CHAPTER ONE
INTRODUCTION

The Thesis

"It's a very American set of ideas: Take responsibility for your actions. Focus on results. And reap—or rue—the consequences" (Olson 1999, p.8). As we move into the new millennium, learning and accountability are linked. The effort toward implementing more challenging and specific standards for what students learn and how well they learn was initiated in the 1980s and generally labeled "standards-based" reform. The reform movement was a "top-down" reaction to the report A Nation at Risk (National Committee on Excellence in Education, 1983). Jennings (1998) esoterically identified the purpose of this reform as "helping teachers know what they are to teach and helping students know what they are expected to learn" (p. 6). The standards movement is changing the educational system as we know it—from a system we drive by policy and regulations to one we judge by results.

President George Bush can take credit for the initiation of public awareness and support of national educational standards. In 1989, President Bush convened the nation's governors in the first National Education Summit. For the first time in the history of American education, the President and the nation's governors came forth with six national educational goals (The National Education Goals Panel, 1990). The governors, along with business and community leaders, parents and educators, resolved that American education needed to change, increase expectations for student performance, and show results (Jennings, 1998).

President Bush and Congress jointly continued the efforts to move the nation's educational system into accepting goals and setting high academic standards with the appointment a bipartisan advisory committee, the National Council on Education Standards and Testing. Ravitch (1993) claimed that the Bush administration's encouragement of national education standards launched what may well be a historic development in American education. Spillane and Regnier (1998) suggested that national assessments based on national standards would not be mandated in the next five years. However, they suggested that national assessments would become institutionalized because of parental, business and community pressures. Their predictions encompassed a system similar to the advanced placement tests now in existence.

The interest in creating and supporting high standards in education continued with the Clinton administration. In 1994, Congress enacted Goals 2000: Educate America Act. The legislation called for "development of national standards in education, for tests to measure the achievement of those standards by students, and for aid to states and local school districts to raise their standards" (Jennings, 1998, p. 111).

Beginning with President Bush's initiative and the subsequent legislation Goals 2000: Educate America Act during the Clinton administration, American educators continue to work in a national political atmosphere demanding high standards and student achievement. Richard Elmore (1999) summarized that accountability for student performance is one of the most prominent issues in policy at the state and local levels right now. In the current presidential election campaigns, we see the same issues at a national level. In an extensive study conducted to analyze statewide efforts to demand accountability, Education Week (1999) found that forty-

eight states administer statewide tests and by the year 2000 every state except Iowa will have at least one form of statewide testing; thirty-six states issue report cards with statistics on state tests, nineteen states issue school ratings, nineteen provide assistance to low performing schools, sixteen states sanction schools for chronically failing schools, while fourteen provide monetary rewards for school success.

Virginia set standards for what students should know and be able to apply in the four core subjects and developed corresponding tests to measure whether both schools and students meet the standards. In 1995, the Virginia State Board of Education adopted the Virginia Standards of Learning (SOL) for Virginia Public Schools. It was the intent of the state board of education and state superintendent of public instruction "to establish high academic standards for our young people and greater accountability for our public schools throughout the Commonwealth" (Jones and Bosher, 1995). To trace the historical path of the Virginia Standards of Learning, see Table 1.

The Virginia State Board of Education and state superintendent stated their belief that "high academic standards are the beginning of a multi-year journey to improve educational achievement" (Jones and Bosher, 1995). Then Governor George Allen stated that the "standards represent a response to the demands of parents throughout Virginia for higher standards and focus academic courses in public schools, so that our schoolchildren will be challenged to reach higher and prepared to compete successfully in the increasingly competitive 21st century" (Allen, 1995, p.ii). The Virginia Board of Education viewed accountability measures and consequences for students and schools as fundamental if the standards were to make a difference in Virginia's schools. They held that accountability was best addressed at the school building level where resource allocation and

leadership make a difference in student achievement (Jones and Bosher, 1995).

Table 1 Historical Path of the Virginia Standards of Learning

1980s	National standards movement takes shape
1989	National Council for Teachers of Mathematics adopt national standards of math; Virginia follows suit and establishes state math standards
1989	President Bush's First National Educational Summit
1990	National Educational Goal Panel-Six National Educational Goals
1991	President Clinton's Second National Educational Summit held
1994	Goals 2000 legislation
1995	Virginia State Board of Education adopts Standards of Learning; Standards of Learning assessment plan developed
1996	Virginia develops Standards of Learning assessments with Hartcourt Brace
1997	Field test of Standards of Learning assessments
1998	First official state SOL assessments administered; tests students in 3rd, 5th 8th grade and at the end of specific high school courses—less than 2% of schools meet passing criteria
1999	Second round of Standards of Learning tests—less than 6% of schools meet passing criteria

Virginia educators began the present journey into accountability with the Standards of Learning in 1998, when the statewide SOL testing program was implemented. The SOL assessment program tests students in grades three, five, and eight in four core academic areas and at the end of specific courses in the high school. The tests measure the extent to which students have learned the content and skills specified in the Virginia SOLs.

By the year 2006 in Virginia, accountability consequences will be raised for schools with the requirement of seventy percent (70%) of students in a school to pass the SOL tests or the school will lose state accreditation. In addition to the consequence for schools, the bar will rise in 2004 for students (1999-2000 eighth graders) in high school who must pass the SOL assessments to graduate. There will be no exceptions or waivers for students or schools with low socio-economic status, as all children are expected to meet the established minimum benchmarks.

Virginia's assessments are based on students meeting the cumulative standards of prior years at the point of the state testing. This means that students who take grade three level tests are assessed on skills and content from kindergarten through third grade; fifth grade students are tested on material from kindergarten through the fifth grade; eighth grade students are assessed on information from grades five, six, seven, and eight. The SOL end of course assessments test high school students on content and skills presented during the school year except the English 11 test, which assesses skills from grades eight through eleven. The nature of the cumulative assessments requires students both to acquire content and skills and to retain the knowledge for use in future testing situations.

The mission, as decreed by state policy, is to help all students reach high standards. The pressure is on students to perform and to demonstrate achievement. At no point in Virginia's students' educational careers have the acquisition and retention of new and difficult information been so critical. Robert Johnston (1999) states "success depends on how much is done to prevent failure rather than simply identify it" (p. 53). Lambert and McCombs (1998) suggest that before we can begin to plan for student success and failure prevention, we must address how students learn. This study documents teachers' planning for instruction using how students learn as a starting point.

Purpose of the Study

The intent of this study was to describe the process teachers use to improve their instructional practices as they relate to the standards of learning. This study also recorded the perceptions of the teachers in using an action research model in the process. This study documented the process of the initial planning of a team of 6th grade teachers as they embarked on a curriculum mapping process to address the needs of the students in their charge so as to maximize the learning of the Standards of Learning content.

This inquiry explored the overall question: How can we assist teachers as they begin to use instructional planning to meet the diverse needs of their students? The questions I sought to answer were:

1. What data are available to teachers to assist them in planning their instruction?
2. What data do teachers use in their instructional planning?
3. How does the planning process take place?

4. How does the planning process change as the team works through the action research process?
5. What are the perceptions of the teachers in using the action research process?

By combining the knowledge base of research and the recognized theory of how learning takes place with the process of planning, teachers make informed decisions regarding curriculum, content, and instruction and move from strategic compliance to ownership of the quest for student achievement improvement (Lambert and McCombs, 1998). This appears to be the first study in Virginia which provided teachers with an opportunity to participate in a reflective research project focusing on their planning as they utilized a mapping process with the SOLs as an anchor. This study also provided the participants with an opportunity to trace their practices of planning and implementing instruction.

This study can provide middle school teachers insight on how to specifically address the needs of all learners in their charge. The reflective component of this study can also provide information regarding the teachers' perceptions of their empowerment in the instructional planning process.

Overview of Curriculum Mapping

With the inundation of massive curriculum initiatives, teachers complain that there is more to teach than there is time to teach. In many school districts across Virginia and throughout the country, teachers make isolated curriculum decisions and the students in their charge receive the results—a fragmented, incoherent sequence of instruction (Schmoker, 1996).

Curriculum mapping was the method chosen by the teachers in this study. It is a systematic procedure for collecting data, planning, reflecting and revising what is being taught (Jacobs, 1991). Jacobs explains that curriculum mapping is the articulation of what occurs in the classroom. According to her, the teacher understands that not every fact, concept or skill in the adopted curriculum is of equal importance. Curriculum mapping directs the teacher to include all that is important. Teacher articulation of what is being taught and when it is taught facilitates teacher reflection and review.

Mapping allows teachers to see which skills to reinforce without redundancy. Mapping ensures the most vital concepts and skills are taught; it does not limit what other topics teachers can teach (Jacobs, 1997). Those other concepts and skills can be evaluated for their worthiness of classroom instructional time. Both vertical and horizontal mapping provide the teacher with a knowledge base of what is being taught within a specific grade or curricular area and what was to have come before as well as what will come after, as supported by the teachers in their instructional planning. For a visual description of curriculum mapping see Figure 1.

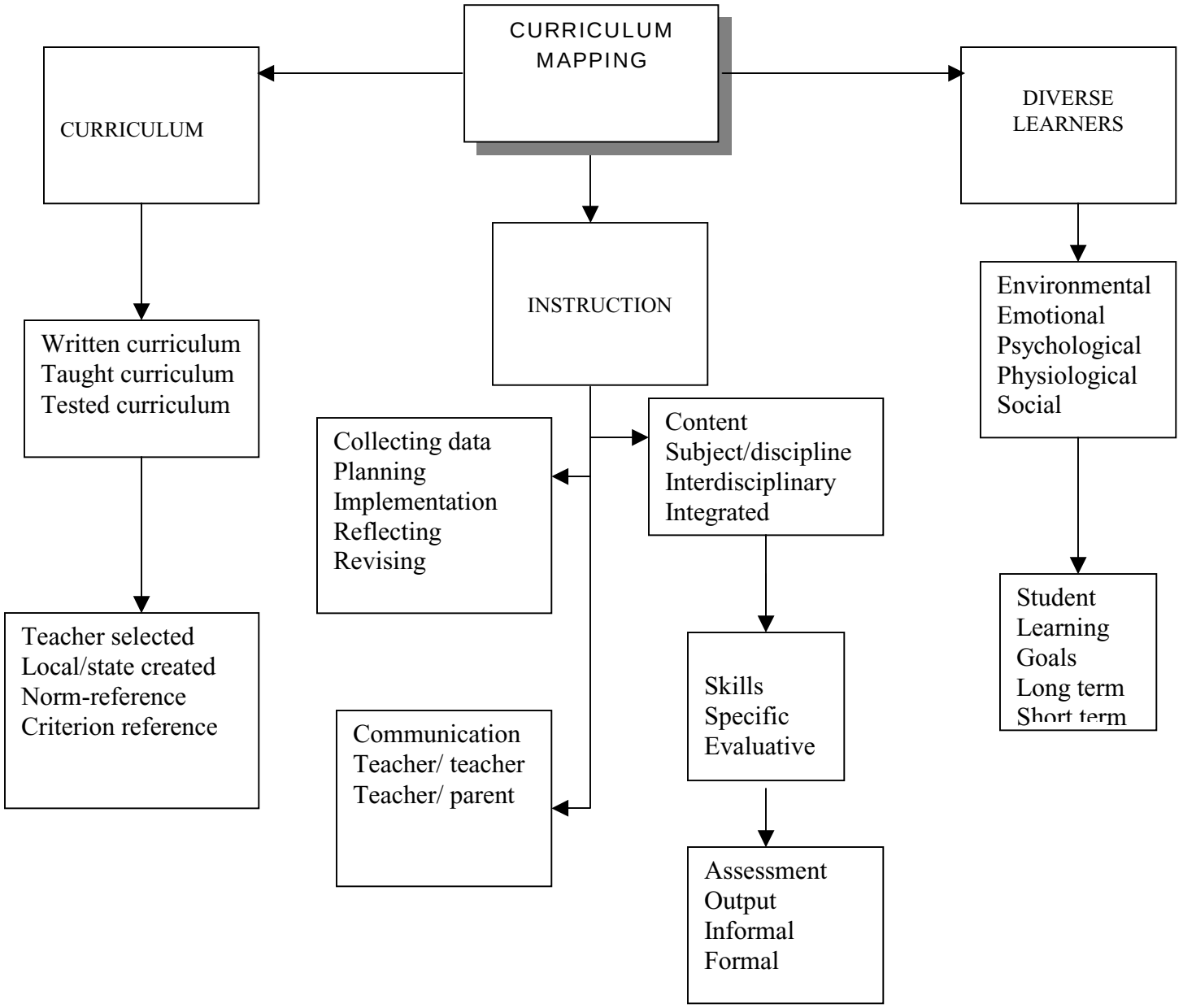

Figure 1. A Visual Description of Curriculum Mapping [adapted from English (1984) and Jacobs (1991)]

Jacobs (1997) explains that in spiraling both upward and downward, the content review concerns itself with specific facts and concepts that all students need to know. In the Jacobs' model, skills are specifically identified as are assessments used to evaluate the skills. Pacing within the map defines the time frame of instruction.

Jacobs suggests that mapping needs to be tailored to individual schools, even to individual grades or teams. She further explains that teachers must determine what is important to them in order that ownership of the process belongs to the participants.

Jacobs describes that curriculum mapping assists teachers in identifying when standards are being met and it can show when teaching strategies are being used effectively. Jacobs viewed a map designed by teachers as a communication tool for the team of teachers working through the process. If a school map which details the curriculum topics for different grade levels is created, it facilitates parent communication as a tool in informing parents of the instructional plan for a grading period, a semester or the school year, with student expectations clearly defined. Short-term curriculum and skill expectations are provided with a subject or unit map. The process of curriculum mapping allows, and in fact encourages, the discovery of materials, resources, data and support to be identified internally by the teachers involved rather than as in many school divisions, externally imposed (Jacobs 1991).

Jacobs (1997) identifies three specific areas of focus in curriculum mapping: content, skills and assessment. Each carries the qualifications for development within the map. The content is defined as subject or discipline interdisciplinary or integrated, and is student-centered. Skills are specific, evaluative, and are expressed with the usage of verbs in the map, just as

teachers have done consistently for years with behavioral objectives. Quality assessment is vital for the improvement of instruction and learning. Jacobs states that as teachers map their curriculum with their instruction, assessment becomes a natural link in the process. It is a demonstration of learning that can be a product or an observable act and is represented by a noun on the map. Jacobs explains that not every assessment teachers use should be noted in the map—only those that are linked to the critical objectives.

Wolcott (1994) describes a visual concept of instructional planning as a series of increasingly broader-reaching concentric circles radiating out from the central focus, typically the instructional task. According to English (1984) curriculum is discussed in three circles: the real or taught curriculum, the written curriculum (whether textbook, state, or locally developed) and the tested curriculum.

As teachers map, and assessment is planned, Jacobs suggests the use of rubrics that define the standards for work which demonstrate the knowledge of the concept or skills being learned (Jacobs, 1997). According to Jacobs, as scoring rubrics are developed, care should be taken to ensure that the rubric is one that matches the curriculum map topic. The better the match between the assessment and its rubric, the better the chance for student improvement. Rubrics assist both teachers and learners in identifying the components necessary at each level of performance (Skillings & Ferrell, 2000).

When students can identify the differences between an acceptable and an unacceptable piece of work, the students intuitively raise their own standards (Danielson, 1996). Both high and low achievers can be successful in demonstrating their knowledge through the use of rubrics. By having the

liberty of demonstrating their knowledge through their preferred learning styles, students have been able to take the assignments to a higher level of performance (Skillings and Ferrell, 2000). Assessment of topics on the curriculum map is necessary for quality control.

Central to the quest of improved student achievement is the examination of the whole child according Dunn and Dunn (1987, 1993). As teachers map instruction, student information is critical if the planning is to meet the diverse needs of their students (Jacobs, 1997). Teachers examine what affects the individual child environmentally, physiologically, sociologically, emotionally, psychologically (Dunn & Dunn, 1975) and then utilize that information to determine the path to accomplish both short and long term goals of student learning.

Jonassen and Grabowski (1993) suggest that the study of individual differences is often referred to as differential psychology. They further explain that teachers find grounding for their practice in the descriptions of learning outcomes, different instructional methods and the reactions between them.

Teachers in this study used the SOL scores, the curriculum and additional teacher-identified information to map for maximum results for all of their assigned students. As the teachers worked through the alignment of their map with the state standards (the SOLs), the SOL blueprints and the county curriculum, both gaps and non-essential components were identified, as suggested by Jacobs (1997).

Group Processes

As the quest to document the initial planning process of curriculum mapping for Virginia Standards of Learning began, the work of Kurt Lewin (1947) became a framework for observing collective group problem solving. We anticipated that by utilizing the action research format, group discussion and interaction would facilitate the articulation of attitudes and behaviors. For Lewin, action did not need to be separated from investigation for problem solving. Lewin encouraged teachers and researchers to embark together as collaborators to improve instruction.

In today's workforce, Scott and Jaffe (1989) suggest, it is just as important for people to understand how to learn as it is for them to acquire a certain set of skills. Each member of the group must take responsibility for both individual and group achievement. Scott and Jaffe (1989) explain the responsibility as a two-job concept where in addition to handling assigned jobs or tasks, the member's second job is to help the group and/or organization to change and to continuously improve. According to Scott and Jaffe (1989), members of the group become partners in the process of improvement. They explain that work groups need to be given authority to decide how tasks will be accomplished. Scott and Jaffe support the process of sharing information and the notion that the sharing process has to be non-threatening to group members if the information is to be used to facilitate change and improvement. Scott and Jaffe explain that group members need to feel that their talents and abilities are recognized and honored.

Scott and Jaffe (1989) discuss the concept of moving from a pyramid of control to one of a circle or network. They explain that in a bureaucratic

hierarchy (pyramid), decisions are made at the top, or at least out of the reach of group members. Each person has assigned job responsibilities and only those responsibilities. Feedback and communication come from outside the group, usually from a higher level. Motivation is not necessary for production, and the direction of what is to be done and how it is to be accomplished is given from above.

In a circular or network organization, according to Scott and Jaffe (1989), the focus is centered on the group of workers and the consumers of their work. In their model, group members share responsibility, power and skills, and communication is among group members while managers become cheerleaders and facilitators. These groups that work together can be motivated when they feel that they are part of the team and own what they do. Cairo (1995) explains that groups who use the information and facts available are better equipped to make sound decisions. He borrows the term "synergy effect" to describe the group decision-making process when members of a group work together, accept the ideas of others and agree on a plan of implementation. Here the progress toward the group goals is accelerated.

Cairo (1995) emphasizes that increasing team involvement is accomplished when members believe that they have a role in defining goals and reaching these goals. Participatory leaders facilitate the problem-solving environment with an open communication forum by assessing the current situation, listening to each other, clarifying goals, identifying focus areas, and thinking together. By using the SMART (specific, measurable, attainable, results-oriented, and time bound) goals and objectives approach that is common in business and educational arenas, the group can narrow the

focus of implementation to a concise and usable level (Glickman & Ross-Gordon, 1995).

The empowerment of teachers to make instructional decisions that will make a difference in what students learn and how they learn is paramount to observing true improvement in the achievement of students (Lambert and McCombs, 1998). Lambert and McCombs (1998) note the pure definition of teaching is changing as we better understand how learning takes place and realize that we must provide active, authentic instruction that engages the learner requiring teachers to plan for individual learners.

The philosophy of "respecting the individual, making people winners, letting them stand out, and treating them as adults" is one that can be borrowed from excellent companies for education (Peters & Waterman 1982). The reforming of different interrelationships in the team continues around the basic concepts of redesign and student focus (Keefe, Jenkins, & Hersey 1992).

Sleeter (1991) describes empowerment of teachers as a concept where teachers feel they have power to make decisions with effect. Brunner (1995) suggests that in order to have collective empowerment with their peers, teachers need to have self-confidence in their individual power to make meaningful decisions

The review of group processes for this study promoted a connection between the concepts of creating curriculum maps that meet the needs of individual students and planning together as a team.

CHAPTER TWO
THE PROBLEM

Student performance on state standardized tests is the topic of the day. No excuses are allowed for failing to meet the minimum benchmarks set for all learners in the state of Virginia. Teachers have provided what they have believed to be good teaching, only to learn that their at-risk students have not been successful. As if that was not enough for teachers in this age of accountability, parents of gifted children demand more challenging work for their children. Teachers are isolated in their instructional decisions even at the middle school level where teams of teachers plan for instruction (Harris, 1998). Teachers need a planning process that honors their empowerment while supporting diverse learners within their classroom.

This study documents the process of the initial planning of 6th grade teachers as they embarked on the curriculum mapping process and investigates the extent to which they incorporated information available to provide appropriate instruction to meet the diverse needs of their students.

Rationale for the Study

On the first administration of the Virginia Standards of Learning (SOL) tests, the Virginia Department of Education reported that ninety-eight (98%) percent of the 1,800 public schools in Virginia failed to pass in at least one of the four core subject areas. The second administration brought the passing rate to six (6%) percent. By the year, 2006, seventy (70%) percent of a school's students (50% in social studies and science at the third grade level) must pass the tests or the school will face loosing accreditation

by the Commonwealth of Virginia. By 2004, students must pass six of the high school exams to graduate (Virginia Department of Education 1998). In releasing the state test scores Kirk Schroder (1999), President of the State Board of Education, said, "These results prove that we (Virginia) have clearly raised the bar in a major way. We expected results to be very low, and they are, because this is the first year and we have set much higher expectations for our students" (Richmond Times Dispatch, p.1). The Stafford County Virginia Public Schools have made a commitment to provide teachers assistance and guidance on how to improve student achievement. Parents and educators in Virginia receive detailed report cards telling them how their children's schools are doing and allow them to compare how their children performed on the Standards of Learning assessments with the school and state average scores. These externally imposed high stakes assessments will be the basis for policy makers, parents, the media and the community in general to judge not only the student's performance but also the implied effectiveness of teachers and schools. Report cards published by the Virginia Department of Education for each school and locality will provide added pressure to educators. In a time when accountability is critical and school divisions will be compared to each other in the percentages of students passing each core area test and accreditation awarded, this study can provide a foundation for the improvement of instruction through planning leading to higher achievement on the SOL assessments.

The pressure on Virginia's school administrators, teachers, parents and especially students is real and the retention of information is critical to students' achievement. If educators are to assist students in making educational gains and retain content and skills to pass the Standards of

Learning tests, then we must know how both the successful students and unsuccessful students learn. Because the Virginia Standards of Learning "represent rigorous curriculum and provide students with a solid foundation upon which to build later learning" (Virginia Department of Education, 1998), this study focuses on three teachers of 6th grade students who took the SOL tests at the end of grade five in the spring of 1999. Given the fact that these students will not be required to take another SOL assessment until the end of grade eight, teachers can be provided a solid timeframe to address instructional issues. Teachers will not need to resort to a "hurry up and fix it" approach, which usually yields poor lasting results. The opportunity to make a difference in instruction and learning at the middle school level is available to teachers.

The burden facing administrators and teachers in preparing students to retain content makes this study relevant and critical in Virginia schools. Teachers provided with resources and strategies can demonstrate practices grounded in research instead of using a "hit or miss" philosophy of instructing students. The ownership of the process of the improvement of instruction by teachers is the keystone to implementation. Holayter (1998) offers that synergy, team dynamics and collegiality are the only answers for the complex, people-oriented, dynamic learning organizations of schools.

Definition of Terms

Virginia Standards of Learning (SOL) identify academic content objectives for essential components of the curriculum in core academic subjects of English, math, science and social studies (history, geography and government) for students in grades K through 12. The SOL objectives outline the basic knowledge and skills for Virginia schoolchildren (Virginia Department of Education, 1995).

Standards of Learning (SOL) Assessments are criterion referenced assessments designed to test the extent to which students have learned the content and skills specified in the Virginia SOL in grades three, five, eight and high school (Virginia Department of Education, 1998).

Standards of Learning Blueprints are specific guidelines provided to school divisions by the Virginia Department of Education, indicating which of the standards are priority for instruction—which will be assessed on the SOL tests.

SMART STARTERS are weekly assignments packets that have been created by a team of teachers participating in this study. The teachers address specific skills and content that correspond to the curriculum maps in the SMART STARTERS.

A visual curriculum map is a teacher developed visual description of the content, skills, and focus of specific courses or units of study.

Research Questions

This inquiry explored the overall question: How can we assist teachers as they begin to use instructional planning to meet the diverse needs of their

students? The questions to be answered were: What happens when teachers begin to address the diverse needs of their students by using the curriculum mapping approach? How does the planning process take place? How does the planning process change as the team works through the stages of action research?

Population and Sample

The population for this study was the 6th grade teachers of Stafford County Public Schools. A purposive sampling of teachers was selected from the middle schools in the Stafford County School division. Those selected teachers work together as a collaborative team (Friend, 1991) in a middle school of 879 students (See Table 2 for school demographics). It is the only collaborative team in the sixth grade at this school.

The middle school built in 1981 as Garrisonville Elementary-Middle School is a part of a common school building that houses both an elementary school of 600 students and the middle school of 879 students. It is the only combined school building in the county. Since 1986 the schools operate separately with different names, different teaching staffs, different administrators and different support staffs. The building contains a common hallway behind the front offices where counselors and support staffs from both schools share the space. The school building is approximately 900 yards from another elementary school of 758 students. All three schools share a common entranceway from the residential street where signage identifies all three schools.

The ethic background of this middle school is 82% White, 13.5% African American, 2% Hispanic, 2% Asian and .2% American Indian/Alaskan. Additional school demographics are found in Table 2.

Table 2. School Demographics

Enrollment	879
Student receiving free or reduced lunch	9%
Student /teacher ratio	18:1
Percent of attendance	75%
Parent volunteer hours	811
Accomplishments	Recognized in 1999 as one of the top 25 schools in Virginia for most improved SOL scores in one year.

Ninety (90%) percent of the sixth grade students attended one of the two feeder elementary schools. Stafford County Public Schools is located in a suburban community of Fredericksburg, Virginia, located forty miles south of Washington, D.C., and fifty-five miles north of Richmond, Virginia. Stafford is described as a family-oriented community and the second fastest growing county in Virginia in 1999. The 1999-2000 school enrollment is 19,900 with a projected enrollment of 24,000 by 2005.

Currently, the county has four high schools, five middle schools (an additional one to open in September 2000), twelve elementary schools (an additional one to open in September 2000), a Commonwealth Governor's

school for selected county students and an alternative middle school and high school.

The ethnic background of the school district population is 84.2% White, 11.8% African-American, 2.0% Hispanic, 1.7% Asian Pacific Islander/Native American and .3% Alaskan. All teachers in Stafford County schools are licensed by the State Board of Education to teach the grade level or subject area for which they are employed. Seven hundred seventy-eight (778) faculty members have bachelor's degrees and three hundred sixty-seven (367) have advanced degrees. The pupil teacher ratio is 21:1 in elementary schools, 18:1 in middle schools and 16:1 in high schools.

The three participating teachers can be described by observation and by the data sheet they completed for the study. The descriptions are detailed here.

Teacher A

Teacher A is a twenty-six year old Caucasian female who is assigned to the 6th collaborative grade team as a social studies and language arts teacher. She shares the responsibility to teach reading with the other teachers on the team. She is married with no children. She attended a suburban high school of 800 students. She has a Bachelor's degree in Interdisciplinary Social Science and Middle School Education from a suburban state university of 14,000 students where she received the Darrin-Hill Scholarship for Outstanding Middle Education Student at the university.

Teacher A has five years experience, all in Stafford County Public Schools. Teaching assignments have included two years of teaching social studies and language arts to gifted 6th grade students, two years of teaching social studies and language arts to 6th grade students on a collaborative team

which included gifted and students with learning disabilities and one year of teaching social studies and language arts to 6th grade students on a collaborative team containing students with learning disabilities.

Teacher A has taught a county professional staff development workshop on integrating reading comprehension and writing (CIRC as developed by Slavin, Madden, Farnish & Stevens, John Hopkins University, 1993). She has attended regional and state conferences on curriculum and learning strategies. She has created and co-chaired a building level indoor "field day" for teachers and students. Teacher A has recruited and interviewed new teacher applicants for Stafford County Public Schools. She has chaired and co-chaired building and county curriculum committees for English and language arts.

Teacher A has been nominated for Teacher of the Year and was awarded the New Teacher of the Year for the middle school. (See Table 3 for Biographic Summary of Teacher A)

Teacher B

Teacher B is a forty-four year old Caucasian female who is assigned to the 6th grade collaborative team as a science and math teacher. She shares the responsibility of teaching reading with the other teachers on the team. She is married with two children: a girl who has just recently completed college and a middle school-aged boy. She describes herself as an active member of Jewish Educators. She attended a religious high school of 300 students.

Teacher B received her Bachelor of Science in Elementary and Middle Education at an urban state university of 30,000 students. She will complete her Masters of Education in Administration and Supervision in a suburban university of 15,000 students in December 2000.

Teacher B has taught for nine years: two years as a 6th grade math, science and reading teacher in an urban county of 45,000 students and seven years as a 6th grade science, math and reading teacher on a collaborative team in a school of 879 students. She views her areas of strength as being learning styles, technology and curriculum integration. As an "outspoken constructivist," Teacher B and her teammates agree that she is committed to having children learn for learning's sake. She believes that children's desire to learn must be intrinsic. (See Table 4 for Biographic Summary of Teacher B)

Teacher C

Teacher C is a forty-seven year old Caucasian female. She is married and has two grown sons. She is assigned to the collaborative team as a special educator. She shares the responsibility of teaching reading with the other teachers on the team. In addition, she is responsible for case

management of the identified special education students on the team. She is the department chairperson for the special education department at the school of 879 students. She attended a suburban high of 600 students.

Teacher C received her Bachelor's degree from a suburban branch of a major state university with a student population of 6,000 students. She will complete her Masters of Education in Middle School Education in December 2000 from an urban university of 15,000 students. She currently attends classes at a satellite campus of the university.

Teacher C has taught for seven years: special education resource in an on-base Department of Defense school, special education resource in a small rural school division and in the current middle school as both a self-contained teacher of the learning disabled and a special educator on the collaborative team. She has provided several professional development seminars on inclusion and learning styles. (See Table 5 for Biographic Summary of Teacher C)

Table 3. Biographic Summary of Teacher A

Age	26 years old
Ethnicity	White
Gender	Female
Marital Status	Married, no children
High School Education	Attended suburban high school of 800 students
College Education	Attended suburban state university of 14,000 students
Degree	Bachelor's degree in Interdisciplinary Social Science and Middle School Education
Teaching Experience	5 years, all in Stafford County: 2 years sixth grade social studies and language arts for gifted students; 2 years sixth grade social studies and language arts on an collaborative team with gifted and special education students and current assignment sixth grade social studies, language arts and reading on a collaborative team with special education students
Additional information	Taught a professional development seminar (CIRC) (developed by John Hopkins University) integrating reading comprehension and writing; nominated for teacher of the year and was awarded New Teacher of the Year for the middle school

Table 4. Biographic Summary of Teacher B

Age	44 years
Ethnicity	White
Gender	Female
Marital Status	Married, two children
High School Education	Attended a religious high school with 300 students
College Education	Attended an urban state university of 30,000 students for undergraduate study; will complete graduate study at suburban university of 15,000 students
Degree	Bachelor's degree in Elementary and Middle School Education; will complete Master's degree in Administration and Supervision within the year.
Teaching Experience	9 years: 2 years 6th grade math, science and language arts teacher in urban county of 45,000 students; 7 years in Stafford County as 6th grade science, math, social studies teacher on a collaborative team
Additional Information	Member of Association for Jewish Educators; areas of expertise include learning styles, curriculum integration and technology

Table 5. Biographic Summary of Teacher C

Age	47 years
Ethnicity	White
Gender	Female
Marital Status	Married, two sons
High School Education	Attended suburban high school of 600 students
College Education	Attended suburban branch of state university with 6,000 students
Degree	Bachelor's degree in Special Education-Learning Disabilities; will complete a Master's degree in Middle School Education at urban university of 11,000 students within the year
Teaching Experience	7 years including: Special Education in small Department of Defense school on military base; Special Education in average sized rural elementary school and the current school as a special educator on a collaborative team where she shares reading instruction responsibilities
Additional Information	Areas of expertise include learning styles, instructional strategies and inclusion

Methodology

This study matches the criteria for action research design. The action research model described by Calhoun (1994) consists of data collection, planning, implementing and reflection which takes its essence from the model presented by Kemmis and McTaggert (1988) and the four components of planning, enacting, observing the plan and reflection.

The study enabled the participating teachers to be in the forefront of questioning their own planning of instruction for students using information available to them. According to Scott and Jaffe (1989), the participants in group planning become partners in the process of improvement. Noffke (1995) and Glanz (1998) suggest that the involvement of the teachers in action research can be invigorating, enticing and inspiring leading to the fundamental support of the results. They both agree that action research subscribes to the belief that teacher autonomy is a necessary component of instructional improvement. Brunner (1995) declares that action research must act as a means to understand teaching and the context of teaching.

Action research appealed to me because it is a process by which teachers can use their own direction to change their classroom practices, in a sense they are the captains of their own ship. Initially I planned to conduct a case study and to observe teams of 6th grade teachers as they planned instruction using the SOL test scores, the curriculum and the learning style preferences of their students and themselves. Upon reflection, however, I realized that in order to assist the teachers in understanding the content and the constructs of curriculum mapping and action research, a facilitation of the process was in order.

The participatory feature of the action research model provides teacher empowerment, as it is collaborative, practical and social (Atweh et al.1998). I assumed at least four different roles as the study progressed. Originally, I had envisioned the three roles as those of coach, participant and participant observer; however, the role of participant became, at times the role of a learner/member (Mertens, 1998), especially at the planning meetings. I met with a 6th grade team while they identified a focus area, planned for instruction, implemented the plan, observed the results of their plan, reflected upon the results and revised the plan (Kemmis & Wilkinson, 1998) to map their instruction. I shared with the team the three phases of action research: planning, action and reflection (Quigley & Kuhne, eds. 1997), including leading questions that would guided the team through the process of action research. (See Figure 2 for Visual Concept of Action Research)

The results of the test scores and an item analyses from the spring of 1999 (when these current students were 5th graders) were made available to the teachers. Additional training, curriculum and research resources were provided upon request by the teachers as they moved through the process of beginning to map for the success of their students. The building principal responded to a request from the three teachers and supported them in attending, as a team, the Virginia Association for Supervision and Curriculum Development (VASCD) state conference entitled "The Brain and How It Works." The teachers explained to me their primary goal of learning more about brain-based learning and instructional strategies to assist them in making decisions to meet the individual needs of their students. I also attended the conference, meeting with them after three of the sessions.

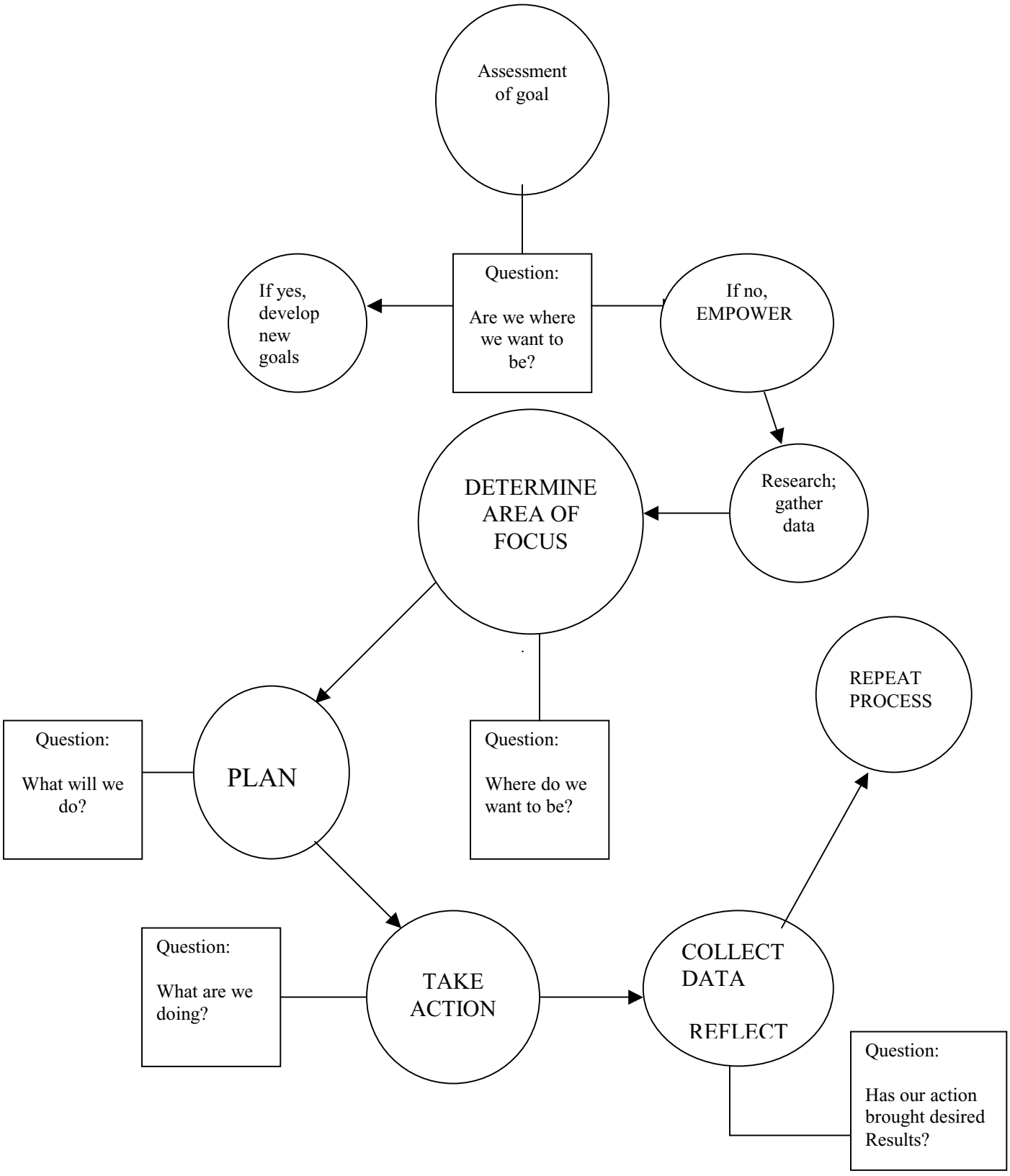

Figure 2. Visual conception of Action Research (adapted from Calhoun, 1994)

Procedures

I secured the approval of the superintendent and the local school board for the study. I facilitated the team meetings of a voluntary instructional team in one of the middle schools where approximately ninety (90%) percent of the students attending took the grade 5 SOL reading and math tests at one of the two feeder elementary schools. For the purposes of this study, I concluded the facilitation after the mapping process for the first semester grading period since my intent was to observe the initial group activities in planning instruction.

Methods of Data Collection

As the 6th grade teachers began to assemble the information they determined necessary to understand how students were learning and what they could do to enhance the environment to facilitate learning, their discussion became part of the data collection. Calhoun (1994) suggests that two questions lead the discussion for data collection: "what sources will provide the faculty with information about student learning and what sources will provide information about the environment for learning?" (p. 50).

As the planning process started, I used and shared the concepts and definitions of archival, conventional and inventive information sources (Calhoun, 1994) with the teachers. The archival data included the student grades and the student scores on the 5th grade SOL tests. Conventional information came from the group process field notes, discussions, the team's journal and observations of the planning process. The behavioral and

perceptual data (Calhoun, 1994) included sample lessons, descriptions of how concepts were taught and the exit interviews of the teachers. Inventive data, defined by Calhoun (1994) as the data created as a result of the examination of an identified focus area, were derived from the power point presentations for the "Back to School Night—Open House" and the International Reading Association Adolescent Reading Forum, as well as, examples of student work that related back to the planning utilized by the teachers to assess progress on specific content.

Planning Meetings

The team planning meetings were in general a very relaxed, supportive endeavor by the teachers. The teachers agreed to audiotaping and understood that I would be taking field notes during the meetings as well. Each of the meetings took place on either a Wednesday or a Friday (and one Thursday) for approximately ninety (90) minutes, the choice completely up to the team. Some meetings were scheduled two weeks in advance, while others were scheduled in rapid succession (on a Friday and then the following Wednesday). The team had available a double period for planning (as do all of the academic teams), one designated for individual planning and one designated for team planning as do most of the middle schools in Virginia (Harris, 1998). Since the team did not plan formally on a daily basis and the preservation of the naturalistic setting remained a priority, researcher-requested planning sessions were held.

The meetings took place in the morning (8:30 a.m.) after the students had completed their homeroom time with the respective teachers and had gone to their electives. In this school and in this team, planning was an

informal discussion among the three teachers on a daily basis and only in a semi-formal manner (in this case, sitting down and focusing on the planning by writing their ideas down and working with their mapping process) on a weekly or every other week schedule. Throughout the entire time frame of the study, the team insisted that any of the focus area materials and supplies identified as part of the implementation plan be available to all sixth grade teachers. They expressed the desire to have their colleagues benefit from their participation as demonstrated in Teacher B's comments:

> This (referring to books on tape) would be great for all of the 6th grade; in fact, we know several students who are in 8th grade this year that could really use this strategy. Can we look at a way that we could share the tapes or the recorders? We would like to share this idea to help with reading comprehension at the next grade level meeting, is that okay? (researcher's field notes)

My roles were not always easily discernible during all of the meetings. The expectations of what I had to offer the team fluctuated, as did the request for assistance or facilitation. There were times when I began as an observer and was drawn into discussion by one or more of the teachers. The teachers would ask for my advice on specific strategies to use with individuals or with the entire group of students. There were teacher-initiated e-mail messages regarding a concept, a specific content area or an idea for a particular activity or strategy we had discussed or discovered in the planning process. As we progressed into a topic (or an area they felt was a focus area), the teachers' empowerment was not daunted. In fact, at times I felt as though my suggestions or ideas for strategies were as carefully scrutinized by the members of the team for inclusion into their plan, as were their ideas. My ideas were no more important than those of any other

member of the team. I was excited that I did not pose a threat to the teachers and that they were willing to share with me, allowing me to be a member/learner (Stainback and Stainback, 1988).

The area in which they did seek my suggestions and direction was curriculum mapping. Since during the summer before this school year the teachers had attended a two-day workshop that I had presented to middle school teachers and administrators, the team members voiced their confidence in my assistance on the process of curriculum mapping.

Interestingly, my background is one of individualized instruction to meet the needs of students, with over twenty years of experience in special education as a teacher and administrator. As is my style in working with any teachers, I was careful to give mapping assistance not as directing "a right way" but rather by providing examples of curriculum mapping that these teachers deemed appropriate for their teaching styles and complimentary to their individual philosophies of success for all students. I maintained a nonjudgmental attitude toward their actions and discussions with respect to my suggestions.

Discussions or planning sessions that focused on the implementation of the plan or on the evaluation of the plan or strategies used were an integral part of the planning process. Student grades, project completions or performance (for example, in a simulation of Ellis Island in the immigration unit) were analyzed on a regular basis. The team worked diligently to ensure student success in every assignment.

During the planning meetings the teachers discussed the units of instruction, the time period required for the instruction, student objectives and strategies or pathways for student success. They collaboratively designed a visual map for the concepts to be taught and the projects within the unit that

would allow multi-modal teaching. Depending on the content area(s) on the visual map, the teachers took turns accepting the responsibility to take the lead and guide the others (including me) through the visualization of the unit. On the back of the one page visual map, the Standards of Learning (SOLs) that were appropriate to the unit were listed. The map was to be discussed in class with all of the students to provide "frontloading," where students could understand what they would be studying, what was expected of them in each unit and how they would be assessed.

At the "Back to School—Open House" the teachers explained the class review of the visual map with SOLs. They shared both the parent and student responsibilities to discuss the map and then to confirm that discussion by a parent signature.

During the exit interview, the teachers articulated parent communication, a common practice for the team. They also discussed the mapping concept with parents at the parent-teacher conferences. Again, the timing of sending the visual map home with the students was scheduled directly after the review and discussion in class to facilitate students being able to discuss the map with their parents as their parents reviewed the map.

Method Of Data Analysis

I used the concept of "transforming" and analyzing data (Wolcott, 1994) in coding and processing the information gathered and in moving to a systematic discovery of patterns of categories and relationships between and among the categories of information. I began with simple broad categories so that I could describe the scenario and the change process as it began to unfold by identifying the focus areas of the teachers. I added the quantitative

component of my qualitative study (Wolcott 1994) by organizing and reporting data chronologically from one interim period (3 week intervals) to the next and relayed information to the team so that they could note progress (Calhoun 1994) as well as use the information for their collective decision making (Sagor 1992). Wolcott (1994) explains that by using the chronological order approach, the researcher is able to bridge the events in an efficient flow of information. During the meetings with the team, I began the facilitation discussion of "data analysis" questions (Calhoun 1994) such as:

1. What do the data reveal?
2. How do the data (from various sources) compare or contrast?
3. What patterns or trends are revealed?
4. How are the correlations important?
5. Are the results different than you expected?
6. What actions are indicated?" (p. 81).

Data triangulation was obtained by the use of a variety of data sources as I sought a comprehensive understanding of the research question: How do teachers begin to plan for student success using a process of curriculum mapping? The genres of data used are explained here.

Archival Data

Calhoun (1994) defines archival data as "those sources of data that are readily available in the files or documents" (p. 53). Student scores from the spring 1999 administration of the Virginia Standards of Learning Tests were shared with the teachers at the beginning of the school year. The number of students identified as special education, the results of the Dunn and Dunn

Learning Style Inventory (LSI) (Dunn, Dunn and Price, 1997) along with student grades provided the archival data.

Conventional Data

Conventional data that require follow-up, observation and communication are gathered from individuals or from documents that demand review (Calhoun, 1994, p. 54). Classroom observations, transcribed audio-tapes of planning meetings, the team's reflection journal, field notes, lesson plans and visual unit maps provided conventional data, behavioral in nature (what a person is doing or has done), while a demographic sheet and exit interview of the three participating teachers completed the data sources as perceptual (a person's opinions, values and feelings) conventional data (Calhoun, 1994, p. 55-56).

Inventive Data

Although not in the original plan for data collection, the teacher-created power point presentations for "Back to School-Open House" and the International Reading Association's Adolescent Literacy Forum and student work samples became the inventive data of the study. Those data that are created as a result of an examination of an identified focus area (Calhoun, 1994).

Credibility

I utilized a method of verification of my data recognized as progressive subjectivity (Mertens, 1998). The information and themes that were emerging were shared with peers. I shared my questions, information from the planning meetings, my field notes and samples of the teacher developed

documents. My peers, one an accomplished national educational consultant, and the second, a fellow doctoral student completing her requirements at a different university, listened, read and posed challenges to me to explain what I was learning and how it could affect the improvement of instruction. They guided me in the direction of the components and steps involved in the study.

Emergent Themes

Transcriptions of the planning meetings and the exit interviews with the three participating teachers revealed three major themes of discussion in their planning: instructional design, personal student information and parent communication. Classroom observations, field notes, visual maps, lesson plans and teacher-created documents (study guides, worksheets, etc.) support the themes. The demographic sheets and the exit interviews provided a reflective summary of the study and the research design. The classes of attributes overlap and intertwine with each other (Earle, 1996), as neither teaching nor planning is a concise science with strict parameters, but rather both are fluid (Clark & Yinger, 1977 and 1979).

Instructional Design

Instructional design subdivided into supporting categories of mapping (English, 1984, and Jacobs, 1997), content and instructional strategies.

Mapping

The concept of mapping permeated the planning meetings. Examples of the team's questions in instructional design focusing on mapping included: "What's the big idea question? How long will this unit take? Which unit

follows Western Expansion? What do we want the students to learn in the invention unit? How does that include the 6th grade research skills?" These questions by the teachers demonstrated the thought processes of the team as they connected the flow of instruction in mapping.

Content

The teacher-created visual maps supported examples of the discussions of content in the planning meetings and lesson plans. For example as Teacher B stated: "They have to really understand the scientific method before they can explore in science; they have to have it become second nature to them so they can look at science through a scientist's point of view," (planning meeting, September 15). Regarding social studies, Teacher A lead the discussion involving the students' understanding with: "we fought for certain causes; we reconstructed after the war and that lead us to change America in a better way." While in language arts, specific topics related to "finding singular and plural nouns" (planning meeting November 15).

Instructional Strategies

The demonstration of the use of instructional strategies was supported with teacher dialogue such as, "To have them summarize this part, have them use this as an overview," and "let's continue with CIRC--Cooperative Integrated Reading and Composition" from Teacher A (planning meeting, November 15). Teacher C shared with the other teachers and me, "The learning log is what she called it," (planning meeting, December 15). In the same planning meeting Teacher B demonstrates how she was able to motivate the students by using a variety of perceptual modes, including kinesthetic. "We're getting ready for primes and composites and I go—IT'S

RHUMBA TIME! I had two cards in my hand; I got everyone to stand up and we ran around the room going 2X2 is 4 UH!" The teacher-created visual maps along with teacher lesson plans support the constructs of mapping.

Personal Information

Learning style preference (Dunn & Dunn, 1975), personal student information and specific student strategies fell under the personal information category.

Personal Learning Styles

The teachers professed that they could not plan for student success without taking into account their strong feelings of working with the uniqueness of each student. They insisted that the maps, while providing the plan for the direction of the curriculum instruction, required the inclusion of specific strategies based on individual needs of students.

When I came to the team, the teachers had already participated for a year in school-based training in brain-based learning, utilizing a focus group approach. The teachers already had designed their own activities to assist students in understanding their preferred modalities for learning.

During the initial meeting to view the study, the team and I discussed the learning styles preference approach that they were using to meet the needs of students. We discussed the different learning styles theories and the availability of local support for learning or implementing a recognized learning style approach. The teachers agreed that they wanted a validated instrument to identify students' personal learning style preferences to support their use of instructional strategies. At their request, the Dunn and

Dunn Learning Style Inventory was purchased (Dunn, Dunn and Price, 1997).

Personal Student Information

The teachers discussed the individual personal student information at each of the planning meetings. They shared information discovered in reviewing records, and talking with other staff members, the students or parents. Any personal information about individual students shared by team members was targeted as a part of their planning. Teacher C demonstrated this in her discourse regarding the home situation of a student with whom the team was concerned.

> "This is a note from Joe's mother, and she in essence says he's really giving her a hard time at home, and she's decided that it's not her responsibility to keep up with all his stuff. So, she's turned it back over to him and can we please let him know when he's missing assignments?" (planning meeting, October 15).

Field notes supported the teachers continued use of personal information throughout their planning, and their concern for a student's feelings and the lens through which the teachers interpreted the student's discourse. Comments made by students were used in planning for example Teacher C quoted a student who said "I really wish we had study hall because I just don't get any help," (field notes, p. 32 and planning meeting, October 15). As a result of this particular student request, the teachers made arrangements for the student to have special help before school.

Personal Instructional Strategies

Identifying personal instructional strategies were commonplace in the planning meetings. The team also kept track of the modifications that individual students were provided on a regular basis, without regard to the content of the unit. "Well, I say we start with a word bank and let him do it on his own. He has a hard time retrieving," (planning meeting, November 11), was typical of the discussion of individualized instructional strategies the team implemented. The team monitored strategies that were used with individuals or small groups of students for each unit of study.

Teacher C explained, " We gave him the option of an oral test; she has a very hard time with (oral) directions and she really needs to work on reading text, learning to identify important information," (researcher's field notes p. 41), referring to the integration of personal learning style preferences and instructional strategies.

Parent Communication

In this category school information, classroom information and student information were examined. Parent communication was integral to this team's view of success with students.

School Information

School information was communicated to parents in the school newsletters, in the parent information packet distributed to each student, and throughout the year as it became available.

Classroom Information

Information regarding the team or specific classroom projects was disseminated through the team newsletter, the visual maps, "Back to School—Open House" and team notes. Parents were kept informed on a regular basis as Teacher C detailed in her exit interview:

> These maps go home with the parent for every unit we do. The map goes home with the children, the SOLs on the back. The parents have to sign the map to show they have looked this over and that they know what their child is going to be working on (Teacher C reflection, p. 3).

Student Information

Student information was relayed to parents through personal contacts or notes home. Student progress was monitored and information was shared with the student and the parents. Teacher A sent lists to certain parents with bolded letters, "PUT THIS ON THE FRIDGE," to remind them of importance of the team newsletters. The teachers were tenacious about parent communication as evidenced in Teacher B's remarks, "I got this back with a parent signature, after the third time, but I finally got it. Never got an October reading calendar. I sent another," (planning meeting, November 12).

Classroom Observations

I observed the teachers in three different situations. In one observation, I conducted a classroom observation of two of the teachers teaming, in the second I observed the teachers presenting to parents at back to school night, and in the third observation Teacher A was explaining an assignment to

students. In these observations, I wanted to get a sense of the teachers' style and use of planning process in their teaching.

In the first observation, I observed how the teachers (one general educator and one special educator) interacted and worked together in the classroom. I wanted to observe the chemistry between the teachers. The classroom was organized with the student desks assembled into learning groups. The two teacher desks were inconspicuously placed, one against the window wall and the other in the corner near the TV and the laminate board. In one corner of the classroom the computer and round table were accessible and inviting to the students. A center area was designated in the corner opposite of the computer corner. Students dropped off completed work and picked up checked work in strategically placed work trays near the classroom door. A sink was located in the fourth corner of the classroom. The students were directed to the front of the classroom where the overhead projector, screen and chalkboard were located.

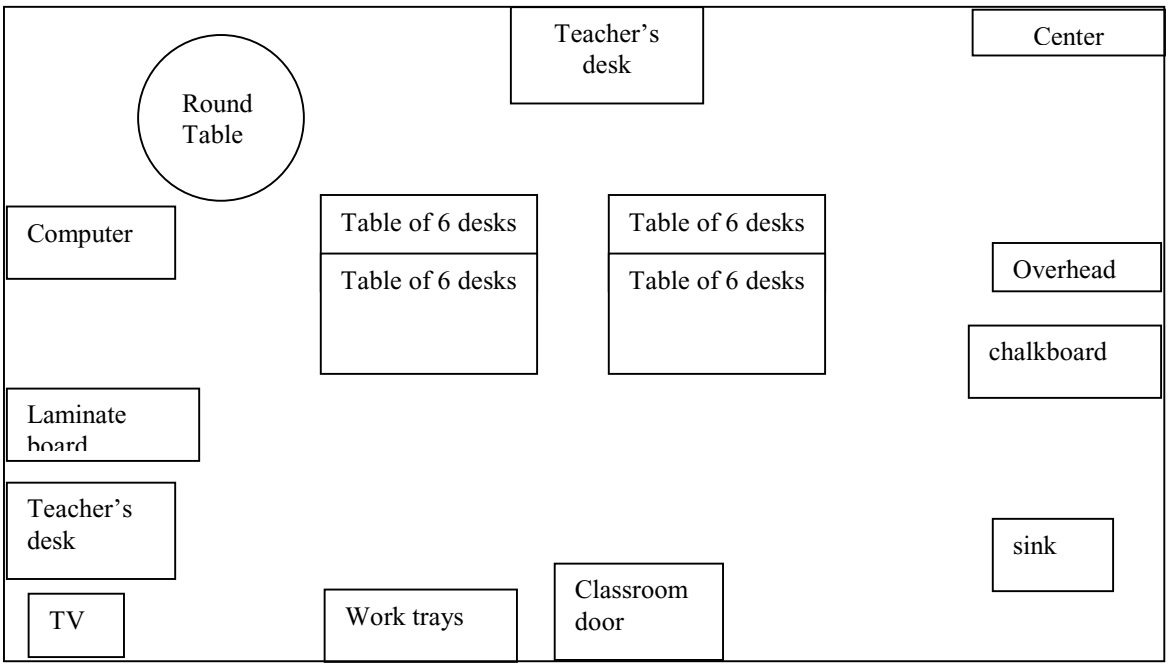

Figure 3. Physical Environment of Classroom

I provide a narrative description of the observations which took place in the early fall. I allow the reader to see the observations and planning sessions as I as the observer, participant, facilitator and member/learner see them as they happen. I share my first-hand experience. I encourage the reader to look through my lenses.

Classroom Observation Teachers B and C

Teachers B and C welcome the students with statements of "Welcome, find your desk, look over your books and place your books in your desk," (researcher's field notes p. 1). The oral directions are projected on the front screen. After a short introduction to the teachers, the lesson begins with an activity of designing a t-shirt (on card stock) that explains how each child perceives him/herself.

Teacher B begins her explanation of how the students are to complete their t-shirts by using hers as the model. She provides the following directions:

1. Put your name on the collar.
2. Touch your right shoulder—now touch the right shoulder of your paper t-shirt—list three things that you are good at.
3. Now, touch your left shoulder—list three of your favorite places.
4. On the bottom right (again touch your right shoulder of your paper t-shirt and move your hand down to the bottom of the shirt) -- name your best pal or a role model
5. On the left bottom – tell what you want to learn
6. And last, but not least, draw your center design with a picture that tells about you (page1).

Before the children start the project, they are reminded that they will be working on their t-shirts throughout the day and that the project is due the next day. After the directions for the assignment are completed, the children begin quickly on the assignment. Both teachers circulate and chat with the students as the students begin to socialize with their table partners. Teacher B reminds the students, "When you believe in yourself, anything is possible," (page 1).

Following a brief working period, Teacher B explains with a model how the students might want to prepare their t-shirts for transport home. She uses the term "transport" with the students. The directions are graphic with questions for the students, "Which way would you fold your poster—individual students. Hamburger or hot dog fold or roll it?" (page 3).

Teacher C distributes rubber bands to the students for them to secure their posters, after the class decides that rolling is the best choice. There is no mention of responsibility of having a rubber band and how it should not be removed from the poster and used as a toy. Teacher B motivates the students to bring their projects back on time by explaining that she can show them how to make their own fingerprint slide by using scotch tape. The students roll their posters and place them on top of their desks.

Both teachers introduce a "know your neighbor" activity where students select a person at their table and introduce him/her to the class. They are given explicit oral instructions, the steps are projected and the teachers circulate to assist students in interviewing their self-selected partners, reminding them to be good listeners and when they introduce their partners to remember to show respect to their partners.

When time is called, the teachers suggest a "two minute practice" where students are to share with their partner what they will be saying to the

class. The teachers then model the introduction process for the students by introducing each other. The teachers select a table of students to begin the introductions. The students introduce their partners by standing in front of the class and describing the partner. The partner then describes the other student. All the students complete their short presentations. The teachers later discuss the presentation skills of each student group.

The remainder of the class time is spent with the teachers having the children share schedules for selected elective classes the students will have for the next two periods. The teachers comfort the children by discussing the ways the students will know where they are to go and when. There is an agenda on the wipe-off board; the students have their own schedules; there is a schedule projected on the front screen; and there is an "ask the teacher pen."

Our first planning meeting is scheduled. I arrive at school during the homeroom period. I take a seat in the special educators desk, located near the doorway of the classroom where I hopefully will not disrupt the instruction currently taking place. The students barely even notice me (no student does more than glance my way or smile at me for a second or two). They are facing the front of the classroom and working with the teachers on the beginning task of the day—organizing the student agenda/assignment notebooks.

As noticed before (researcher's field notes page 5), the teachers are working as a team. Teacher B is explaining and demonstrating to the students how to fill out their schedule in their agenda/assignment notebooks. Teacher C is floating around the room and working with individual students, providing a few suggestions to highlight the schedules. Both teachers ask questions of the students, "Where are we first? When do we need to go to

electives? Where will you go? When will we come back to this class?" For each question, several students answer and the special educator checks on several students and ensures that they know where they need to go. Both teachers assure that since traveling to electives is a new concept, they will be escorting the students to their electives. With that the teachers ask the students to line up according to their first elective. In this school the 6th grade students have their electives during first and second periods.

I make a few notes on classroom physical environment—the assignment on the overhead reads, "Morning work is in red basket," "learning brochure" and "code of conduct." The computer is on. The hall passes are in the basket by the door. The weekly brainwork (homework) "Smart Starters" have been collected and are in a basket near the door. The schedule for the day is written on the chalkboard in the back of the classroom. A student-learning center is located in the front right corner of the room with the words "science center" taped to the cinderblock wall. The wipe off board reads:

SMART STARTER # 2 IS DUE	
Math – 4th period	Science – 6th period
Parent signature "think pact" 1st draft of math WANTED POSTER	Parent signature science safety sheet Parent signature "life"
Math – 5th period	Science – 7th period
Parent signature "think pact" 1st draft on math WANTED POSTER	Parent signature science safety sheet Parent signature "life"

It is time for the students to move to their electives. Teacher C has the children line up and she says, "We will start with art. Then we will go to family studies, then band, then computers, then tech ed, and then PE," (researcher's field notes page 4). The children line up in what seems to be the order that she has indicated would be the route. She leaves with the students all behind her.

"Back to School—Open House" Observation

Teachers A and B participate in the "Back to School – Open House." Teacher C does not attend, as she has a graduate class. The event is scheduled from 7:00 to 8:30 p.m. The principal welcomes parents in the school cafeteria. The PTO chairman, who gives a brief description of the activities in which parents can be active with the school, follows the principal. The general meeting lasts fifteen minutes and the parents are directed to their children's homeroom classroom. The teacher observations, field notes and the power point presentation used with parents constitute the data used for the description here. I begin with Teacher B.

Teacher B

The parents come straight from the cafeteria to homeroom. Teacher B explains the schedule for the evening. The parents will follow their child's daily schedule, but for only 10 minutes for each period. Since this team has their elective schedule directly after homeroom, the teacher personally goes over each individual elective schedule with the parents present. The teacher explains that she will see the parents for third period. The bell rings and the parents proceed to the scheduled elective classes. There are several children

who have accompanied their parents, so they escort their parents to the classes.

Third period begins and the parents have returned to the classroom. Teacher B describes the team's mission and how each child is unique. She describes for them the format of the curriculum and how the teachers and students will communicate with the parents.

Teacher B uses the overhead to explain how children learn differently. She explains the main modalities that are used by learners, adult and children. She gives examples of auditory, visual, kinesthetic and tactile learning. She challenges the parents to determine their learning preferences and compare those with what the children have identified as their preferences. Teacher B elaborates, "My description is only one informal way to determine learning style preferences. The children will complete both informal and formal different activities to provide you and them even more information as the year progresses," (researcher's field notes, page 13). She stresses that it is important for students to know how they prefer to learn, and how they can use that information to make some instructional decisions for themselves.

Teacher B moves into her explanation of how the SOLs, learning styles, brain-based research and the curriculum will be incorporated with the course syllabi and the unit maps. She models what the unit maps will look like and explains how each unit will be introduced from the curriculum map.

The importance of a partnership between the teachers, the students and the parents is stressed. Teacher B explains the high expectations the team has for creating and maintaining such a partnership. Teacher B moves to the computer in class and projects her presentation onto the screen in the front of the room. (See Appendix B for printed power-point presentation.)

Teacher A

I follow the parents into Teacher A's class, as the bell has indicated a change in schedule. Teacher A focuses on the content areas of language arts, reading and social studies. She reviews the course maps. She describes several main strategies to be used throughout the year. She demonstrates one of the strategies. She details the reading comprehension strategy CIRC that the students will be learning and using. She explains the importance of the strategy in all content areas.

Teacher A also uses technology in a power point presentation. She too uses the TV with a device called an aver-key to project her presentation onto the screen. She explains the technology she is using. She details how one computer in the class becomes a projector that uses the TV screen, making it possible for everyone in the class to see the information on the computer screen as it is being manipulated. She emphasizes that the students will be using technology, including the TV, aver-key and the classroom computer, as well as the computer lab throughout the year in many of their classroom assignments.

In her explanation of how students need to be encouraged to use all the resources in the classroom, Teacher A describes the "word wall" where 3X5 cards are taped to the way in alphabetical order. The words that are placed on the wall are words that the students have had difficulty remembering, specific content words and vocabulary words the students have discovered in their group readings.

Back at the planning meeting the next day the teachers discuss the "Back to School – Open House" evening. I stay only a few minutes to listen to their discussion and to offer my compliments about the evening. During

their discussion the teachers note which parents did and did not attend. Teacher C takes notes. The team will send information home with those students whose parents were unable to attend.

Classroom Observation of Teacher A

Before the first planning session within this time frame, I observe Teacher A in her classroom as she prepares the children for the day. The following description is a reflection of my field notes.

The students come into the classroom and immediately drop their book bags onto their desks while Teacher A is greeting and making conversation with each of them. The special education paraprofessional assigned to this teacher's class is also greeting children as they enter the room. She jokes with a boy who laughs about her remark how disorganized she is herself this morning. The paraprofessional stays near the classroom door and verbally prods the children to come into the classroom. She gives one female student permission to use the facilities. Teacher A circulates around the room and assists several children in getting their work out and their book bags put away. Teacher A informs the students that she is ready to "start". She reminds them to take their seats. There is some side conversation with two boys at the back of the room. She looks at them, but says nothing. They take their seats and she begins. Unlike Teacher C in the other classroom who takes a co-teaching posture, the paraprofessional becomes almost obscure in the classroom. Teacher A continues her instruction and reminds the students of the schedule for the electives. All the students are listening to the teacher. Teacher A directs the children to get out their social studies and explains to the students that they will be using reflection on their spelling lists today. She describes the questions she

will be asking them later. She tells the students she wants them to start thinking about how hard the words were for them personally and maybe about what strategies they used in learning them. She point to the reflection question on the chalkboard.

A student begins to fidget with his pen and paper, dropping the pen onto the paper from approximately ten inches. He chuckles a few times when the pen misses the paper and hits the edge of the desk and bounces off onto the floor. Teacher A walks over to the student and holds her hand out, as if waiting for the pen. The student looks at the hand and then places the pen in it, while chuckling again. The bell rings and students begin to chat as the teacher explains the elective schedule again. The paraprofessional stands up and waits at the door while the teacher dismisses the students to go to their elective classes. The paraprofessional leads the students down the hall.

Teacher A and I move to the other classroom where the planning meeting will be held. As soon as we get there the team suggests we go to the teachers' lounge, as it is a "breakfast morning" where teachers have brought in snacks to share. We talk on the way to the lounge. In the lounge the team and I have a snack, chat with other teachers, and then head back to the classroom for the meeting.

Limitations of the Study

The boundaries of this action research study conducted in Stafford County, Virginia, are limited by the purposive sampling of the school and teachers selected. Since the study was limited to an inclusion team of 6th grade teachers whose assigned students took the Virginia Standards of Learning reading and math tests at the end of the 5th grade in a suburban

school community the study should not be generalized to students in other localities.

I am currently the Assistant Superintendent for Instruction for Stafford County Schools. As such, I have neither the authority to evaluate, nor to affect the performance evaluation of any teachers. Although I do not evaluate nor have direct responsibility for these teachers, the position of Assistant Superintendent may be viewed as a position of authority and may have influenced their willingness to participate. The teachers who volunteered to participate in this study were under no more obligation to accept my opinions and suggestions in the planning process than to accept those of their own team members.

The Journey Begins…

And so as the saying goes with its adaptation —"excellence is a journey, not a destination" so is this study of how teachers began to plan for student success using a process of curriculum mapping.

CHAPTER THREE
DATA ANALYSIS

While looking for a focus of the "how" teachers begin to plan for instructional success for all of their assigned students using a curriculum mapping process, I was able to become a learner/team member with the participating teachers by using the action research model. Each meeting, each observation and the free discussion with the team at a professional conference (Virginia Association for Supervision and Curriculum Development) were learning experiences for me.

The teachers who volunteered for participation in the study were comfortable with the action research design as it gave them an opportunity to work with me on a relatively new project, as opposed to an observer-only model where I would have just watched and documented (even if in a variety of ways) their actions. The fit of these teachers and the research model was like the proverbial "hand and glove". The exit interview supplemented the ongoing reflections of the team. The teachers regularly discussed the curriculum as determined by the Virginia Standards of Learning (SOLs), the planning of instructional units, which included student expectations within each of the units; the focus on meeting individual needs of students; along with their excitement about the action research process and what they decided it provided them.

This chapter reveals the analysis of data. The data were examined using a qualitative software tool (QSR NUD*IST). The themes and genera of teacher planning are conceptually illustrated in Figure 4. The transcriptions of the planning meetings and the scripts of the classroom observations were

collected into node files. Each node represented the major themes and categories. The nodes were reviewed and edited to arrive at the framework for the emergent themes with their anchoring categories.

To protect the identity of students and teachers participating in the study, the names reported in this document are pseudonyms. Participating teachers are referred as Teacher A, Teacher B and Teacher C.

The First Three Weeks

The first planning meeting begins when Teacher C comes back from escorting the students to their electives. The meeting is an articulation of how the teachers see the school year in terms of curriculum and standards, skills and strategies to ensure individual student success. The three teachers and I spend their planning time discussing several issues: learning style inventories, individual profiles and group summaries. All three teachers take turns sharing information, their opinions and their plans. We also talk about the descriptions of the learning style areas.

The teachers and I discuss their curriculum map and how they will develop their unit maps. They decide to use backward planning or "backloading"(English, 1992) where they begin with the SOL objectives and move backwards to determine the curriculum. The teachers do not refer to the planning method as backward planning or "backloading" until I remind them about the research. They are comfortable with the process.

The teachers decide to look at the Standards of Learning (SOLs) and determine the student expectations and the essential questions to be answered. The teachers create a visual course map for each of the four core

subjects: language arts, math, science and social studies. They discuss how they will design the unit schedule.

We discuss the modality preferences of the students and list specific instructional strategies that they want students to learn and to use on a regular basis (timelines for history, word walls, transition time skills, highlighting information, agendas, student reflection, visualization, thinking portfolio, test taking skills and graphic organizers).

The teachers discuss a routine of " writing and thinking and calming down in order to focus." The teachers pull me back into the discussion as the topic turns to assessments. We discuss their informal assessments for reading, writing and spelling. The teachers share their ideas about semester assessments (Jacobs, 1994). We discuss a book by Rita and Ken Dunn on planning instruction based on learning style preferences (Dunn & Dunn, 1993). They decide that they would like to have a large kinesthetic map.

The teachers analyze the content of the unit (Jacobs, 1994). The math unit is number sense. They create a unit map. The science unit answers the bigger picture question: How has the science community assisted in improving the everyday life of Americans? The teachers finish the 5th grade social studies content of the Civil War and develop the unit "America Divided." The language arts unit focuses on the essential question for the students of, "How can I be a successful member of the penguin team?" (See Appendix A for course and unit maps.)

The teachers decide to integrate the social studies and reading curriculum. The plan for reading includes the sequence of reading about the Civil War. They will use the TRIM (University of Kansas, 1987) method for outlining. Teacher A and Teacher C explain the process to the other team teacher and me. The three teachers and I practice the strategy. We become

the learners. We analyze the strategy and the teachers decide they will teach the students to use it.

The teachers make their final plans for a field trip to a local Civil War battlefield. Teacher A leads the discussion of the scavenger hunt the team has created for the fieldtrip. They review with me about how middle school students need structure, activities and guidance on fieldtrips, just as they do within the classroom. They discuss the possibility of having the students create the next scavenger hunt and what thinking processes will need to be cultivated for that endeavor.

Before the team shifts from the planning and implementation (taking actions) they decide to discuss the evaluation of what their mapping and planning had produced. I see the synergy of the group in their collective problem solving. My field notes indicate that, as expected, this team is able to move in and through different phases of the action research process simultaneously demonstrated by the targeting of another focus area: improvement of basic math skills. The team uses the archival (Calhoun, 1994) data from the 5th grade SOL math tests to determine that 80% of the students had failed the test. Teacher B and Teacher C voice their perceptions of the students' skills based on their daily classroom assessments, assignments and discussions. The team decides to use: the SMART STARTERS as skill reinforcers, to have basic skill drills during the instructional day and to test the children regularly on the skills as short-term action and to plan for long term action in the next few weeks (Calhoun 1994).

The team uses the remaining time available for planning examining the curriculum map and designing the next unit topic—penguins. My field notes reflect my observation that it is interesting that the team is able to

create a unit of study appropriately placed within the main unit and content standards to explore the animals for which the team was named. I mention my view to the teachers. They explain that they feel it gives the students an understandable identity while providing a connection into the curricular areas. Teacher B details, "There will be many experiments in this unit. It should take us about five weeks from beginning to end. We can integrate the four core subjects of reading/language arts, math, science and social studies in the unit," (planning meeting September 16).

The 2nd Three Weeks

The first planning session of this time frame begins with a discussion among the teachers and an explanation of the content to me – the spelling lists being used by the sixth, seventh and eight grade teams ensure that all students will be exposed to the same spelling patterns and list of common spelling words during the three years at the middle school. Teacher A continues with her explanation,

> "And then each week we do them making big words. She's (referring to Teacher C) in charge of the strategies for spelling. We use them in the students' writing and reading of the four core subjects, spiraling as each unit is developed after she has pretaught the words and shown the kids the patterns," (planning meeting, October 15).

The teachers create an instructional block schedule. They share their feelings of empowerment with me, (researcher's field notes, p. 19). They can change the schedule within their team to meet the needs of their students. They can do this on a daily, weekly or, if they choose, on a grading period or

semester basis. Although one of benefits of the middle school teaming concept (George, 1997) is the flexibility of scheduling the core subjects, it has been my experience not many teachers stray from the traditional forty-five (45) minute periods on a regular basis. Harris (1998) found, in studying middle schools in Virginia, that principals reported teachers rarely change schedules even when teachers have the flexibility to change the schedule of their assigned students. Harris also concluded that when teachers use flexible scheduling, it is a practice used more by sixth grade and that its use decreases from sixth to eighth grade.

The team members explain their feelings regarding extended learning time for students and the focus of two core subjects per day instead the four core subjects per day. The teachers discuss the block schedule for the following week, "Tuesday is social studies and science; Wednesday is language arts; Thursday is social studies and science and Friday is language arts/math," (planning meeting, October 15).

The planning session covers many topics. One of the most prevalent is the individual personal information and personal instructional strategies. Teacher C starts with, "I know Joe's putting everything in his brainwork folder except his brainwork. I don't know where it's going. So mom sent us a note. Let's try a different organization for his notebook—with tabs." She continues, relaying information of a phone call from another parent:

> Darlene's mom said she is really happy. Darlene did her spelling, math homework and studied. She only has social studies to finish. She was so happy this afternoon when she had a manageable amount of homework. She rode her bike for about 25 minutes with a 7th grade neighbor. What a difference. 'Thank you,' (planning meeting, October 15).

She finishes her comments with, “I’ve got to call Bret’s mother. He is falling through the cracks and I asked him yesterday if his mom was checking his notebook and helping him. He said, ‘ Not really. She’s always tired,’ ” (planning meeting, October 15).

The team reviews the grades of all of the students. A specific student’s progress is discussed. Teacher B proudly states,

> Now he’s performing very well in math, academically. He’s made an 80, 90 and 100 on tests and quizzes. His projects are A’s and B’s. He’s only missed one assignment in math. Now his science quiz was an 85; it has more language in it. The counselor says we should push to have him identified as ESL. Do you see that? I don’t either. He mainly requires more days or he has to reflect on something that has been put in his folder or binder (planning meeting, October 15).

The incorporation of student reflection permeates the planning session, the unit maps and the teacher lesson plans. Teacher instructions to students are noted in the lesson plan books.

> Write down how difficult you felt the last list of spelling words were and why; write down at least five ways that your September writing sample will show off the best of your abilities; on a scale from 1 to 5, with 1=lowest and 5=highest, explain how you would rate your spelling ability AND write down why you use or do not use spelling strategies (lesson plan book, page 5).

Report cards go home during this time frame. The grade distribution is summarized here.

Table 6. Summary of Grade Distribution

Subject	A+	A	B+	B	C+	C	D+	D	F
Language Arts	0	1	4	8	3	2	2	1	0
Language Arts	1	8	1	6	5	0	0	0	0
Social Studies A	0	3	4	7	1	6	0	0	0
Social Studies B	5	2	2	4	2	5	1	0	0
Math A	0	9	7	2	2	1	0	0	0
Math B	0	4	10	3	2	3	0	0	0
Science A	0	4	4	6	3	3	1	0	0
Science B	0	7	5	4	2	1	0	0	0

After the First Report Card

The next two planning sessions are different from each other in focus. The first of the planning sessions, although short in duration, is filled with informal analysis and interpretation of the data at hand. The teachers analyze the rate of parent participation in parent/teacher conferences—95% so far with Teacher A volunteering, "We're meeting with them (the two non-participating parents) coming up," (planning meeting, November 12). The teachers discuss the parent conferences and decide to send all parents another reminder of the Wednesday newsletters. They want to stress the

strategy of "putting the note on the fridge" for parents. They will emphasize parent review and required signature on the maps.

Continuing with the session, organizational skills are discussed. The teachers indicate that they have been successful in assisting their students in organizing which information to keep. Teacher C explains,

> They took all of their stuff on the Civil War and Reconstruction and the kids had a folder (used their own folders, and then we gave out manila folders to the kids that didn't) and I wrote on the front -- DO NOT THROW AWAY or KEEP FOR END OF YEAR. We want them to get into the habit for 7th and 8th grade where they will have midterms and finals, not to mention the SOLs (planning meeting, November 12).

The teachers analyze the assessments (an oral quiz and tactile activity where children have had to create a flipbook poster that displays their understanding of the content they have studied on the scientific method. The teachers review the student responses and grades on both. The Civil War assessments (comprehensive test on major concepts studied and a learner-centered performance assessment--student reflection) are also discussed and the grades are analyzed. The teachers discuss the importance of feedback to students and parents. The teachers plan the feedback to students in the form of classroom discussion with a rubric. The teachers plan to send the Civil War tests home for students to discuss with their parents. They expect parents to sign indicating they have seen and discussed the tests with their children.

The second planning meeting of this time frame is one focused on personal student information, coupled with matching the purchase of trade

books in the content areas to the curriculum map. I note in my field notes that the teachers are looking at the "whole child." Teacher C describes her encounter with a student in lunch detention.

> Mickey shared a tremendous amount of information about his family at lunch detention. He explained his family structure—two older siblings from a different father; he and his brother are children of the father that lives with him now; and there is a baby brother who lives with his own father in Lake Caroline. His mom gets to see him one or twice a year. He tells me that his family isn't so good at school stuff -- his older sister had to quit school because she got pregnant. She wants to get her GED. His other sister does okay in school and his brother makes B's and C's. They want to make his baby brother stay back in 2nd grade and he finishes his details to me with, 'I make D's and F's,' (planning meeting, November 19).

The team discusses the information and sets a plan of action to encourage the student to use his knowledge. Teacher B shares her thoughts.

> He shined yesterday in science. He was so into the conversation of topography and the effects of diverse surface areas, diverse populations of plants and animals. He was right on it, just right on it. He really has a lot of knowledge; it's just so difficult putting it on paper (planning meeting, November 19).

The teachers end this planning meeting with the final decision of what materials they need. They review their map for the next units.

The 3rd Six Weeks

The team invites me to participate in two planning meetings. The first begins with my validation of the team and its work with planning. I compliment the teachers about their collaborative planning. Teacher B responds with the peer support statement of "And we're evolving; that what I think is so neat about it. We're all open. Barbara taught me some things and I looked at it and said, 'Well, that makes more sense. I think I'll incorporate that,' " (planning meeting, December 15).

Instructional strategies learned at the VASCD conference are reviewed by each of the teachers. Infused within the verbal descriptions of the presentations are the teacher comments about how the presenters seem to have the same set of priorities for assisting students to meet the standards as the team does — with consideration of the "whole child"- emotionally, psychologically, environmentally, psychologically and sociologically. Teacher C starts in mid sentence.

> As she was going over it, I was putting our kids in these little categories. They use their senses and thinking processes. They are active. They are concrete, where most of your gifted kids fall—analytical and critical thinkers. Then the artistic, beauty-seekers, creative are your very intuitive kids. I really liked that she used this for big ideas and that it was pneumatic across the curriculum. The man, he talked about the basic psychological needs and resilience (planning meeting, December 15).

Teacher C drifts into another description of a presentation she attended with a confirmation of the team goal—meeting individual learning needs.

> This is the woman who said that when we start looking at our at-risk kids that we need to focus more on how some of them are succeeding and pull some of those things into target towards the kids who are not successful—that's a powerful statement (planning meeting, December 15).

The planning meeting continues with a discussion of Teacher C's pride in the students' internalization of the learning strategies the students have been working with since the beginning of the year. She explains that yesterday one of the students confidently said, "Why don't you put it in your long term memory?" The teacher discussion continues,

> That tells me right now they are listening when we're saying, these are the things you do to put it in your long term memory; you know you don't cram for a test the night before; you study 15-20 minutes over a period of 5 or 6 days; you quiz other people (planning meeting, December 15; researcher's field notes, p. 38).

Teacher C who has described the snippet responds to the others' comments about the students helping her in science with, "Oh, I'm sure. They will be giving me all kinds of strategies probably about how to remember stuff. But you know what, that's okay, because they learn; the more they teach the more they learn," (planning meeting, December 15).

This planning meeting ends with Teacher B explaining her discussion with a presenter at a regional conference on the SOLs. She details the presenter's conversation with her and his explanation of how his county has

"ongoing research." She explains his interpretation of their research process. Both of the other teachers in unison respond with, "So they're doing action research," (planning meeting, December 15).

The next planning meeting starts with Teacher C commenting on her reflection log. "I want to put the kinesthetic math lesson in the book. It's multiplication, right? It was three digit by two digit." Teacher B responds by describing how she would use a larger room for more kinesthetic activities with her students. "That's when I would like to have Lucille's* room, so I could do this." Teacher C continues. "So you could move. Yes, think what you could do. You could have centers set up everywhere. Wouldn't that be wonderful?" (planning meeting, January 14).

The discussion continues regarding the construction of new schools and how teachers and specialists need to be involved in the design of the school based on instruction. The teachers agree that the new high school that they visited the previous week for a meeting of staff relocating to the new middle school now under construction seems to demonstrate sound construction built on educational precepts. I explain the process of construction of new schools in Stafford County. They understand the complex process that utilizes the expertise of a committee, including educators. Teacher B volunteers to work on any new construction committee in the future.

A short discussion ensues regarding the "Immigration Simulation" that the children participated in the day before. The teachers identify the essential questions and the skills the students have been able to demonstrate with the simulation. They seem to pride themselves on the authentic assessments that have allowed the students to "construct meaning in what they read, wrote and created" (Lambert & McCombs, 1998, p. 206).

Reflection sheets, family tree posters, an immigration case study creation and review, journal writing, the reading and discussion of immigrant letters and student identification of their specific and personal role in the simulation are examples the teachers discuss as allowing students' internalization of concepts before participation in the culminating immigration simulation activity.

The teachers finish their discussion of the unit reviewing the remaining activities of the unit – simulation journals, watching and reflecting on the simulation, a teacher presentation of her family story, a traditional assessment of a quiz and the completion of a teacher read trade book.

The remainder of this planning session is spent discussing the next social studies unit, Urbanization and Industrialization, and how it will correlate with the other core subject areas. The team reviews the "big idea" and the essential questions of the unit. Assessments for the unit are discussed. The visual maps are designed.

Planning for the Presentation

The Supervisor of Reading and Language Arts informs the teachers and me that our proposal for the International Reading Association Literacy Forum has been accepted. We will be presenting "Reading Through the Contents." We meet to plan for the presentation. Mapping, learning styles and research, literacy applications in the classroom and collaborative supports will be our focus areas to share. Teacher A confirms the format of the presentation; "We were going to choose one thing from each of those headings that kind of relates to literacy and to reading," (planning meeting,

January 6). The team plans exactly who will present which information at the forum. The agenda is reviewed, as is the handout packet for the audience. The team discusses the connection between what the audience will receive in their forum packet and what they will receive in handouts at the presentation. A check for emphasis is made. The team is ready to present. A final review will be held the week of the forum to review the power-point presentation and handouts. (See Appendix C)

Action Research Analysis

The team of teachers identified three cycles or focus areas: understanding the learning style preferences, parent communication and instructional strategies. The team felt these three areas were the areas they wanted to examine their practices and to identify ways to improve those practices to benefit students. As the teachers examined the focus areas, they moved through the defined phases of action research.

The teachers in this study were committed to using the action research model. They agreed that by using the action research they would be able to observe their own actions and perhaps improve their practices. Over time the study documented the move from a group of isolated teachers teaching on a team, to a group of teachers who planned their instruction and reflected on their practices. Documenting the changes in the team and observing the effects of their decisions are recorded here. The teachers used the action research model of Calhoun (1994) consisting of data collection, planning, implementing and reflection which takes its essence from the model presented by Kemmis and McTaggert, 1988 and the four components of planning, enacting, observing the plan and reflection.

The teachers chose three areas to focus on in their action research journey—understanding the individual needs of the students, parent communication and instructional strategies. The three areas were interwoven with their planning. The team kept abreast of the areas of focus with conversation and discussion. The focus areas the teachers chose seemed to be, at times, the subconscious level of planning—the how of what the teachers were using in their planning, the core of their teaching practices. The action research areas could be considered the framework of the study. Without this documentation, the action research cycles were transparent within the planning of the teachers. The teachers were found to utilize action research without having to consciously be aware of which phase of the research model they were in.

Cycle One: Understanding the Individual Needs of Students

The teachers wanted to start the year with information about each of their students. The team had prior experiences with the concept of learning styles. They had participated in different staff development seminars and workshops individually over the last several years that focused on differienation of instruction. In team meetings they would focus on the learning style preferences of their students. The teachers set out in a quest to plan for their students so that all of them would be successful. There was discussion of how knowing more about their students' learning style preferences; the teachers could plan more efficiently. The teachers considered themselves knowledgeable at a rudimentary level in the area of learning styles. The teachers discussed how they would gather additional information and, began their data collection.

The combination of general education and special education teachers on this team created a natural professional support team among the teachers. Their planning started with a short lesson on diversity. Within the lesson they provided the students information about how they learn and allowed the students to answer a few questions about themselves. The teachers explained what the answers meant to the students and helped them understand whether the students had chosen a visual, auditory, kinesthetic or tactile modality. They shared a visual diagram of the modalities with the students.

The teachers continued to seek information regarding the students and their learning style preferences. The ME t-shirt activity which is described in the observation section allowed the students to visually depict their learning style preferences while sharing additional personal information about themselves.

The teachers realized in their discussions that they had more to learn about learning style preferences and about brain-based education. They wanted to have the students understand their own learning style preferences and they wanted to have the students feel comfortable with the way they (the students) preferred to learn.

The teachers already had an outline of the unit and the three main activities for the unit—the modality preference sheet, the ME t-shirt activity and the partner-introduction activity. As the teachers began to examine this focus area, they collected additional data by examining the fifth grade standards of learning test results and student grades from fifth grade. As the teachers discussed the individual students they felt that they needed more information to plan appropriately for the students.

As they began to plan for instruction they decided that they could use the Dunn and Dunn Learning Style Inventory (LSI) (Dunn, Dunn and Price, 1997). They implemented the administration of the learning style inventory by having the classes go to the computer lab and complete the inventory on line. I facilitated the return of the information to the company and waited, with the team, as the individual and group profiles were developed by the company.

At the same time as the implementation of the learning style inventory, the teachers discussed at their planning meeting how they could increase their knowledge base on learning styles and brain-based instructional techniques and strategies. The teachers asked to attend the ASCD (Association for Supervision and Curriculum Development) conference in Williamsburg. Since the conference would not take place until December, the teachers spent time prior to that researching and gaining new knowledge in the learning styles arena.

The teachers reflected on what they had learned about their students and made sure that they were including the learning style preferences of the students in assignments. The teachers often offered choices in the student assignments based on learning style varieties.

At each meeting, the teachers made references to learning style preferences of individual students. Discussion included the identification and revalidation of each the learning style preferences. Examples of success on certain assignments were highlighted.

The teachers went back into the data-gathering phase of cycle one with the expansion of the results of the computer generated learning style inventory. They discussed with the students what the individual profiles

meant and how the students now had a tool for understanding their own learning style. They emphasized sharing the information with parents.

As the study ended, the teachers told the researcher that they had decided that they would need more skills in delivering learning style and brain based teaching to their students. They were experiencing a benefit of action research—where teachers can feel comfortable in identifying professional development for themselves based on their own research (Calhoun, 1994). As they reflected, the teachers questioned their own practices.

The teachers were already beginning to see that the phases of action research are not neat and concise, but rather fluid and intermingling (Noffke, 1995). They commented that they were comfortable with the fluidness of the phases. The teachers understood the collaborative nature of the process and their own intuitive judgments and actions tallied with Noffke's descriptions of "education always being partially correct and partially in need of revision" (p. 5).

Cycle Two—Parent Communication

This cycle began shortly after cycle one where the teachers had focused on individual learning styles. Parent communication was an area that the teachers felt strongly should be an integral part of their practice. The teachers informally discussed last year's parent communication and involvement. They felt it important to make sure every parent was informed, felt comfortable with communicating with them on a regular basis and would work with their children at home.

The teachers examined the three types of information they would share with parents: school, classroom and personal (student). They planned how they would support the dissemination of school information. They planned to inform parents of the classroom routines, the philosophy of the team and their responsibilities as teachers. The teachers also decided how to inform parents of the instructional direction and content to be covered in the classroom. The teachers planned both a presentation for "Back to School – Open House Night" as well as regular home communication notes.

The implementation phase of this cycle produced the presentation. The teachers explained to parents the idea of diversity, how each student would be successful throughout the year, how students would be informed of the content they would be studying and how the visual curriculum maps the teachers had created would assist parent-student-teacher communication. The teachers stressed the responsibilities of the parents and students in reviewing the curriculum maps.

The teachers discussed the parents' return of the curriculum maps at almost every planning session where the unit of study is beginning. They observed how many parents had not returned the maps and made plans to contact each of them individually. They felt that they needed a 100% return for them to consider this plan to be effective.

The teachers also discussed the parent-teacher conferences during this cycle. In planning ahead for the conferences, they made specific calls home to encourage parents to attend. After meeting with the parents, they tallied how many parents participated in the conferences. All but two parents participated, giving a participation rate of 95%. They made arrangements to contact the remaining two parents. They provided several opportunities for these parents to participate, even before and after school hours, and if

necessary, by phone conferences. They discussed among themselves the fact that although they had what they considered as a good turnout for the conferences, that each individual student's parent(s) also needed to have a face-to-face conference with them at the beginning of the year. The teachers indicated that they feel strongly that the road to success for all their students include the participation of their parents. They eventually met with the remaining two parents, taking parent participation in the conferences to 100%.

The teachers insisted that the students mark on their daily schedules when they need to take the curriculum maps home and when the maps were due back to school. The teachers explained to the students that the curriculum maps, with the Standards of Learning listed on the back, would be discussed in class each time, before the students took them home. The teachers explained to the students that they must understand the maps in order to discuss and explain the plan to their parents.

The teachers did not formally discuss the plan to communicate with parents about personal information regarding the students (i.e. homework completion, social situations, anxieties, behavior, etc.). Specific students were discussed in each of the planning sessions with the team decision of what information would be shared with the parent and which of the teachers would make the communication.

Cycle Three—Instructional Strategies

In cycle three the teachers began to assess students' progress and how they would take them to mastery of the standards. They investigated the use of individual and classroom strategies. The teachers realized that although

the other two cycles were important, the bulk of how they will help students to be successful would lie within the instructional strategies cycle.

As the teachers collected data in this cycle they asked two questions, " What are the learning style preferences of the individual students?" and "What exactly do the students need to know or be able to do at the end of each unit?"

The teachers tackled this cycle within the planning meetings, but also on a continual basis through informal discussions and talks. One teacher kept a running log of all of the individual and classroom strategies that the teachers planned to use and for which units. The teacher lesson plans and the curriculum maps often corroborated the information.

The implementation of specific strategies and by whom (Would it be the Teacher B in science, or Teacher A in social studies, or Teacher C in small group instruction?) were discussed at length on a regular basis. My field notes indicate that the teachers planned for instruction using the content and the learning preferences of the individual students, but most importantly the strategies they would use to secure mastery (researcher's field notes page 32).

The teachers stressed the point that students not only needed to use the strategies, but also needed to build on their competence by chaining or linking the strategies. The implementation phase of this cycle included student discussion about which strategies were most appropriate for which task.

The teachers used reflection at the planning meetings and in their journal on how they felt the strategies worked with the specific content and skills to be learned. The reflection journal was a group reflection journal that

was used as a team activity with one of the teachers acting as the recorder for the group.

The teachers used the reflection information as a starting point for the next set of strategies to be developed. Each team member, including the researcher, shared ideas and suggestions for strategies. The team agreed on what the sequence of strategies would be. They discussed the familiarity of the special education and general education students with each strategy. They planned on how to introduce and support a strategy that was new to any student. They used grouping to teach or re-teach specific strategies.

CHAPTER FOUR
THE REFLECTIVE PROCESS

The actions of three 6th grade teachers in their planning of instruction using a curriculum-mapping format was the focus of this study. The team, recognized as a collaborative team with two general education teachers and a special educator, worked together with each other and with me as the researcher to plan instruction for their combined team enrollment of forty-seven (47) students.

The teachers, all with different educational backgrounds, personal biases and instructional foci, worked as a united group when planning for the success of their students. The teamwork was literally obvious, quickly after entering the classrooms or observing their interactions with each other. Their educational philosophies, although somewhat different, focused on the uniqueness of students. "She came to us with concerns and her name is Erin and she was on a regular team and she needed to be on an inclusion team." The general education teachers on the team "have become more like the special educator," (Teacher C, exit interview transcript) focusing on the specific learning style preferences of their students and their successes in mastering the content.

The teachers agreed to participate in the action research model. I provided a training session regarding the process of action research, how our study would look, what my role(s) would be and when those roles would change. They were intrigued that the planning process using the mapping concept would be documented. As the project progressed, any additional information about the process was discussed at the request of the teachers

The Exit Interview

The reflective process for the teachers and me was ongoing throughout the study; the culmination was an exit interview with each teacher. The teachers were asked four questions:

1.What are your overall perceptions of the process?

2. What do you think you have gained by using the process?

3. What do you think your students have gained by the process?

4. What do you think a school could gain from this process?

Following are the teachers' reflections. Answering the question "What are your overall perceptions of the process?" the teachers' perceptions of the process differed somewhat. Teacher A saw the process as a learning experience that forced her to think as a team member and not as an isolated teacher. She viewed the administration of the Learning Styles Inventory (Dunn, Dunn & Price, 1997) as her "starting point" as she explained that until the team "had the actual data in front of us, we weren't sure of what the kids were capable of doing," and "It made me think more, when doing plans." She used specific examples of the content discussions in the process and instructional strategies they had reviewed. The collaboration and professional support from the team members has helped her think through the curriculum map and the planning process as she reflected, "It helps you because you only see a small part until you work with other people," (Teacher A reflection, p. 1).

Teacher C explicitly detailed how the process has helped her in making instructional decisions to meet the diverse needs of the learners.

> It made me be more cognizant of the various learning styles in our classroom. It made me realize to be as effective as you

> possibly can—you need to really have to: review the curriculum, discuss various ways to teach different concepts, come up with different ideas to address the learning styles, assess if they worked or not and then come up with different activities or approaches to address a different learning style preference for re-teaching (Teacher C reflection, p. 1).

Teacher C's discourse continued as she indicated that she realizes that in order to be effective in helping all children to succeed,

> You must put the time and effort into planning and research and getting down to getting your hands in the dirt and really making it not only an effort. It's a determination that you are going to do this. You have to be flexible; you have to communicate; you have to be a researcher; and you have to have a sense of humor. You absolutely have to have a sense of humor (Teacher C reflection, p. 1).

Teacher B explained the process as being natural to her. "I am a science teacher. I am a discoverer. I think that if educators did this more often in this setting versus professional development seminars we could grow collectively." She continued,

> I have to process think my thinking to validate my thinking. I just can't accept anything black and white; I have to listen to others, other perspectives; I have to see how we interact with each other and how I learn from others of how we might teach a concept differently, and the process itself does that (Teacher B reflection, p. 1).

The teachers identified the additional knowledge they felt they had gained in understanding learning style preferences. They all saw this

knowledge as a significant benefit in working through the curriculum map in planning for success of all students. They expressed a thirst for additional training in learning styles. They created their own agenda for staff development in designing learning activities in the content areas using the learning style concept. They planned to use the agenda to share with staff at their middle school staff development workshops.

Teacher A shared that the process "forced us to work together, and that's excellent. We try to plan together as much as possible, but the processes made us do research (described by her as looking at the learning styles of these students and matching it to the assessment plan for the specific unit)." She explained that the process demanded that they come to the planning meetings ready to determine what to teach, how to teach and how to assess the student mastery (Teacher A reflection, p. 2). All the teachers agreed that the process "forced us to work together" for students. Teacher A detailed the team working together with their newly acquired knowledge of students and their established content knowledge in making decisions for planning.

Teacher C described the benefits of the process for her with " I think this experience has made me a better teacher, that it has rejuvenated me,"(Teacher C reflection, p. 4). She relayed a new understanding of the time and effort that general education teachers put into planning for students. She agreed that the team has always planned, but the action research process has allowed her to become a more active member in the planning process. She saw herself fortunate to see the commitment with which the teachers plan now, not for a class, but for a class of individuals.

Teacher B explained that she "loves this kind of planning because I am a verbal learner. I like to talk and share. I also like to see and to be part

of whatever is going on," (Teacher B reflection, p. 1). She described herself as needing a team with teachers who work together (in her words, "intra rather than inter"). She indicated that she needs to work in a community concept with the teachers, students and parents.

Teacher C emphasized, "I see the benefits of communication between and among the members of the team," (Teacher C reflection, p.4). She wanted to encourage other teachers to use the action research model in planning for their students. She "envisions down the road us being able to do some sort of presentation," (Teacher C reflection, p. 4). She knows that the communication focus has become a crucial gain for her.

In reflecting on the question "What do you think your students have gained from the process?" Teacher A began her explanation,

> I think that our students have gained because we're more confident in presenting. We can say to the students this is what you are going to learn and this is why you are going to learn it. You can see how it pertains to you as an individual, not as a member of a group, but as an individual (Teacher A reflection, p. 2).

After a few minutes of reflection during the exit interview Teacher B more emphatically stated,

> I believe the unit map and the type of processing helps kids who just have the big idea of something get the details and have kind of a stage to sit on to start learning. You can't go in the world without a map of some kind, so I can't see giving a kid a journey of education, in my setting, without some kind of map (Teacher B reflection, p.2).

Teacher B continued with her thoughts. She again saw the benefits of the ease at which children and teachers can move along in the mapping process. " I think the process acknowledges diversity. The kids find out everyone is different and that's okay. The other thing curriculum mapping does is that it allows you to set your expectations high for everyone. It's a great public relations thing," (Teacher B reflection, p. 2).

The importance of the maps to the teachers, students and parents was highlighted in Teacher C's response.

> We have a lot of global learners on our team. I find that using the unit maps that we use with them, if we frontload them right in the beginning, they get the big picture. They know what they need to learn. They can refer to the big questions at the bottom of the map. I think it gives them a comfort level. We share those maps with parents. The maps go home with the children with the SOLs listed on the back. The parents have to sign that they have looked over the map and that they know what the children will be studying (Teacher C reflection, p. 3).

"What do you think a school could gain from this process?" brought similar responses from the teachers. All three of the teachers are scheduled to teach at the new middle school opening September 2000. They do not know their exact assignments yet. Teacher A spoke of using the Learning Style Inventory for all students at the beginning of the school year. She described how teachers could use the information as the staff, "spirals the curriculum as a group," (Teacher A reflection, p. 3).

She continued,

> I could go back and look at a child's progress and make decisions based on learning style preferences. Just think if

> everyone looked at mapping and the action research process as a group. What phenomenal result you could achieve with kids. Parents, teachers and kids would all be on the same page (Teacher A reflection, p.4).

When posed with the question, Teacher B immediately addressed the communication avenue available when using curriculum mapping with an entire school.

> First of all, I think of consistency in language as an ultimate tool for children and adults. The more children hear the same language, the more it becomes a recognized pattern. As a math teacher I see that kids thrive on finding patterns. It organizes their thoughts. If the children see that 6th grade is not an isolated grade, but part of the total middle school learning environment, they connect better. They see more reasons for the work they do (Teacher B reflection, p. 3).

She continued with her views on a community of teachers and the fit within the entire learning community.

> Action research would be one way that teachers could feel a part of the decision making in a school. It wouldn't just be lip service, but actually allowing them to make the instructional decisions on what, how and when to teach concepts. They could see the connections. Instead of looking at using the mapping process as a state mandate, they could see it as, 'How can I contribute to be a part of the success of a child?' It's important to see the 6, 7 and 8th grade connections too (Teacher B reflection, p. 4).

Teacher C also focused on communication, but she went directly to "building a better community," (Teacher C reflection, p. 3). She detailed the importance of having a staff that has a plan. Teacher C echoed the reflection of Teacher B and the classroom community of teachers and learners. She stressed the foundation of skills and knowledge as a continuum. Teacher C explained, "It is so easy to be fragmented from grade to grade." She saw the process of curriculum mapping as a solution to fragmented instruction. She ended her thoughts saying, "If they approach it the same way, then you would have an entire school where everybody is pretty sure what's going on. And I think that would be amazing," (Teacher C reflection, pp. 3-4).

Researcher's Exit Interview

As a member-learner of the group I answered the same four questions asked of each of the three teachers in the exit interview. My responses provide my reflections on the study.

As I reflected on the first question my perceptions branched into the two underlying topics of the process---curriculum mapping and action research. In curriculum mapping I have come to a renewed understanding of how the teachers plan for instruction using curriculum mapping. I observed the teachers using information including the content, the skills, the assessment of each of the curriculum topics, but also the archival information of grades and SOL scores. I was surprised at the depth of the process they used in creating the maps. I watched as they planned instruction based on the individual needs of the students. I saw how they took the seed of using curriculum mapping to plan instruction that was sown in a district-wide workshop and have watered it and nurtured it into the basis for their planning. I have watched them take the concept of curriculum

mapping and create an authentic demonstration of their understanding of the concept.

The second prong of my perceptions of the process addressed action research. I, like the teachers, also saw action research as a viable tool for teachers to use in examining their own practices. I agreed with the teachers that if the implementation of action research on a larger scale, for example, for an entire grade level, content level, or entire school, is to be considered the initiation of the process and the focus needs to be identified by the teachers.

These teachers are still novices in action research process, but they have the fortitude to continue to learn and to focus on identified areas for improvement using the model. I believe that by using action research the teachers will be empowered to make their own decisions based on their own examination of their practices. I have seen firsthand the product of their use of action research.

As the researcher I have gained an understanding of how three teachers found the concept of mapping their instruction to be a valuable way to plan for student success. They have embraced mapping as a tool and have felt comfortable in manipulating to fit their own learning and teaching styles.

I also have gained a remarkable insight on how the team thinks and works through the planning of their instruction. I have been able to look through the lens of the teachers' perspectives. I have been able to witness how student success excites them, how they plan to meet the diverse needs of their students and how they use information to improve their practices. I have been privy to their thoughts of how to pace their instruction for the students in their charge.

One factor that I did not anticipate in the study was my verbal validation needed by the teachers in their decisions for instruction. These teachers were all experienced teachers and had been team partners for several years prior to the study. They were well-respected teachers known for their success with students. They had shared information with each other for that time, however it seemed important that they share their plans with me. The teachers made conscious efforts to keep me informed on their planning decisions as well as the results of the assessments of the students.

When I met them outside the planning sessions, interviews, or observations, the teachers were quick to engage in professional conversation about the team, the students, or the action research model. One teacher kept up phone and note contact with me after the conclusion of the study, articulating what the team was working on and how the teachers planned on working the action research model and curriculum mapping into the instructional design of the new middle school. This teacher gave me updates of specific student progress, the units the team was focusing on and shared more student work.

I was able to witness and to become an active member in evaluating student learning styles and to plan for student success using that information. While observing the teachers working with students and parents I saw their priority of making sure both the students and parents were aware of different learning style preferences. With my experience as a special educator I delighted in the celebration of different learning styles.

I witnessed students who came into a team concept from elementary school and were immediately shown that “every child can learn, his/her own way, in his/her own time, but all can learn.” (Back to School Night—Open House Presentation). Students assigned to this team gained the benefits of

instruction based on their individual needs. Students were provided with meaningful instruction in the Standards of Learning content, while becoming aware of their own learning styles and the strategies to accomplish the tasks required.

I feel that the experience of working so closely with a group of teachers as they plan can be the beginning of a collaborative relationship that has the potential of creating a successful environment for school improvement.

My Reflections

As the study comes to a close, I reflected on the time I spent with a team of middle school teachers as they planned for the instruction of their assigned students. I saw three teachers who found the concept of mapping to be a workable, usable vehicle with which to plan. They suggested that the mapping process is merely a way for teachers (grade level, school, or in this case, team) to work together to agree on what, when and how instruction will be delivered.

Each time I was with the team, I saw them converse informally about what the students were learning and doing. They discussed informally and formally within the planning sessions how the students needed to demonstrate their mastery of content or skills. I saw that meeting the unique needs of each individual student while teaching the standards was a priority for the team. I saw respect of the different learning style preferences of the students, as well as the learning and teaching styles of their teammates.

The team underwent behavior changes from the first planning session to the last. My field notes (pages 3, 14, 36, 41 and 58) indicated my perception of how the team worked—Teacher B began as the "natural"

leader initiating the discussion at the first two planning sessions. She guided the others by sharing what the content would focus on in math and science. She emphasized the building blocks of science. As the team members worked through the remainder of the sessions, Teacher B relinquished the lead to both of the other teachers. Trust was evident. She did not demonstrate the need to control the team. She was willing to listen to the others, and at times, coaxed discussion from the other teachers. My impression was that Teacher B was applying her constructivist views in the team planning sessions. She also made an overt effort to support the feelings of the other two teachers.

Teacher A's role early in the planning sessions was one of cooperator. She listened to the other teachers and then usually added comments to theirs. She focused on where the students were on specific parts of the unit. She explained which activities the students would complete in her class. She was in charge of the field trips, as the team explained she was the "detail person." She took notes in her lesson plan book on items that were discussed in the team planning sessions.

Teacher A became more comfortable with me and the planning session format as evidenced in her sharing of more information as time elapsed. She made a point to have me understand the direction of the team. She explained how the content was connected both from unit to unit but also from one content area to another. She shared the expectations of the students on specific assignments. She was the pragmatist in the group.

Teacher C began the planning sessions as the expert in instructional strategies for the students identified as requiring special education. She spent the first two planning sessions working with specific students' folders and adding comments to the other teachers' discourse. She talked of the

personal learning styles of the special education students. Teacher A brought her into the discussion of the team, as she asked Teacher C to share her expertise on which strategy might work for her in working with a special education student in her class.

As times moved on, Teacher C began to initiate the discussion of instructional strategies for more students than just the special education students in the planning sessions. Although Teacher C was still organizing student work, folders and desks during the planning sessions, she was now leading some of the discussion about the activities, student expectations and the re-teaching of certain concepts or skills. She was the most knowledgeable regarding the personal situations of many of the students.

As part of her assigned duties, Teacher C supervised lunchtime detention. It was a time when she informally counseled students as they ate their lunch in a designated area of the cafeteria. She comfortably shared the information she had learned with the team. In addition, Teacher C became the scribe for the team recording their ideas, comments, and reactions in the team reflection journal. Team discussion continued throughout the study, where the teachers usually identified additional instructional strategies or parent communication goals in relationship to the discussed students.

Teacher C provided the team with humor. She initiated the comical interludes of the team. She could change the disposition of the team. Her humor often started a chain reaction of comedy.

The team evolved from my perspective. In the short time that I worked with the team, they changed. I surmise that from my initial facilitation of the process, along with the consistency of the planning meeting format, the teachers have become more focused as a group in their behaviors. They are now team-goal oriented. They are pleasant, supportive

and open with each other. I witnessed the team maturing from a group of teachers who work with each other, but seem to teach alone, to a team working in tandem with each other to ensure each student is successful and learns what is expected. I observed teachers handling their own teaching loads while working continuously on improving their teaching and student achievement a two-job concept as suggested Scott & Jaffe (1989).

As I reflected, I reminded myself frequently that even though the implementation stage of curriculum mapping can be a multi-year process these teachers had used the process effectively for a year. I am excited about the possibility that if the team continues to plan using the mapping concept while meeting the unique learning style preferences of students, the quality of instruction is likely to continue to improve. I understand that the empowerment to make decisions for student learning is critical to the process.

The teachers started the observed planning sessions with more focused oral review and discussion than they had when the study began. They have grown into a group that plans on paper, discusses the path of the instruction, identifies the evaluation of student mastery, analyzes data and works through the phases of action research with ease.

The teachers in this study can articulate the areas of focus for the team. They brainstormed what path to take in the instruction and what data they would collect during the implementation of the plan. They scrutinized the results of the instruction and examined their practices. They did not excuse any student for not achieving up to the expectation, nor did they blame the student. The teachers accepted responsibility for any student failure and accepted the challenge for individual success. Each unit, each activity and each assessment, including authentic assessment, were

connected to the next and an integral part of the map. (See Appendix D for student work.) The teachers planned for remediation, re-teaching or review.

My roles throughout the planning sessions were determined by the mood of the team. After the first few minutes of two planning sessions where we discussed action research and what my roles could be, I followed the lead from the team as to what would be the focus of the session. At times, I was able to interject and to facilitate the team in a decision or an articulation of the plan. There were times when I said very little or nothing at all, just observe and take field notes. There was not much need for me to take the lead role, or even to use guiding questions with the team, as the team had its own momentum to use the time they have together as a serious planning time.

The teachers boasted of the freedom they have at their school to make team decisions without pressure from the administration of the school. They told me, on at least two occasions, that they welcomed me into the planning sessions, as they did not feel intimidated by me, but rather comfortable in working with me. The teachers solicited my ideas, especially when they discussed mapping. I tendered instructional strategy ideas, some of which were accepted without manipulation, some of which underwent change before they were implemented with a specific student, group or class and some of which were replaced with another strategy agreed upon by the team.

I assisted the team in locating additional resources. The principal of this middle school was supportive of the team and provided materials or resources when he was approached. A portion of any planning session that highlighted the procurement of resources was spent discussing the use of the resources. If the team was satisfied with the use of a resource, they insisted that the resource be shared with the rest of the 6th grade teachers. If

additional resources were not available or could not be procured for the rest of the 6th grade teachers, the team offered to share their resources. In one situation the team requested that a purchased resource of taped books (textbooks and trade books) be made available to all of the 6th grade teachers, suggesting that school funds be used to purchase additional tape players for student use. They shared the taped books this year, with a proposal to expand the program to the 7th and 8th grades in the future.

As the teachers discussed the move to the new middle school for next year, they shared their ideas of planning for instruction. They discussed the process of mapping within the 6th grade (horizontal) and between the 6th, 7th and 8th grades (vertical).

CHAPTER FIVE

DISCUSSION, DISCOVERIES AND CONCLUSIONS

Discussion

This final chapter discusses the discoveries and conclusions found over a six-month study of teacher planning for students with a 6th grade collaborative team. The chapter addresses the discoveries and conclusions and their implications for teachers and administrators.

The seed for this exploration into the planning process of teachers working together in a collaborative team was sown after a district-wide workshop introduced the concept of curriculum mapping to middle school teachers. With the emphasis of the state standards and accountability testing, these middle school teachers began to incorporate curriculum mapping in their planning. It was the decision of the central office administration not to develop and disseminate curriculum maps for the instruction of the Standards of Learning content, but rather to encourage teachers and teams of teachers to plan for instruction by creating their own maps for instruction of their assigned students. This study is the documentation of that planning.

Guided by the research questions, "How does the planning process take place?" and "How does the planning process change?" the discoveries were identified. The discoveries were developed from observations, interviews, teacher created visual curriculum maps, teacher lesson plans, audio-taped planning meetings, the researcher's field notes, the team's reflection journal and a team review of student work.

Discoveries

As the data were collected, analyzed and interpreted, themes emerged in the quest for student achievement. Three major themes emerged, each filling itself with support from the research. The three themes: instructional design, student personal information and parent communication came forth in teacher planning. In the beginning stages of planning for student success using curriculum mapping, the three themes lay a foundation for the process.

Student achievement and the improvement of instruction were codependent. To illustrate the conceptualization of the discoveries, Figure 4 (p.98) provides a visual description of the planning process of the teachers in this study. Visually traveling from the center of the circle, the goal of student success and progress took the teachers and learners through the three major themes from which they planned: instructional design, parent communication and student personal information. Anchors, illustrated as the second and third layers of the diagram, supported the themes.

The three emerging themes are described here. Instructional design was defined with mapping, curriculum and instructional strategies by the planning team. The teachers charted their path for instruction. The teachers reviewed the essential questions and student expectations as they chart the calendar based topic units. They bore in mind the vertical and horizontal connections of the units.

Teacher and/or student created instructional strategies allow for knowledge development and skill building. The curriculum, whether written, taught or tested, was articulated in both vertical and horizontal planes.

Student personal information encompassed personal learning styles, personal information of individual students and personal instructional strategies. Personal learning styles specified the use of left or right brain activities; which modalities the child preferred to use and whether the preferred learning style of the student was considered as analytic or global in nature.

Personal information of students considered individual personal information in the form of student behaviors and student feelings, while supporting personal learning styles and the implementation of assignment or assessment modifications.

The teachers in this study saw the child as a whole. They honored and respect where the child had been and was currently psychologically, socially, emotionally, environmentally and physiologically. They communicated with parents and shared the journey of student success and progress. They expected results.

The themes emerged from observations, planning sessions, lesson plans, unit maps and interviews with the teachers. Each teacher maintained her identity while accepting another role, that of a team member willing to change or modify her instructional format to meet the needs of their students.

The teachers used the concept of curriculum mapping as a vehicle to reach all students. Massaging the individual preferences of themselves and of their colleagues, the team members were able to provide each other with professional support that goes beyond the perceived typical team planning time.

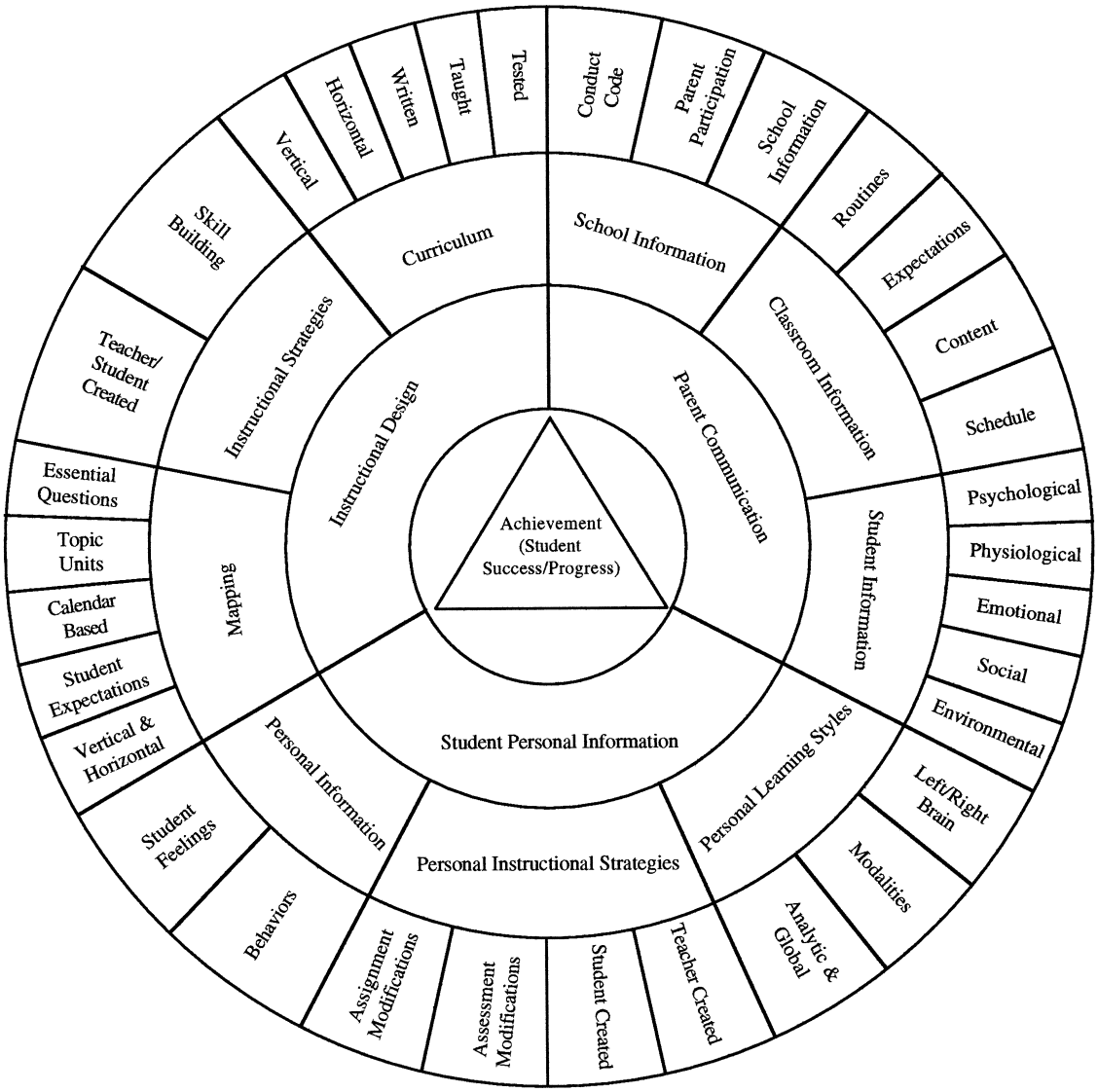

Figure 4. Process of Planning for Student Achievement

Conclusions

This study explored how a collaborative team of 6th grade teachers planned for instruction as they moved through the cycles of the action research process (Calhoun, 1994).

Conclusions – Teacher planning

The planning process grew in importance to this team as time elapsed in the study. As the teachers articulated their plans for instruction, they were able to move from the articulation to implementation in the classroom. The behaviors of the teachers were consistent with the work of Clark and Yinger (1980). They suggested that descriptive research could inform the practice of planning. The teachers' comments were also consistent with Clark and Yinger when they suggested communicating plans in writing puts teacher thoughts and ideas into action. They further suggest that although planning may be invisible to others, that a team of teachers can become stronger in their delivery of instruction based on the fact that the plan is articulated in writing.

The research of Earle (1996) illustrated that teachers rely on mental planning throughout the design, implementation and evaluation phases of instruction. However, as with this team of teachers, as they verbally described their past behaviors before the study commenced, Earle found that teachers gave equal importance to written and mental planning. In the exit interviews the teachers commented that writing, and in this case, drawing, the plan for instruction helped to clarify as well as articulate the plan.

I found that the teachers in this study planned with objectives of student expectations first supporting the research Yinger (1978) and Clark

and Yinger (1979), rather than the contrasting models identified by Zahorik (1977) and Eisner (1982) contrast to the works of Zahorik (1977) and Eisner (1982) where activities were identified as the teachers' first decision in planning.

Yinger (1978) using observations and interviews concluded that teacher planning could be categorized into four stages: problem finding, problem formulation and solution and implementation and evaluation phases. Yinger also suggested that planning process was not always sharp and distinct in its phases. He suggested that planning was cyclical in nature and that teachers used prior teaching.

Clark and Yinger joined forces and in 1979 in the study focusing on a teacher survey of planning practices cited earlier. The teachers reported that objectives were seldom their starting point in planning, but rather the teachers reported that they planned around the needs of their students creating objectives for their students rather than around content and activities.

Zahorik's (1977) found that 81% teachers reported they began their planning with activities while 21% reported they began their planning with objectives. With this information, Zahorik concluded that objectives were not of particular importance in teacher planning. Eisner (1982) also concluded that teachers focused on student activities as the first decision in planning for instruction. Eisner suggested that objectives only existed within the activities.

The teachers in this study agreed and voiced the importance of the planning process using the curriculum maps as a vehicle to ensure a systematic instructional planning process. They also commented that the action research process also made them aware of their decisions and allowed

them to plan “on paper” so they could all be on the “same page.” Although highly respected as competent teachers, the teachers indicated that they not been as systematic in their team planning in past years. They indicated that they believe they are more systematic by using the curriculum mapping as one of their anchors. Young, Reiser and Dick (1998) suggested that most superior teachers do not use systematic instructional planning but rather plan by identifying topics, content, goals, skills, objectives, instructional materials, and strategies as well as deciding on tests. Changes, according to Young, Reiser and Dick (1998), are made from year to year based on student achievement and student reactions to instruction.

The teachers in this study planned using three major strands: instructional design (Earle, 1996), personal information and parent communication. Planning is interwoven with these three themes. The team’s planning process as documented by the audiotapes of the planning sessions along with the exit interview supported the findings of Boudah, Deshler & Schumaker, 1997, where middle school lesson plans in an inclusive setting were studied. The research indicates that during the first year of planning teachers were concerned with content-centered information and skills, student prior knowledge, instructional and learning strategies and that during the second year the addition of individualized instruction and assessments were added.

Since this is not the first year this team has planned together, evidence of including the first and second year elements of a lesson as described by Boudah, Deshler & Schumaker (1997) are prevalent in the team’s planning. The teachers comment often about how they must plan to meet the individual needs of the students while covering the mandated content and

skills. They illustrate in their planning sessions the individual assessment and individualized instruction for all students.

The actions of the teachers in this study regarding their decision making in the planning meetings support the research of Mitchell (1998) where a group of two teams of teachers were studied on their use of common planning time. One of Mitchell's findings concluded that successful team decision making in the team setting requires practice and a common set of beliefs. The teachers in this study are experienced; they have been together for a period of time and they want to meet the needs of individual students while mastering the standards content and skills. Mitchell also suggested that common planning time requires strong facilitation and that teachers must talk about student while at the same time allow for team learning. The team of teachers in the study exemplified those behaviors. They facilitated their planning process with the undercurrent of learning from each other, and the sharing of information learned at the conference.

Conclusion – Curriculum Mapping as a Part of the Teacher Planning

The teachers in this study attended a two-day district workshop held the summer before the 1999-2000 school year. They agreed to work with the researcher in the documentation of their planning process.

English (1984, 1992), Jacobs (1991, 1997) and Walcott (1994) suggested that curriculum mapping is a process by which teachers decide what to teach and what to test. English (1992) viewed the concept of curriculum mapping as part of the work plans developed by teachers focusing on definition and configuration of the content, scope and sequence as well as methodology of instruction (p.17). English discusses the vertical and horizontal aspects of the scope and sequence of the instruction of the

content as the articulation of curriculum. English continues with "frontloading" where the curriculum is aligned with the testing—where the curriculum is designed and defined and then tests are brought into line with the instruction and "backloading" where the plan begins with the tests and works backwards to the curriculum. Walcott describes concentric circles reaching out from a central focus, the instructional task. After an extensive review of the literature the only additional citations included research on information mapping and concept mapping, neither of which were employed by the teachers in this study.

The teachers in this study created a visual curriculum map for dissemination to students and parents. The map started with essential questions (Jacobs, 1994) and highlighted the content, skills and often the student assessment component of instruction (Jacobs, 1994). Jacobs' model of curriculum mapping is calendar based and is a systematic process by which teachers can identify what, how, when and where in the scope and sequence of instruction specific skills and content are taught.

The teachers in this study wavered from Jacob's model by producing their own visual maps for the core courses as well as for units within the courses. When the maps did not include assessment, an examination of teacher lesson plans showed that assessment plans for both group and individuals were included.

Implications

Implications for Teachers

The teachers in this study continually assembled strategies that matched the student expectations of the units of study. Accepting the three-year time frame that Jacobs (1994) recommends for creating a school map,

the teachers in this used the concept of curriculum mapping as a basis for planning instruction for the standards for their team.

Teachers can benefit from the findings of this study as their search for ways to plan to meet the needs of their students while focusing on standards. The teacher-created maps are a unique way to visually describe the instructional plan to both students and their parents

Teachers can better plan for their students by using the conceptualization of the planning process for student achievement. By utilizing the components identified by the actions of the teachers in this study, teachers can organize their planning process and address the instructional design, parent communication and personal student information necessary to create a community of learners, teachers and parents.

Teachers can enhance their professional relationship with other teachers and administrators by heeding the advice demonstrated by the teachers in this study. When teachers and administrators tackle the process of planning as a collaborative endeavor, the connection grows stronger. As an additional benefit of using action research, teachers can analyze their own professional growth needs and identify professional growth activities to meet those needs.

And finally, this study suggests that action research may be the vehicle to bring about change in the educational environment. The teachers in this study send the message that the empowerment of decision-making can be enhanced as well as the collaborative environment when teachers take the control to examine their own practices. Teachers need not shy away from the proposal of the examination, but consider the possibility of making decisions, as Brunner (1995) describes, of effect (p.32).

Implications for Administrators

Administrators can benefit from this study as they assist teachers in examining and understanding their practices. Professional growth opportunities are available to assist teachers in creating visual curriculum maps to plan and communicate the content and skills required by standards. If administrators are to be the facilitators of change in the instructional processes teachers employ, they must understand how teachers plan. The findings of this study support the participation of administrators in collaborative partnerships with teachers as they examine their practices.

Administrators can gain understanding from working with a group of teachers as they plan and implement instruction, rather than completing the usual teacher observation and evaluation process that is prevalent in most school systems in today's educational environment is invaluable for an instructional leader. The relationship that can be created between the administrator and the teachers is one that can bring benefit to students.

If administrators are committed to developing the relationship and the environment for the empowerment of teachers in planning and implementing instruction they must be willing to pledge to manage their time and to give undivided time and effort to the cause. As administrators, whether at the building or central office level, have a multitude of responsibilities to balance; they need to prioritize their commitment to a collaborative project. They must be integral members of the planning team, not outside observers. The possibilities of the team are limited only by the commitment of its members.

Recommendations for Future Research

With this topic in its infancy, further study is recommended. The process of instructional planning and the use of action research have value.

Teacher empowerment to decide what, when and where to teach the curriculum is a powerful tool for school improvement. The answers to the following questions could guide the investigation. How do teachers plan for instruction? Has that planning process changed with the high stakes state assessments that have been introduced to education? Do teachers plan differently when they are planning as a team? How can action research provide teachers direction on what and how instructional planning can benefit students?

In addition to the preceding questions, which spark ideas for further research in studying the planning process, this study provided a glance at looking at curriculum mapping as a vehicle in instructional planning. The teachers planned and organized for instruction by using the visual curriculum maps they created. Questions for further research could also focus on the role of a curriculum mapping process in instructional planning. What are the effects of the use of curriculum mapping on instruction? How can teachers use the maps to monitor their instruction? Can communication be among teachers be enhanced with the use of curriculum maps? What are the implications of curriculum mapping at different instructional levels?

Elementary teachers could face additional challenges in planning using curriculum mapping due to the difference in the schedule of the elementary level. Would it take longer to reach the goals of a long-range plan of an articulated map for a school at the elementary level as it would in the middle school? Or would elementary teachers be able to proceed without hesitation because of the current multi-content demands on the elementary level teachers? Would elementary schools that operate in a quasi team format be able to move along the process at level where teachers would maintain their interest? How could a school division support the elementary

teachers in the process? Would the questions for further study at the elementary level include the action research process and the components of the design?

Would teachers at the high school level be open to the process? How could a high school select a specific problem that the grade level or certain content teachers would see as a problem for investigation? What teacher perceptions could be discovered at the high school level?

These questions remain unanswered. Future investigations are needed to provide supporting documentation of the importance of the topics—teacher planning, action research, curriculum mapping and standards.

Epilogue

As the researcher, I see the process assisting me as an administrator to watch the actions and reactions of a team of teachers as they used the model of action research. I believe that being cognizant of the process, the teachers guided themselves naturally into the different phases of the process. The team direction was often multi-level, entering and exiting the phases of the process based on the data before them. I observed the teachers as they listened to each other, as they respected the ideas and opinions of each other and as they participated in group decision making.

I see the team as a risk taking team, who felt comfortable in sharing their planning so that others could learn from it. In their words, "We have learned so much as a team—how we can improve instruction through a process of planning, reflecting, working together." I appreciate that the team has allowed me into their thoughts about how they strive for student success.

LIST OF TABLES

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