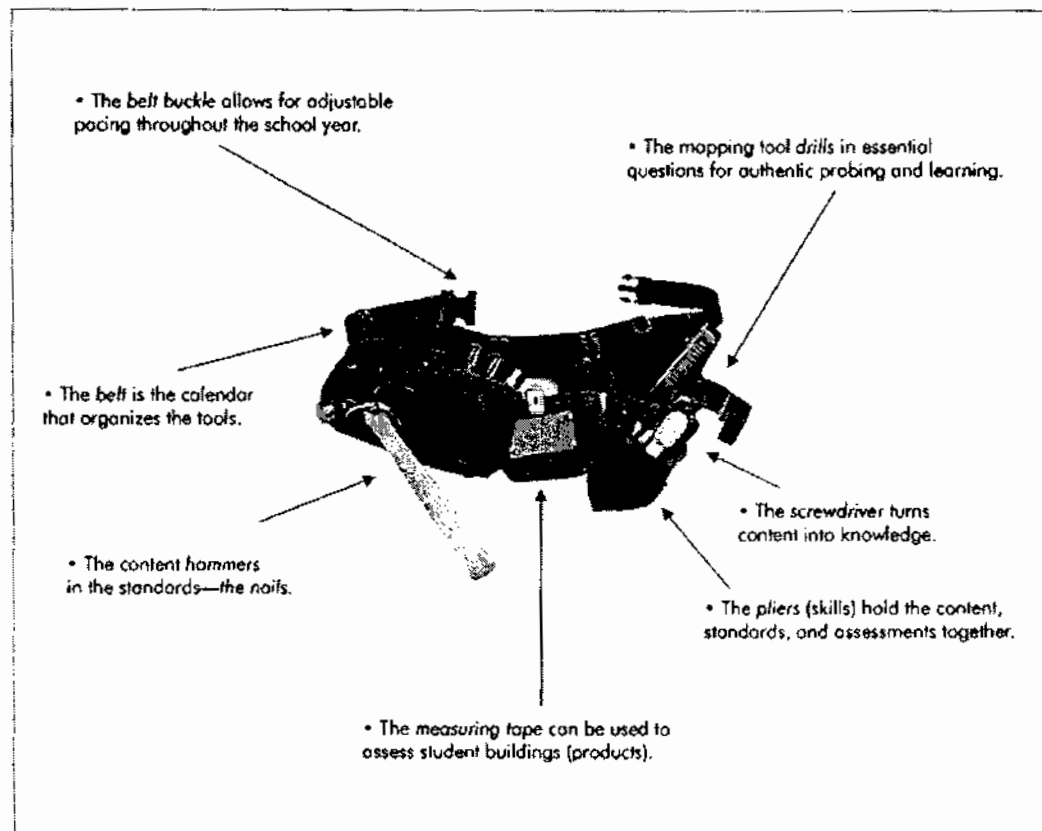
In recent years, however, District Five has seen dramatic demographic shifts. A housing project in nearby urban Columbia closed, and many residents relocated to suburban areas, including the area served by the district. In addition, land development in one of the high school attendance zones pulled upper-middle-class families into another high school's attendance zone. Those population shifts produced more heterogeneous schools and resulted in different challenges. One school moved from 15 percent of the students receiving free and reduced-price lunches to more than 50 percent in a few years. Another school experienced a 35 percent transience rate, when more than one-third of the school's children who participated in state testing in the spring had not been enrolled the previous August.

Such changes challenged district leaders to address new curricular and instructional issues to ensure that high expectations and student achievement remained strong. District leaders searched for solutions and found that curriculum mapping provided useful tools to help build a strong, cohesive learning community. We can compare the tools of curriculum mapping to those on a worker's tool belt (see Figure 2.1)—a useful metaphor that focused the district's work. For instance, curriculum mapping is like a tool belt because it contains or holds information about what a teacher *really* teaches:

- The *belt* is the calendar that organizes the tools.
- The *belt buckle* allows for adjustable pacing throughout the school year.
- The content *hammers* in the standards —the *nails*.

- The mapping tool *drills* in essential questions for authentic probing and learning.
- The *pliers* (skills) hold the content, standards, and assessments together.
- The *screwdriver* turns content into knowledge.
- The *measuring tape* can be used to assess student buildings (products).

Fig. 2.1. Curriculum Mapping: A Tool Belt for Teachers.



Factors Leading to Curriculum Mapping

In 1994, the community adopted a strategic plan that called for "world-class standards." In 1995, teachers developed those standards, reaching a districtwide consensus about what students should know and be able to do in each content area. As part of that two-year staff development initiative, instructional leaders noticed some serious disconnects between what was expected of students and what they were taught.

When teachers asked questions such as, "Do all students write research papers in high school?" and "When do we ensure that skills in an area are taught?" the answer was, "It depends." What a student was taught depended completely on the student's teacher. Each teacher decided which standards to address and what experiences to provide. Therefore, the quality of each student's learning depended entirely on what a teacher decided to emphasize. The lack of horizontal consistency across schools and vertical continuity within schools created a major barrier to quality. In addition, once teachers in School District Five developed district standards and aligned them to state standards, the volume of standards was immense. In the 7th and 8th grades alone, more than 1,000 standards existed in the core subject areas! Instructional leaders surmised that with the volume of standards to address, decisions regarding what was taught should not be an "it depends" issue. The district needed a plan for building a strong, cohesive curriculum.

Although School District Five adopted high academic standards and the most rigorous curriculum materials available, some teachers did not embrace the district's curriculum, claiming that students were not able to do the work. As both the volume of standards and the demographic differences grew, a sense of isolation also emerged among teachers and administrators. Educators needed to connect with colleagues as they struggled to change teaching practices so they could meet more comprehensive standards. Teams of teachers were challenged to think through the mind of a child rather than with the child in mind. In other words, they were asked to envision learning opportunities as if they were individual children moving from kindergarten to 12th grade in the district. What experiences would students have? What would connect learning for them? The

resulting plan had to include specifics so that educators could examine the total structure and establish a strong community of learning.

Support Beams: The Leadership Roles

Instructional leaders recognized that a process that brings individuals together to reflect and share information must support the learning community across diverse schools within a school district. For many years, a hallmark of School District Five had been instructional leadership provided by teacher and administrator teams. Teachers, working side-by-side with administrators, made decisions that affected student learning. Curriculum mapping had to support this process so that teachers' leadership roles remained intact. One way educators have retained this collaboration is with leadership teams. Teachers and administrators representing all grade levels and all schools meet monthly to make decisions regarding teaching and learning across the entire district. These leadership teams provide instructional leadership by involving stakeholders and moving all schools as a unit toward their goals.

By using a building metaphor, instructional leaders decided the district needed support beams from school to school to build a new sense of community. One of the support beams was consistent expectations undergirded by sufficient resources to meet the needs of schools with more challenges. A second support beam was guidance for teachers in managing an overwhelming curriculum. A third was greater connection among content areas so students could see the relevance of lessons.

To construct the support beams, leaders needed to foster a sense of cohesion among teachers, and teachers needed tools for sharing information quickly with one another. To connect the beams, smoother transitions were needed at critical junctures,

such as elementary school to middle school and middle school to high school. To cement skills at benchmark grades and to increase student comprehension, educators believed a deeper commitment to teaching reading in all content areas was critical. The leaders saw curriculum mapping as a tool to address those needs, because it built a renewed sense of community by using instructional reflection and professional collaboration.

Process of Implementing Curriculum Mapping

Continuing the construction metaphor, the leaders realized that a new structure could not be built without plans (a blueprint) and a vision of what the structure (architecture) would look like. The district needed to identify a vision for the community, develop research sites, engage the architects, clear the land, establish a foundation, and use tools to construct the community. When the leaders learned about Dr. Heidi Hayes Jacobs's research in curriculum mapping, they realized that mapping held promise as a unifier around which to build a renewed sense of community. After considerable research through professional journals, conferences sponsored by the Association for Supervision and Curriculum Development (ASCD), and telephone interviews with other district leaders, such as in Ankeny, Iowa, the District Five leaders decided to study the feasibility of implementing curriculum mapping. Thus, a vision was created.

In School District Five, involvement of stakeholders is a standard for every initiative. The leaders recruited two highly skilled principals, Michael Lucas (secondary level) and Claire Thompson (elementary level), to mastermind a blueprint for building the learning community. In 1999–2000, the district selected 62 teachers, representing various grades, subject areas, and schools, who would work with Lucas and Thompson in a graduate-level course to study the feasibility of implementing curriculum mapping.

Using ASCD tapes and books written by Dr. Jacobs (see Curriculum Mapping Resources and Bibliography, pp. 170–173), course participants learned about and tried curriculum mapping techniques in their classrooms. The teachers studied various designs for District Five maps. They interviewed experts to refine their design. In a workshop with the class in January 2000, Dr. Jacobs provided her strong help with the design.

The graduate course participants became the chief architects of the community-building initiative. They tested the ground to see if it was ready to build on by using mapping in their own classrooms. They sought resources to support an articulated curriculum. Course participants understood clearly that if they determined the ground was not ready, the district would not use curriculum mapping. As architects, they could decide to use different tools. At the end of the graduate course, however, the architects decided to move forward with building the community in all schools using curriculum mapping as the major tool. In fact, they decided to build a community across all schools rather than implement mapping in only a few schools as a pilot project. They recognized that with more than 1,200 teachers, this initiative would be no small undertaking. The architects carefully designed the process, identified the tools needed, and pledged a three-year commitment to the building process. The graduate course participants used the template developed in *Mapping the Big Picture: Integrating Curriculum and Assessment K–12*. (Jacobs, 1997a) shown in Figure 2.2. More than 1,200 teachers used this to record their initial maps; an example from an actual school is shown in Figure 2.3.

<i>Fig. 2.2. Standard Template for Initial Curriculum Maps</i>	August	September	October	November
Content				
Skill				
Assessment				
Technology				
Other/Essential Questions				
<i>Source: Jacobs (1997a).</i>				

<i>Fig. 2.3. Example of Curriculum Map Using Modified Standard Template</i>		
Teacher: <u>Karl Hudson</u>		
Grade: <u>8/Social Studies</u>		
School: <u>District Five Middle School</u>		
	August	September
Essential Questions	<ul style="list-style-type: none"> • How does the geography of SC and the US affect the settlement of the country? • Does geography affect industrial development? 	<ul style="list-style-type: none"> • How were the Native Americans changed by their interaction with the early explorers? • How did the Protestant Reformation influence the Exploration Period?
Content	<ul style="list-style-type: none"> • Geography (US & SC) 	<ul style="list-style-type: none"> • Native Americans

	<ul style="list-style-type: none"> • State symbols 	<ul style="list-style-type: none"> • Early exploration
Skills/Benchmarks	<ul style="list-style-type: none"> • 8.2.1: Discuss influence of physical geography on SC history. • 8.8.1: Make and use maps of SC and US. • 8.8.2: Describe and locate physical characteristics. • 8.8.3: Explain how people interacted with the physical environment in SC and US. 	<ul style="list-style-type: none"> • 8.2.2: Discuss life in the Americas before arrival of Europeans and Africans. • 8.8.3: Describe how people interacted with their environment— SC and US. • 8.8.4: Explain patterns and types of migrations.
Assessments	<ul style="list-style-type: none"> • Maps • Quiz • Major test on SC and US geography • Brochure—Region Project • "Journey Through SCIG" 	<ul style="list-style-type: none"> • Native American stories and myths • Explorers Chart • Picture from definitions • Video notes • Essay <i>-Hope for the Flowers</i> • Explorer PowerPoint
Activities (Required)	<ul style="list-style-type: none"> • "Who Am I?" sheets • Ball-Toss Name Game • Textbook scavenger hunts (US & SC) • US physical and climate maps, SC physical map • Pictures from definitions • States Game —puzzle pieces on overhead 	<ul style="list-style-type: none"> • Internet research site • Major test—Native Americans • Writing a myth • Pictures from definitions • Video—"In Search of the First Americans" • Teen <i>Newsweek</i> • Cards to soldiers in Afghanistan

	<ul style="list-style-type: none"> • Intro to laptops—"Journey Through SCIG" • Brochure—Region Project 	<ul style="list-style-type: none"> • Read <i>Hope for the Flowers</i> • Begin research on Explorer PowerPoint
Miscellaneous Notations (Optional)		
Technology (Optional)	<ul style="list-style-type: none"> • SC video—"Smiling Faces, Beautiful Faces" • Laptops—SCIG • Brochure—Region Word Document 	<ul style="list-style-type: none"> • Video—"In Search of Native Americans" • Explorer PowerPoint Project
<i>Source:</i> School District Five of Lexington and Richland Counties, South Carolina.		

Professional Development to Establish a Foundation

As good architects do, the graduate course participants identified the tools needed to teach more than 1,200 teachers about curriculum mapping. To lay the foundation, the course participants served as workshop leaders on staff development days during the 2000–2001 school year. They developed PowerPoint presentations and shared the curriculum maps they developed during the graduate course. All District Five teachers received templates on diskettes, along with notebooks that included essential information on mapping and the K–12 curriculum standards for their area of teaching. Course participants also trained building-level administrators and department leaders in the use of mapping tools and taught peer-coaching skills to instructional leaders. Curriculum mapping (CM) coaches were in every school. These CM coaches participated in a second

graduate course during the 2000–2001 school year to develop tools that would further refine the building process. Leaders of this second graduate course were Harriet Wilson, an elementary principal, and Beth Moore, the district's teacher of the year.

Building a cohesive community for a strong district curriculum extended even further. Each school began its own individual building process by choosing content areas to map. In August 2000, each elementary school began mapping one core content area – math or science. All teachers in grades 6–12 mapped at least one of their courses. Teachers of related areas mapped at least one course as well. Guidance counselors and media specialists also developed a map of their classroom teaching activities for the year. Special education, physical education, and other content-area teachers developed specialized maps, some of which covered multiple years to fit the discipline.

On staff development days during the school year, coaches facilitated mixed-group and like-group review sessions to refine maps. In May 2001, each teacher submitted at least one reviewed and revised map for a collective districtwide review during Summer Institute, which is a week-long activity held in June for highly motivated teachers who meet to work on curriculum issues. Between 120 and 200 teachers learn and work together each summer, earning graduate or recertification credit. Summer Institute for 2001 was dedicated to reviewing initial maps to strengthen the foundation of the renewed community of adult learners.

To support the foundation, district leaders identified policies and practices that could be streamlined to validate the use of the tools of curriculum mapping. Administrators revised the teacher evaluation system to accommodate curriculum maps. The requirement for first-year teachers to submit long-range plans was changed; instead,

they were to develop projected curriculum maps. The district provided maps developed by exemplary teachers to guide new teachers as they planned their year. District-level content coordinators were expected to ask for maps when they observed in classrooms and were to provide targeted feedback to teachers about how their teaching and assessments aligned with state and district standards. Curriculum maps from regular education teachers were shared with special education teachers to forge new connections. Resource teachers added their curriculum to the maps of the regular education teachers to help students make connections between learning in the resource room and learning in the regular classroom.

At some schools, the foundation was built easily, because the soil had been tilled and the pilings were put in place without much resistance. Leaders in those buildings were deeply committed to the process and were well aware of how to use the tools in their toolbox. Their tools included the skills of teachers and leaders to adapt to change and the decision-making processes already in place.

Teachers in those schools were accustomed to working in collegial teams and had been empowered to make curriculum revisions in a climate of acceptance for their professionalism. The leader was willing to pick up a hammer and to work alongside the teachers in developing, reviewing, and revising the structures. Both leaders and teachers valued process and dialogue as tools to improve instruction. Mapping was seen as a way to shape a dialogue, rather than as a new or different approach to teaching. The tools already in place in those schools were augmented by curriculum mapping tools that teachers used to model the building process on the new site—a different way of planning for improvement of instruction. Leaders used the information gained from working side-

by-side with teachers to design staff development sessions that were then based on opportunities identified in the curriculum maps.

At some schools, the curriculum mapping process was met with initial resistance. The tools, however, brought teachers together in both mixed- and like-group reviews, resulting in some surprises in content. As coaching became more sophisticated, instructional leaders in the schools became more diligent in asking questions centered on the maps, and the building tools began to be used more and more. Coaches and content coordinators met monthly to share building challenges and to suggest approaches for making the building process more successful. Meetings of CM coaches also provided feedback on progress within each school and guided the work and direction of the entire district.

Blueprint for the Foundation: Identifying Critical Elements

Instructional leaders found that the following factors contributed to a successful foundation:

- *Size of the site (school):* Fewer teachers equaled greater opportunities for sharing in mixed- and like-group reviews. Thus, in larger schools, breaking dialogues into smaller groups proved helpful.
- *Size of the community:* Three distinct communities exist in the district, each consisting of a high school with its feeder schools. In the smallest of the three communities, with only four schools, collaboration of K–12 curriculum was easier for planning reviews across grade levels. In the larger feeder systems, breaking the K–12 dialogues into smaller groups was helpful. For example, when four elementary schools, one middle school, and one large high school met for mixed-

and like-group reviews of K–12, scheduling dialogues at three locations worked better than organizing hundred of teachers in one place.

- *Depth of the soil:* The degree to which there was deep commitment to enhancing teaching and learning practices among instructional leaders within a building was factored into the use of curriculum mapping as a tool for collegial dialogue. When the leaders lacked such commitment, leadership from the district was needed to build school-level capacity for change.
- *Skill of the builders:* Once the architects (participants in the first graduate course) outlined a process for building an overall plan for a community, the skill of the site leaders to take the overall plan and to articulate it into a site plan by putting in structures to support the foundation made a difference in acceptance. A weak building process meant either building leaders had a lukewarm commitment to the process or leaders lacked knowledge in how to build a foundation for change. Leaders held staff development sessions on managing change and channeling resistance in productive ways.

System to Uncover the Rocks: Addressing Obstacles

In building a community, architects must identify obstacles so that a firm foundation can be built. However, when rocks are just below the surface, construction can be delayed. The same is true in the process of curriculum mapping. Some schools already had a firm foundation of sharing teaching and learning strategies, and, therefore, the building process was systematic and challenging, but not overwhelming. In some schools, however, rocks of resistance were just below the surface. The process of curriculum mapping and sharing across schools highlighted teachers who either were not

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System to Uncover the Rocks: Addressing Obstacles

In building a community, architects must identify obstacles so that a firm foundation can be built. However, when rocks are just below the surface, construction can be delayed. The same is true in the process of curriculum mapping. Some schools already had a firm foundation of sharing teaching and learning strategies, and, therefore, the building process was systematic and challenging, but not overwhelming. In some schools, however, rocks of resistance were just below the surface. The process of curriculum mapping and sharing across schools highlighted teachers who either were not

following the adopted district curriculum or were not teaching to state and district standards. In some schools, leaders had not addressed the resistance of a few teachers to believe that all children can learn at high levels.

When construction crews hit rock, the rock has to be extracted. Removing rock (extracting old attitudes) and bringing in new dirt (introducing new information about teaching and learning) were necessary before some schools could begin to lay the foundation for curriculum mapping. The district provided school leaders with the tools needed to manage the resistance and support teachers as they stretched themselves and their students. In some cases, individuals were given intensive training so they could acquire the necessary skills to accomplish the task.

Framework: Developing Maps

Using the tools that had been developed required diligent attention to detail. CM coaches and the instructional team (principals, assistant principals, and department or grade-level leaders) served as site chiefs to lead the building project in each school. Administrators provided assistance to teachers to help make the process align with the focus of the district or school. Teachers used forms like the one shown in Figure 2.4 to help them align their work with the focus of the school district and their individual schools.

<i>Fig. 2.4. Sample Expectations for Departments or Grade Levels</i>			
Department or Grade:			
Yes	No	In Process	Goal

			1. Participate in initial training session.
			2. Conduct department session to discuss curriculum mapping terminology and to develop some consistency in definitions: (a) content, (b) skill, (c) assessment, (d) technology, and (e) essential questions.
			3. Ensure that a departmental list of maps will be developed in the department or grade so that all preparations are represented in the interdisciplinary reviews.
			4. Have department members participate in follow-up training session.
			5. Collect copies of first draft, and submit a copy to assistant principal for instruction.
			6. Collect revised first draft and skeleton maps, and submit a copy.
			7. Collect assessment items for each grading period (for use in looking at assessment component of map).
			8. Ensure that departments or grade levels periodically review maps during monthly meetings to make sure that (a) essential questions focus instruction, (b) content is appropriate, (c) skills are aligned with content, and (d) assessments are appropriate and aligned with skills. (Assessments may include tests but should also include alternative assessment such as projects and performance tasks.)
			9. Have department members work together to identify any gaps and repetitions in the curriculum and to resolve gaps or repetitions.
			10. Have department members participate in schoolwide interdisciplinary teams to examine or resolve gaps and repetitions in the curriculum.

			11. Make final copies of all maps when they are completed, and turn them in to the principal.
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Educators with extensive knowledge of process crafted certain specialized aspects within each school. For example, in one high school, a CM coach focused on forging a dialogue between the English and social studies teachers as they examined their maps for humanities courses. The coach used her knowledge of process and curriculum to craft mixed- and like-group reviews, yielding greater understanding of the content, skills, and assessments needed to improve learning for the students. In another situation, district content coordinators provided specialized expertise to coach teachers in strengthening their maps to appropriately align skills and assessments. Other examples include CM coaches and instructional leaders helping teachers identify gaps and overlaps in their K–12 curriculums and proposing ways to improve experiences for students, plus coaches encouraging educators to think of nontraditional ways to teach and assess students. In each case, coaches and leaders identified risk takers, supported them, and recognized their willingness to share their ideas. Without the risk takers, every building in the mapping community would be the same, more like cookie-cutter houses than homes with individual personalities. Maps began to naturally evolve and to reflect similarities within schools; however, throughout the process, mapping coaches emphasized the importance of creativity and individuality.

A Look at Finishing Touches: Sustaining the Process

To sustain the sense of building a community, the mapping process needed strong buttresses, which were provided through various means, to identify areas needing

attention within individual schools and throughout the school system. In District Five, leadership teams of content teachers have been meeting monthly to set the direction for curriculum and instructional issues. One buttress provided mapping support as leadership teams opened each meeting by updating development of curriculum maps. Another buttress provided mixed- and like-group reviews that focus on obvious overlaps that the schools could address: for example, in one elementary school, two different grades were teaching the metamorphosis of the butterfly; school-level negotiations yielded a revised insect unit for 4th grade. Leaders learned to trust the process to bring the "a-ha" to teachers (perhaps serving as electricians who turn on lighting in the community). Individual school teams worked through initial refinements. Decisions then were fortified by the buttresses that gave specific data about the need for improvement through the curriculum maps.

Another buttress for the mapping process was provided in the summer during professional development institutes, when educators reviewed thousands of maps and discovered a need to make systemwide changes in curriculum. Although gaps and overlaps in content and assessments were easier to identify than skill gaps, once teachers became familiar with the systemic review process, areas needing attention became apparent. Teachers were familiar with the process of mixed- and like-group reviews at the school level and, therefore, found district-level reviews manageable. Teams of trainers addressed the districtwide and building-level professional development offerings for the next year that had been designed around the systemic gaps and overlaps identified in the Summer Institute.

Another buttress provided the development of curriculum materials and instructional processes. It provided teacher support materials that had been based on needs identified from maps. A review of math maps indicated the need for support in math skills in the upper elementary grades. As a result, teams of teachers developed curriculum materials during the summer months to share with their colleagues in the fall. In addition, a review of social studies maps across K–12 revealed that students were being taught about the Holocaust four different times but rarely learned about the Gulf War. Teachers then adjusted the curriculum maps. Teachers also determined that the five-paragraph essay was overused as an assessment, so they circulated examples of other assessment tools among teachers and instructional leaders.

The maps revealed as a weakness the lack of articulated study skills across grades. High school teachers expected students to outline and take notes, but K–8 maps showed no evidence of explicit teaching of study skills. A task force developed standards for study skills for grades 3–12 and shared them with teachers on staff development days.

Reviewing maps indicated a need to differentiate instruction for students at varying levels of ability; thus, a team of trainers was sent to learn strategies for differentiating instruction. Reading maps across K–12 indicated that teachers expect a high level of reading comprehension for success in high school courses, yet there was little evidence that explicit reading strategies had been taught past 3rd grade. As a result, leaders launched a major initiative in building active literacy methods in all content areas.

Curriculum mapping is a work in progress in District Five. The structure is not complete, but the cornerstone of commitment in building collegial dialogue that focuses on teaching and learning has resulted in a districtwide community that honors reflection

on instructional practice. The focus is leading to individual teachers' improvement of curriculum and instruction for all students.

Blueprint for Building a Community of Learners

Using our curriculum mapping work in District Five, we developed the following blue-print that we hope will be helpful to you in your work:

1. Explore ideas. Bring to the surface any needs for change.
2. Identify chief architects who will design improved ways of building student learning and of fostering collegiality among teachers across grade levels and schools.
3. Lay a firm foundation for change so that the architects' plans will be implemented on solid ground.
4. Identify rocks (obstacles) in the process of collegial growth, and take action to address challenges and resistance. Strength in instructional leadership is necessary to provide feedback to teachers and to stretch their creativity in designing ways to enhance dialogues among K–12 teachers.
5. Train craftspeople to support specialized needs, and provide time for them to work with school-level teams. Skilled coaches at each school and at the district level are key for modeling and supporting the collegial dialogues that are necessary for addressing gaps and overlaps.
6. Develop explicit plans. Staff development should be relevant, timely, and sustained. Equip your staff development leaders at both the school and the district levels with extensive tools for supporting school teams.

7. Follow through on details. Taking time to identify systemwide policies and practices that can be streamlined is important. For teachers to spend time developing curriculum maps, you need a corresponding reduction in other aspects of planning.
8. Update the community of learners constantly about the building process. Many initiatives are not successful in education because they are not sustained. Frequent updates in all meetings and constantly seeking ways to use maps as the hub of all discussions about teaching and learning will help institutionalize mapping as a daily tool.
9. Recognize that building a community of enhanced learning takes years. The progress will be slow but rewarding. Old habits of teaching in isolation must be replaced with shared ideas and with negotiated content and assessment. Sustained support is vital to successfully implement curriculum mapping as a tool for improving teaching of and learning by children.

Curriculum mapping has been a useful tool to bring about a synergy of professional expertise focused on instructional improvement in District Five. It has provided the tools to build a cohesive learning community with teachers as the chief architects and builders. Over several years, maps have become the hub for highlighting continual changes and refinements needed in the instructional program. Mapping has provided a process for collegial dialogue as it focuses on alignment of content, skills, assessments, and activities across 19 schools, with its ultimate goal of improving student achievement.

APPENDIX B

Informed Consent Form



SETON HALL UNIVERSITY

INFORMED CONSENT

Researcher Affiliation: This research project is part of dissertation research at Seton Hall University in the Executive Ed. D. Program in the College of Education and Human Services. The title of the dissertation is *Teachers' Perceptions on the Efficacy of Curriculum Mapping as a Tool for Planning and Curriculum Alignment*.

Purpose of the Research: Curriculum mapping has been a tool used by the schools of District Five of Lexington & Richland Counties for a number of years. Curriculum mapping is a methodology for developing a systematic, calendar based, instructional plan outlining student needs as they progress through the K-12 educational system. However, there has been only limited information gathered regarding teacher perceptions of the usefulness of curriculum mapping as a planning and alignment tool. The purpose of this research is to explain teachers' perceptions of curriculum mapping as a tool for curriculum planning and alignment. Participation in the survey, Curriculum Mapping as a Planning and Alignment Tool, should take approximately twenty minutes to complete, and focus group sessions last approximately one hour.

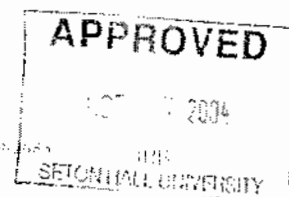
Procedures: Two methods will be employed to collect necessary data:

- (1) The survey, Curriculum Mapping as a Planning and Alignment Tool, will be administered asking for teacher perceptions on a Likert scale (agree/disagree/undecided). The survey stems have been adapted from the planning criteria developed by the South Carolina Department of Education and is based upon the Model Standards for Beginning Teacher Licensing and Development, which were developed by the Interstate New Teacher Assessment and Support Consortium (INTASC) and the National Board of Teaching Standards (NBPTS).
- (2) Focus group sessions will be administered in an elementary, middle, and high school to gather information regarding teacher perceptions of curriculum mapping as a tool for planning and curriculum alignment. Questions used during the focus group sessions are based upon the Model Standards for Beginning Teacher Licensing and Development, which were developed by the Interstate New Teacher Assessment and Support Consortium (INTASC) and the National Board of Teaching Standards (NBPTS).

Instrumentation: The survey, Curriculum Mapping as a Planning and Alignment Tool, has four parts. Teachers will provide (1) demographic data (e.g., level of instruction, educational and experience level, self-assessment of mapping experience, and NBPTS certification status) and respond to stems related to (2) long-range, (3) short-range, and (4) curriculum alignment.

Focus groups sessions will include two parts. Teachers will provide (1) demographic data (e.g., level of instruction, educational and experience level, self-assessment of mapping experience, and NBPTS certification status) and then (2) respond to open-ended questions related to the usefulness of curriculum mapping for long and short-range planning, as well as curriculum alignment. Notes on responses will be taken by trained observers.

College of Education and Human Services
Executive Ed.D. Program
Ed. 903275-2118
400 South Orange Avenue • South Orange, New Jersey 07075



Voluntary Nature of the Survey: Please note that teachers are NOT required to participate in the survey or focus group sessions. Participation in either the survey or the focus group sessions is completely voluntary.

Anonymity: All responses to the survey and focus group questions will be confidential. No names will be collected. Although no names will be collected, notes will be taken by trained observers from responses for data analysis.

Confidentiality: All individual responses to questions will be confidential. All surveys and focus group data will be stored in a secure office in a locked file cabinet with only the researcher having access.

Records Confidentiality: All individual responses to questions will be confidential. All surveys and focus group data will be stored in a secure office in a locked file cabinet with only the researcher having access.

Risks or Discomforts of Research Participation: There are no anticipated risks or discomforts from participation in this research.

Benefits to Participation: The aim of this survey is to gather teacher input regarding curriculum mapping as a tool for planning and curriculum alignment. An executive summary of this research will be provided to representatives of School District Five of Lexington & Richland Counties, and this will be helpful as they consider teacher input in the curriculum planning and alignment process.

Description of Compensation/Medical Treatments for Injured Participants: No risk of injury exists for participation in this research study.

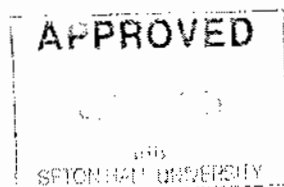
Alternative Procedures for Treatment for Injured Participants: No risk of injury exists for participation in this research study.

Contact Information: If participants have questions or would like a copy of the final report, they may contact Michael Lucas, Dutch Fork Middle School, 1528 Old Tamah Road, Irmo, SC 29063, 803.732.8167, ext. 614, by e-mailing cmresearch@sc.rr.com, and/or by contacting Dr. Anthony Colella, Kozlowski Hall - Room 406, Seton Hall University, 400 South Orange, NJ 07079, 973.761.9389.

Informed Consent: All participants will receive a copy of the Informed Consent Form.

I have read the material above, and any questions I asked have been answered to my satisfaction. I agree to participate in this activity, realizing that I may withdraw without prejudice at any time.

Consent to participate is indicated by returning the survey to the designated collection point or by remaining in the focus group session.



Appendix C

Survey Instrument: Curriculum Mapping as a Planning and Alignment Tool

Survey Instrument Curriculum Mapping as a Planning and Alignment Tool

A) **DEMOGRAPHIC DATA OF SURVEY RESPONDENT:**

Please bubble the corresponding letter on the Scantron form that matches your response.

1. YOUR CURRENT LEVEL OF INSTRUCTION

- A. elementary (grades K-5)
- B. middle (grades 6-8)
- C. high (grades 9-12)

2. YOUR EDUCATION LEVEL

- A. Bachelor's Degree
- B. BA+18
- C. Master's
- D. Master's+30
- E. Doctorate

3. YOUR TOTAL TEACHING EXPERIENCE

- A. 1-5 years
- B. 6-10 years
- C. 11-15 years
- D. 16-20 years
- E. 21+ years

4. YOUR SELF-ASSESSMENT OF KNOWLEDGE AND EXPERIENCE WITH MAPPING

- A. No experience/knowledge of mapping process
- B. Very little experience with mapping process
- C. Some Experience with mapping process
- D. Experienced/Knowledgeable of mapping process

5. YOUR NBPTS (National Board Certification) CERTIFICATION STATUS

- A. Yes, I currently hold NBPTS certification.
- B. No, I do not hold NBPTS certification.

B) SURVEY ITEMS:

Please make an assessment of curriculum mapping as a tool for long-range, short-range, and curriculum alignment. Please make sure you bubble the correct letter on the Scantron form.

I. LONG-RANGE PLANNING EFFORTS	Strongly DISAGREE	DISAGREE	Undecided	AGREE	Strongly AGREE
Curriculum mapping is a tool that assists teachers in ...					
6. planning for differing ability levels, backgrounds, and developmental needs of students.	A	B	C	D	E
7. planning appropriate long-range learning and developmental goals for students.	A	B	C	D	E
8. sequencing appropriate instructional units of study	A	B	C	D	E
9. developing appropriate timelines for the completion of instructional units.	A	B	C	D	E

10. organizing instructional materials and/or resources.	A	B	C	D	E
11. evaluating student progress and/or achievement.	A	B	C	D	E
12. maintaining records of long-range planning efforts.	A	B	C	D	E
13. evaluating and adjusting long-range plans.	A	B	C	D	E
II. SHORT RANGE PLANNING EFFORTS Curriculum mapping is a tool that assists teachers in ...	Strongly DISAGREE	DISAGREE	Undecided	AGREE	Strongly AGREE
14. planning instructional units that build upon students' learning and development from previous units.	A	B	C	D	E
15. planning for connections of knowledge and skills to be covered in future units of study.	A	B	C	D	E
16. planning unit objectives that are appropriate for the ability and developmental levels of students.	A	B	C	D	E
17. planning for levels/sources of content appropriate for the ability and developmental levels of students.	A	B	C	D	E
18. planning for appropriate and logical sequenced instructional strategies.	A	B	C	D	E
19. planning for instructional strategies which can accommodate learning styles and rates of learning.	A	B	C	D	E
20. planning for activities that encourage active engagement.	A	B	C	D	E
21. planning for instructional strategies that promote varied levels of thinking and problem-solving.	A	B	C	D	E
22. planning activities that promote independent and collaborative learning.	A	B	C	D	E
23. revising and adjusting daily/weekly plans.	A	B	C	D	E
III. ALIGNMENT EFFORTS Curriculum mapping is a tool that assists teachers in ...	Strongly DISAGREE	DISAGREE	Undecided	AGREE	Strongly AGREE
24. identifying the key concepts and skills that are most important in the grade and/or subject area.	A	B	C	D	E
25. aligning concepts and skills with grade level standards and benchmarks.	A	B	C	D	E

26. aligning concepts and skills within the various subject disciplines (e.g., reading, math, social studies).	A	B	C	D	E
27. articulating a curriculum within a school building.	A	B	C	D	E
28. articulating the curriculum between schools (elementary to middle, middle to high).	A	B	C	D	E
29. working as a team to provide a quality instructional program.	A	B	C	D	E

APPENDIX D
Focus Group Protocol

SCRIPT FOR THE FOCUS GROUP SESSIONS

Time: Approximately 1:05

DISTRIBUTE THE INFORMED CONSENT FORM AS INDIVIDUALS ENTER THE FOCUS GROUP SESSION.

1. **Welcome & Introductions of Facilitators** (5 minutes). Have the individuals present complete the demographic card and hand it to one of the note-takers prior to participation. No names are to be placed on the cards.

2. **Purpose of the Focus Group** (10 minutes): A brief description of the research study and its purpose will be provided to participants in the session. This will include information about the district-wide initiative and how teachers view it in planning and curriculum alignment.

3. **Focus Group Questions** (45 minutes):
 - a. How do you perceive mapping as a tool for long-range planning of instructional units? Is it helpful or hinder your ability to plan for instructional units?

 - b. What about the concept of using such a calendar-based approach in planning?

- c. What about standards and benchmarks? How does mapping help or hinder this process?
- d. What has been the strength of using a curriculum map? What about weaknesses?
- e. Have you had any particular difficulties with the mapping process in your building or level?
- f. What about mapping and its relationship with planning classroom activities?
- g. Is mapping helpful as you attempt to address the standards that are in your content area (or grade level).
- h. Do you have any other comments regarding the use of curriculum mapping as a tool for planning and curriculum alignment?

4. Wrap up and Summary of the Session (5 minutes)

APPENDIX E
Focus Group Data

Focus Group Data

1. How do you perceive mapping as a tool for long-range planning of instructional units? Is it helpful or does it hinder your ability to plan for instructional units?

ELEMENTARY	MIDDLE	HIGH
We use it for year long plans.	I think it is very helpful for first year teachers.	Whether it's mapping or whatever style you use you need some kind of cohesive long term plan.
For new teachers it is very helpful by giving them a copy or looking at parts of the map with new teachers.	Like it. It's visual. Helps with long-range planning.	Mapping was for a simplified form. We had more than what the map required.
You have to do certain things, but you can add others.	Helps with pacing and student-based pacing.	Good thing was contact with middle school teachers.
You get lots of information from it.	Helpful for resources and supplemental materials, etc.	Helps to eliminate repetitions on long range plans.
Like a cheat sheet.	Putting in resources helps with integrating technology.	Not very helpful in short term.
Essential maps – different subjects are done to different levels of completeness.	Use it to make sure I hit all the students.	Would agree that very valuable for eliminating duplication if maps have gone through the process accurately.
Kindergarten – it is nice to get together with other teachers in the district to make sure we had the same shared experiences.	A year-long synopsis.	Helpful to a new teacher if you've never taught a course. Narrows it down.
1 st grade – used as more a year long plan; not necessarily a week to week planning.	A skeleton to fill in.	Helpful for required classes around the district if students move to another school.
I know it is good for 1 st year teachers, but I don't really use it each year since I know what is on it.	I wish it was set up by 9 weeks.	Would have covered the same thing regardless.
I don't pull it out unless I'm told to.		Process went on too long; too many years of it.

2. What about the concept of using such a calendar-based approach to planning?

ELEMENTARY	MIDDLE	HIGH
When you say calendar-based – do you mean what we do each month – in 3 rd grade we don't have enough materials for everyone to do the same thing at the same time.	I would prefer a nine weeks format.	Because I am so calendar-based we had already formulated a day by day schedule in humanities. Went on so long because US history had not done so detailed a plan.
I don't want maps to become so specific that you have to do things at a certain time.	We've already changed it to a nine week format in our department.	New teachers coming in – if you can hand them a general idea of what's coming up when.
I like the flexibility to move things around.	Mapping process doesn't have to be done by calendar.	Keeps us on target for a guaranteed experience.
	Calendar based goes back to pacing.	As long as it's a framework, not engraved in granite.
	Helps to adjust pacing as you reflect.	Some teachers spend too long on a favorite topic and a map can be helpful in pacing and timing.
		Day by day would be very constrictive.
		Wonder if it did change a teacher's time parameters?
		It was something we had to do and I just put it according to the month. Something we had to do and maybe didn't change way we taught.
		The way final maps were determined were not often a combination of all. One person did a good job and that ended up being other peoples' maps.
		Set up as a good example and others used it and may not really follow it.
		Went on 3 years and then get a new subject and just say give me somebody's

		map to use.
		Greatest fear is inflexibility. May be a problem in social studies – election, 9/11, etc.

3. What about standards and benchmarks? How does mapping help or hinder this process?

ELEMENTARY	MIDDLE	HIGH
They aren't two different things. I use the curriculum map for the year long range structure. I use the standards and benchmarks each week/daily.	Makes you check for them. Good summarizing.	Can't imagine it would hinder process because standards aren't specific to pedagogy and the curriculum maps are.
I don't pull out the curriculum map, but I check the standards weekly.	Makes sure standards are hit. Makes sure you have both process and content.	Curriculum maps become standards for pedagogy.
It's not like my standards checklist.	Not a hindrance because there's room for change as it is appropriate.	If map shows standards aren't being met then map becomes more important.
In kindergarten, we don't pull out our map when we plan for our three week period. We refer to our map when we do our year long schedule. Occasionally we check back.	Hindrance comes when people don't understand the mapping process.	Got to go through putting standards, course, syllabus down in some format.
		Have seen same things in so many formats over the years ... it's redundant.
		Maps could show kinds of duplications and gaps that are occurring.
		District office hooked maps to standards testing.
		When one elementary school did not do well on tests they pulled their maps and pointed out problems. Became a different use for a map than I had previously seen.

4. What has been the strength of using a curriculum map? What about weaknesses?

ELEMENTARY	MIDDLE	HIGH
A good is for the new teachers. It guides you through the learning process. Say the other teachers have been teaching much longer, but if you have to go back and redo, it may be bad.	When a students transfers, there are "in the same place" in math.	Best part was the interaction with the people. Kind of reevaluation of what you were doing ... verbal communication.
We spent five years creating the map. It was too long and time consuming.	Language arts people teach at different times and sometimes don't cover it all. Helpful to be more aligned with map and at least be more on the same page.	Did make you examine what you teach.
Oh no – when we got to the end of it.	How presented is hindrance. Done during professional development and not always explained.	Strength is process and weakness is putting it on shelf and not looking at it again.
Some of the guaranteed experiences ... sound like a concrete experience and that they have access too, but I was clueless as to what they meant.	Change brings about conflict.	
If the intent was for 1 st grade and kindergarten not to do the same thing, that still has not occurred.	New teachers need to be given more than just a map. Teaching styles might not always match. Interpretation could lead to a weakness in curriculum.	
I think strength was Bloom's Taxonomy. We notice that we were on the low end. It helped examine that.	Goes back to the need to diary maps.	
I didn't spend a lot of time with other grade levels to see if they have done all the things we do.	Maps lead to spiraling of curriculum.	
I noticed having a 3 rd grade child that we do some of the	Hard for a new teacher if they don't have the staff	

same things in 1 st grade at the same level of difficulty. Mapping hasn't helped that.	development.	
I think it has helped to some degree with the curriculum map, but I don't know if the map or just the ability to get together and talk.		

5. Have you had any particular difficulties with the mapping process in your building or level?

ELEMENTARY	MIDDLE	HIGH
Too long. Too long.	New teachers have not been given enough in-service training.	No.
Not a clear goal for the first three years.	We need updated software for mapping.	I would like to know where all the maps are.
Not a vision of what the product was to be.	A lack of common planning is a problem to meet with teachers. Could share more now if planning times were the same. We rarely share activities.	
We spent a year or two years on how to display, format it. We didn't have a clear goal of what we were doing.	Sometimes people's attitudes have not let them see the benefits of mapping.	
Employee attitude ... after the second year we were sort of spinning wheels. When we hear curriculum map we were like uhhhh!	Graphic organizer for long-range plans.	
How they came up with the lead teachers was a problem.	People have such ownership that they don't want to share. That's what it's meant to be - share - we're all in it together.	
Nothing really came of it ... the overlapping is still there.		
Some of the guaranteed experiences aren't		

happening.		
We don't want to do that process again.		
I'm not sure if the map helped with the overlap or if it was just getting together and talking about overlaps.		
When you get someone from each grade level, and are able to communicate with each other you are able to find out more with each other.		
Would be more beneficial to talk to teachers.		
Staff development – instead of going to sessions where you are told to do things. Let us just get together with other schools and grade levels to discuss things. Collaboration would be good.		

6. What about mapping and its relationship with planning classroom activities?

ELEMENTARY	MIDDLE	HIGH
No for me.	No so helpful for day to day stuff. Much more long-term than day to day.	That fell far short.
I think there might have been an idle perspective of getting all the 2 nd grade teachers together to talk about guaranteed experiences, but we don't have the same materials.	Like essential maps where you have guaranteed activities; we use them in social studies	Lots of folks reluctant to share with others in your field.
Like some of the author studies, if we don't have Eric Carle sources, then we can't do that.	Classroom benefit is large, guaranteed activities, major ideas shared.	We struggled with that. Did great activities. Everyone had their own pet projects at each school.
Some of the guaranteed experiences we don't even know what they are. Since	Mapping isn't made for doing daily plan or activities.	Wasn't the original thrust of importance.

they were created by a small group of teachers.		
We had no say so in the guaranteed experiences.	Survey – strongly agreed for long term planning, but didn't fit at all for short term. That's not what I see it as what it's supposed to be. Was never communicated to me	If you read something that someone else has contributed you can't tell how it works.
After the second year they were supposed to revisit the guaranteed experiences. That never happened.		Collaboration was there.
Your input didn't go anywhere.		
I know personally that people signed up for classes to learn and then found out that they would have to be a coach.		
People were roped into being schools leaders without knowing in advance		

7. Is mapping helpful as you attempt to address the standards that are in your content area or grade level?

ELEMENTARY	MIDDLE	HIGH
No.	Yes, very helpful.	The social studies standards are always changing.
Big no.		None of us ever teach same course or the same level.
No.		I think it could be.
		Initially we addressed different standards than the ones we have now.
		We've had both district and state standards ... doesn't work with both.

8. Do you have any other comments regarding the use of curriculum mapping as a tool for planning and curriculum alignment?

ELEMENTARY	MIDDLE	HIGH
I understand the theory of mapping, but I don't think the practice is there.	We need time to incorporate mapping process to make it beneficial.	We continue to try to take education issues and make them sound scientific and it is such a human interaction between the teacher and child. Get away from putting it in boxes ... if you know your subject area.
After five years I didn't want to hear it again.	More common planning time ... early release for planning would be good.	It is an effective process, but not an effective implementation.
I don't think it is met its intended goal.	Planning among teams and subjects ... like writing across the curriculum.	Just did it and put something on paper and didn't really follow that but did it because it had to be done. Had no one to sit down with and compare.
For many years we taught curricula. Now we teach children. Mapping doesn't bring it together.	Biggest thing is that mapping process has lots of potential and we've only scratched the surface.	Did mine in nine week increments and then did what I need to do anyway.
	I'm afraid the map may be put in a drawer and not used.	Remember old scope and sequence ... it's the same thing.
	Potential is there, but we're not getting enough out of it.	Sometime mapping process has value but work was done after having taught all day. It became a chore and this lessens enthusiasm. Hard for teachers to do at the end of the day.
	We talk about what we do in classes.	
	Mapping is not seen as something positive.	
	I don't think it's going anywhere in our district now ... it's lost the district push.	
	It's probably more beneficial at the elementary and middle than the high	

	school level.	
	Already too dead, at least in this district.	
	In math we keep it alive because we add to it ... math took the lead.	
	Essential questions should start being a part of map.	
	Chronological order kind of helps.	