A STUDY OF LEADERSHIP IN THE IMPLEMENTATION OF AN ONLINE CURRICULUM MANAGEMENT SYSTEM

A Dissertation

by

BETTY MURDOCK SANDERS

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

DOCTOR OF PHILOSOPHY

August 2006

Major Subject: Educational Administration

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Approved by:

Chair of Committee, Luana Zellner
Committee Members, David Erlandson
Homer Tolson
James Kracht
Head of Department, Jim Scheurich

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ABSTRACT

A Study of Leadership in the Implementation of an Online Curriculum Management System. (August 2006)

Betty Murdock Sanders, B.A.T., Sam Houston State University;

M.Ed., Texas A&M University

Chair of Advisory Committee: Dr. Luana Zellner

Researchers have indicated that innovations in schools often do not have the intended impact leaders hope to see when implementation occurs. Reasons cited for this failure include time allotted for the change to occur, failure to implement change based on research, and leadership qualities associated with responsible parties. This study focuses on qualities of leaders who were effective in implementing an innovation in a school district in a mid-sized Central Texas school district. Participants in the study were technology trainers, principals, and teachers. Two years of usage reports and teachers surveys were used to compare data. Interviews were conducted with trainers, teachers, and principals from high usage campuses.

Since the study focused on happenings within a particular context, an action research model was used. This model was built upon principles of naturalistic research and targeted quantitative data.

The results of the study indicate that the leaders on these campuses possessed certain leadership characteristics that could be attributed to successful implementation of the online curriculum management system. Successful leaders in this study held certain expectations for their faculty, monitored to see that the expectations were met, and were flexible enough to meet the needs of all of their teachers. These characteristics were consistent with the literature on effective leadership, leadership and professional development, leadership and technology, and leadership through the change process. Information from this study was used by the school district in which the study took place to guide them in making decisions about the current curriculum management system they now have in place.

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There are many people who contributed to the success of this task, but the ones who are owed the greatest debt of gratitude are my family. Very special thanks are extended to my children, Dara, Dax, and Kara, who always encouraged me and never let me quit. Also, I thank my mother, Clemmie, my brother, Ken, and my mother-in-law, Dorris, who were always there for me when I needed them. Lastly, I thank my late husband, Winston, who never doubted that I could succeed and who would be so proud of me.

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CHAPTER I

INTRODUCTION

In the constant quest for school districts to find solutions to the many and varied instructional issues that arise, innovative approaches are often sought and found to address these issues. Adoption of innovations occurs so frequently in schools that "If one were to chronicle the number of innovations that have come and gone in the history of American education, the list would undoubtedly fill volumes" (Alexander, Murphy, & Woods, 1996). Not only is it very popular for schools to adopt innovations to solve problems, but it is also very likely that the innovation will not be implemented long enough to determine the impact on the problem it is supposed to solve, as stated by Morris (1997) "An innovation is supposed to show clear-cut successes right away or it is simply ignored and attention passes on to the next." An innovation is defined as "an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Rogers, 1995).

This dissertation follows the style and format of *The Journal of Research on Technology in Education.*

A common problem among social systems, such as schools, that attempt to adopt an innovation is how to get the new idea adopted among the constituents of the system. This has been identified as diffusion - a process comprised of four key elements that are innovation, communication channels, time, and the social system (Rogers, 1995). Adoption of an innovation requires intentional, ongoing, and systemic professional development that has both campus and district level administrative support (Guskey, 2000). For professional development to be intentional, it must be specifically designed from a clear idea or vision to bring about improvement and change that is positive. Ongoing professional development is that which occurs throughout the school year on a regular basis rather than just two or three times a year. Finally, it is systemic if it involves the entire organization and focuses on change over time (Guskey, 2000).

The recent No Child Left Behind initiatives have forced school districts to review their policies and educational practices. This has spawned the need for change and innovation to meet the requirements set forth by the federal government. President George W. Bush signed the No

Child Left Behind (NCLB) Act of 2001 on January 8, 2002. NCLB replaced the Elementary and Secondary Education Act that was enacted in 1965 and included sweeping changes. The role of federal government in K-12 education was changed to include requiring schools to describe individual student accomplishments. This act was built on four key principles: accountability of results, flexibility and local control, enhanced parental choice, and instruction based on scientific research. School districts throughout the country continue to work toward implementation of this act through many and varied approaches. Certainly, one area of emphasis has been to improve teaching and learning in order to positively impact scores on standards-based assessment. To address this issue, school districts have turned to various strategies including implementing new and innovative programs to ensure that teachers know and teach the standards applicable to their grade level and content areas.

An innovation recently introduced into a mid-size central Texas school district was an online curriculum management system, Curriculum and Objective Alignment System of Texas (COAST). The purpose of implementing this innovation was to assist teachers in learning the Texas

Essential Knowledge and Skills (1998) (TEKS) they are responsible for teaching to their students. An additional component of this system was an online lesson planning tool for teachers to use in creating and storing their plans that includes a feature for accessing and inserting state and district standards as shown in Figure 1.1.

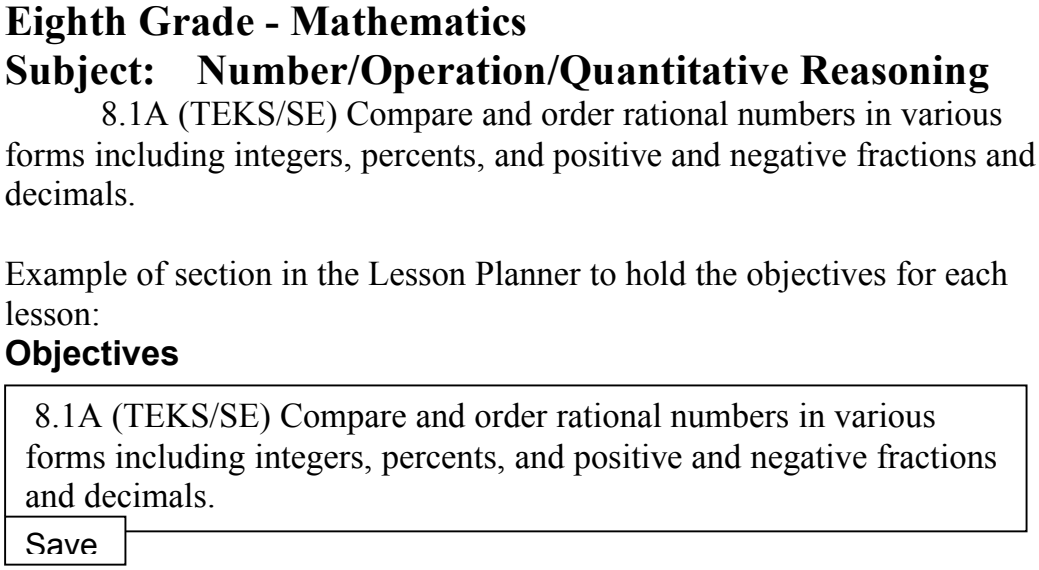

Figure 1.1. Standards and Lesson Plans

It was the goal of the district that this management system would assist teachers in learning the standards they must teach to positively impact student learning which would be reflected by higher standardized test scores. Networked computers and Internet connectivity were available in all classrooms in this school district. Campus and district level training sessions were available for

teachers to increase their levels of technology awareness and skills. These sessions were available during the school day at conference periods and after school. Still, teachers experienced difficulty moving to a new system for studying the TEKS (1998) and lesson planning. Many of them were involved in a variety of innovation implementations throughout their careers and were reluctant to spend a great deal of time learning something else that might "come and go".

First year implementation of the innovation was facilitated by the Instructional Technology department. Input was gathered from teachers and principals to help determine ways to provide support for further implementation. Strong support from the Curriculum and Instruction department was provided during Year 2 implementation. Continuous gathering and review of data was important in facilitation of this innovation to determine the effect of particular practices which positively impact the change that was necessary for the innovation to be effective.

Statement of the Problem

School districts typically implement innovations perceived to be the answer to a difficult problem they need to solve. However, when the problem is not solved in a timely manner, sometimes without regard to the severity of the problem, the innovation is tossed aside and another takes its place due to pressure that is imposed to resolve the original problem (Alexander, Murphy, & Woods, 1996). There is a need to determine the extent to which leadership plays a role in the successful implementation of an innovation. Specifically, the need existed in this school district to determine the leadership skills that were instrumental in the successful implementation of a curriculum management system.

Purpose

Although an innovation may be re-invented or somewhat changed depending on the setting or school in which the implementation occurs (Rogers, 1995), the long-term success of the innovation will depend upon the administrative leadership of the school (Hall & Hord, 2001). The purpose of this study was threefold:

1. To determine, based on existing and emerging data, qualities that are associated with leadership.
2. To determine why these strategies are effective in implementing an innovation.
3. To determine if flexibility in implementation of an innovation would positively impact usage by the adopters.

This information will be used to positively impact the usage level on other campuses in this school district and to make that information available to other districts as they implement similar technology innovations.

Research Questions

1. What, based on emerging and existing data, are qualities that are associated with leadership?
2. Why, as perceived by stakeholders, are these leadership strategies effective in implementing an online curriculum management system?
3. How is flexibility in implementation of an innovation related to the effectiveness of leadership strategies?

Definition of Terms

Communication Channel - The means by which messages get from one individual to another (Rogers, 1995).

Curriculum Management System - A comprehensive set of tools, including a curriculum database and management system, a standards-based benchmark assessment system, a lesson plan system, and a teacher resources system, that promotes the connection of instructional activities and state standards.

Diffusion - The process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers, 1995).

Impact – The effect of one thing (leadership) upon another (implementation of a curriculum management system).

Influence - The ability to affect or to sway individuals or groups.

Innovation - An idea, practice, or object that is perceived as new by an individual or other unit of adoption (Rogers, 1995).

Leadership - an attribute that enables a person to establish direction and influence others in accomplishing a common task.

Levels of Implementation – The degree to which the curriculum management system is used for access of resources, recorded number of lessons plans, lesson plans by subject area and by week, record of TEKS that have been taught.

Levels of Professional Development Evaluation – Level 1: Participants' Reactions, Level 2: Participants' Learning, Level 3: Organization Support and Change, Level 4: Participants' Use of New Knowledge and Skills, Level 5: Student Learning Outcomes (Guskey, 2000).

Positive Impact - having an effect that causes progress or an increase

Professional Development - The intentional, ongoing, and systemic process of affecting a purposeful change to enhance teaching and learning (Guskey, 2000).

Social System - A set of interrelated units that are engaged in joint problem-solving to accomplish a common goal (Rogers, 1995).

Successful - Having an outcome that is favorable or desired.

Taught Report – A feature in the Curriculum Objective Alignment System of Texas (COAST) that allowed teachers to view the standards they had taught.

Technology Using Teacher – Teacher who uses a variety of technology tools and applications in the classroom (Vanetta and Fordham, 2004).

Texas Essential Knowledge and Skills (1998) (TEKS) - The statewide curriculum that articulates what students should know and be able to do in grades PK-12

Theoretical Sensitivity – "...refers to the attribute of having insight, the ability to give meaning to data, the capacity to understand, and capability to separate the pertinent from that which isn't." (Strauss and Corbin, 1990)

Time - Involved in diffusion (1) from the time an individual becomes aware of the innovation through its adoption or rejection, (2) the relative earliness or lateness of the adoption, and (3) an innovation's rate of adoption in a system (Rogers, 1995).

Usage – Number of logons to the curriculum management system by campus.

Limitations

This study was limited to one central Texas school district that was implementing an online curriculum management system. In the first survey, grade levels and

campuses were not identified. In the survey to gather data for year two, grade levels and campus names were requested to use in future evaluation efforts.

Research Design

This was a longitudinal study that examined quantitative data gathered over a period of two school years. Archived data were used to give a sense of history regarding a sample program innovation. In determining the level of program implementation, a comparison analysis was conducted using survey data from years one and two. Additionally, interviews were conducted to gather qualitative data regarding the implementation of the innovation.

Methodology

Surveys were sent to all district teachers and principals in spring, 2002 year and that was repeated in spring, 2003. Additionally, a usage report was received from the office of the curriculum management system in spring, 2002 and another was received in spring, 2003. These reported reflected the number of logons to the system for each month for each of 23 campuses. The first usage

report in 2002 was sent to the district without being requested. The second report in 2003 was requested by the district to compare the two years of usage. Teachers, principals, district administrators, and technology trainers from schools with the greatest increase in usage were identified and asked to participate in interviews.

Analyses of Data

Surveys from both years were compared and analyzed matching year one and year two on like items. Descriptive statistical procedures were used given the existing data. Frequency counts were used to compare system usage from year one to year two. Also, percentages were used to determine increase or decrease in usage of the innovation. Interviews were analyzed to further define leadership qualities and strategies that have an impact on successful implementation of the curriculum management system as well as the extent to which flexibility in leadership strategies impact the implementation.

Overview of Study

This study focused on the leadership strategies of principals who were successful in implementing an online

curriculum management system in a mid-size central Texas school district. The following chapters will address the research, methodology, findings, and conclusions of the study. Chapter II will address research on innovations, leadership, leadership effectiveness, leadership and professional development, leadership and change, and leadership and technology. Chapter III will provide a discussion of the methodology chosen for the study. The findings from the study will be revealed in Chapter IV along with charts to support these findings. A summary of the study, along with conclusions and recommendations will be presented in Chapter V.

CHAPTER II

REVIEW OF LITERATURE

In response to the No Child Left Behind legislation, school districts have attempted to address the requirements of this act through various means. When a change in the management of an education system is mandated, an intervention through the adoption of an innovation may be necessary to address a specific need. The implementation of an online curriculum management system to address the need of helping teachers learn the standards they should teach was the focus of this study.

Factors that may have contributed to the success of the implementation are discussed in this review.
Five major areas of literature central to this study are presented. The first section provides information regarding innovations, specifically innovations in schools. The next section outlines literature associated with leadership qualities as well as leadership effectiveness. The third section focuses on professional development and the importance of leadership in supporting it. The following section presents literature on change. The final section is a discussion regarding technology skills. This chapter includes a review of literature to address each of these

areas and to provide background information to assist in answering the research questions central to this study.

What Is an Innovation?

Over forty years ago, Rogers (1962) attempted to explain processes by which an innovation is adopted in a social setting in *Diffusion of Innovations*. An innovation is defined as " an idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Rogers, 1995). Diffusion of the innovation is the "process by which an innovation is communicated through certain channels over time among the members of a social system" (Rogers, 1995). The rate at which an innovation is adopted is dependent upon several factors: relative advantage, compatibility, complexity, trialability, and observability (Rogers, 1995). Innovations are communicated in two ways – mass media channels that enable one source to communicate with many or interpersonal channels that involve face-to-face exchanges. Rogers found that the most effective way to persuade members of a social system to adopt an innovation is to communicate to them through interpersonal channels (Rogers, 1995).

Innovations in Schools

One social setting that relies heavily on innovations is the public school system. However, Milton Chen (2003), writing in the Harvard Graduate School of Education News, states, "…I've been amazed at how it's almost considered sporting to dismiss innovation in education…". Additionally, "If one were to chronicle the number of innovations that have come and gone in the history of American education, the list would undoubtedly fill volumes" (Alexander et al. 1996). Two possible explanations are offered for this phenomenon in the Alexander et al. article: a. addressing an issue that is understood even if it is the wrong issue, and b. not understanding the innovations or the research behind these innovations. One proposed solution to the issue of innovations "coming and going" is to assure relevance to problems encountered in the real world.

> The greatest problem faced by school districts and schools is not resistance to innovation, but the fragmentation, overload, and incoherence resulting from the uncritical acceptance of too many different innovations (Fullan, 1991).

Qualities Associated with Leadership

Although innovations may be initiated by those perceived to be at a lower level in a hierarchy, it is more than likely that the innovation will die if not actively supported by the administrator or campus leader (Hall and Hord, 2001). Leadership is so important to the success or failure of schools or other institutions that many studies have been conducted to determine the characteristics one must possess to be an effective leader. The results of these studies help to explain if leadership impacts the adoption of an innovation as well as how leadership influences change in a school setting. Early studies on leadership can be divided into several categories: traits, situations, behaviors (Hoy and Miskel, 2001). Studies on leadership traits that were completed between 1904-1947 were reviewed by Ralph M. Stogdill (1948) and revealed inconclusive results. However, later leadership researchers who focused on traits of leaders as well as effectiveness of leaders obtained results that were more positive. In 1981, Stogdill determined that leaders are indeed characterized by certain traits. Other studies on leadership traits by Glenn L. Immegart (1988) and Gary Yukl (1998) also produced positive results with regard to traits

associated with leader effectiveness. These studies were important in that they began to focus on the characteristics of effective leadership rather than comparisons of leaders to non-leaders. By doing this, researchers were able to provide insights as to the traits of effective leadership (Creighton, 2003).

Qualities Associated with Leadership Effectiveness

Leadership traits can be divided into three categories: personality, motivation, and skills with certain factors associated with each (Hoy and Miskel, 2001). The behavior of leaders was the area of focus for the Ohio State University studies in the 1940s that produced the leader behavior description questionnaire (LBDQ). The two dimensions of leadership behavior defined in the study were initiating structure and consideration. Initiating structure has to do with the delineation between the leader and the subordinates as well as the organizational patterns and the communication channels, which are a key component of the diffusion of an innovation (Rogers, 1995). Consideration has to do with the warmth, friendship, and relationships between the leader and the subordinates. High consideration by the principal is

associated with worker satisfaction, while high initiating structure is associated with high performance. High consideration between principal and teacher would have a positive impact on implementation of an innovation given that one of the biggest problems in diffusion is the degree of difference or technical competence between the change agent (principal) and the client (teacher)(Rogers, 1995).

Researchers at the University of Michigan continued to focus their studies on leadership behaviors. The identified behaviors from this study are: task-oriented, relationship-oriented, and participative leadership---which produced a higher level of production and job satisfaction. More recent studies (Yukl, 1994), suggest that effectiveness of leadership behaviors is dependent upon the situation of the leader and subordinate. Effective leadership would, hopefully, produce a more effective school.

Additional studies were initiated to determine if the success of the leader could be attributed to the setting in which the leader functioned. These studies on contingency and situational leadership produced research that attempted to explain how behaviors impact outcomes in different situations. Some of the factors that may play a part in leadership effectiveness include the structure of the

organization, characteristics of the leader's role, characteristics of the subordinates, internal and external environmental factors (Hoy and Miskel, 2001).

All three research questions deal with leadership strategies and effectiveness. It is important to look at a variety of studies related to the strategies that effective leaders use to determine if effective campus leaders in this study also use some of those strategies.

Blake and Mouton (1985) developed a situational grid to explain leadership effectiveness. Leader orientation is identified in two dimensions – task and relationship. Leaders who emphasize both task completion and interpersonal relationships produce greater results. R.J. House (1971) developed the Path – Goal Theory and explained that subordinates would be affected in both their performance and level of satisfaction by the behavior of their leader. Categories of leader behavior suggested by House (1971) are supportive leadership, directive leadership, participative leadership, and achievement oriented leadership. Hersey and Blanchard (1977, 1982) developed a leadership effectiveness model that also utilized the two dimensions of task behavior and relationship. Task behavior is defined as one-way

communication such as explaining what is to be done and relationship is a two-way communication facilitating what needs to be done. Combinations of these dimensions can be aligned in four quadrants:

Q1 = High task, low relationship

Q2 = High task, high relationship

Q3 = High relationship, low task

Q4 = Low relationship, low task

There is no dimension or quadrant that is more effective than another. The successful leader utilizes a style appropriate for the group that is involved and the specific situation.

More recently, researchers have focused in areas such as Power and Authority. From these studies, we have learned that a leader can draw power from four sources (French, 1993): the position held (legitimate power), personality (referent power), reward (reward or punish subordinates), an expert (ability or knowledge). Subordinates give power to the leader as they accept guidance. Superiors give power as they assign more responsibility. Power increases as both groups accept the leader.

From each of these studies, there are findings that indicate leadership effectiveness (Green, 2001). Some of

the earliest theories on leadership came to light after studying leadership traits. These early studies compared the traits of leaders and non-leaders based on organizations that were hierarchical in nature. Although studies were not successful in determining traits that distinguished leaders from non-leaders, they did provide information to use in further studies, such as the studies on leadership behaviors (Lewin, Lippitt, and White, 1939; Stogdill, 1948; Likert, 1967, Blake and Mouton, 1985),and Situational Leadership studies (House, 1971; Vroom and Yetton, 1973; Vroom and Yago, 1988; Hersey and Blanchard, 1977, 1982).

Researchers began to study the behaviors of leaders rather than make comparisons that included non-leaders. One of the major studies was conducted by Kurt Lewin (1939) at the University of Iowa where democratic or a shared decision-making approach emerged as the most effective leadership behavior. Hoy and Miskel (2001) reported Halpin's analysis at Ohio State concluding high initiating structure and high consideration leads to higher satisfaction and performance than any other combination. Through studies at the University of Michigan based on Likert's (1967) work, it was revealed that leaders who are

more relationship oriented than task oriented have the most productive work group (Green ,2001). Additionally, Blake and Mouton (1985) determined that the team management style is considered superior to all others. Other theories that have emerged include Contingency and Situational Leadership Theories developed from studies that considered how behaviors impact outcomes in various situations. The Vroom and Yetton (1973) Normative Model offered evidence that participation in decision-making is likely to result in greater decision acceptance. This model was eventually revised by Vroom and Jago (1988) to define actions a leader should not take and to provide a structure for prioritizing various criteria involved in decision-making.

The Path-Goal Theory developed by R.J. House in 1971 suggests that effective leaders clarify routes and remove roadblocks so that participants can be successful. Hersey and Blanchard's (1977, 1982) Situational Leadership Theory says that the leadership style should match the follower and the situation to be successful. John French (1993) theorized that Power and Authority Leadership is most effective when the leader uses a combination of legitimate (the position) and referent (the personality) power. Other contemporary theories have come from more

recent studies that provide evidence that leaders do the right thing and managers do things right.

Numerous attempts have been made over the years by researchers who have analyzed traits, behaviors, and situations of leaders to define leadership and to provide a theoretical framework for understanding exactly what it is. Several models, as previously discussed, have been proposed as an aid to help identify what leadership actually may be. Typically, it is agreed upon that leadership involves an individual influencing others in an organization to perform tasks or activities. Bennis (1995) offered that leaders should have management of meaning, trust, attention, and self (Green, 2001). Lambert (1998) stated, "…leadership is about learning together, and constructing meaning and knowledge collectively and collaboratively". None of the researchers who have conducted studies on leaders have provided a clear definition of leadership, but these studies have contributed to a better understanding of it and provided a basis for additional research.

Effective Leadership and Professional Development

Leadership effectiveness, as addressed in the three research questions that guided this study, is also

associated with professional development. The support and leadership of the campus principal is crucial to the success of effective professional development (Guskey, 2000). Not only is campus leadership a critical component for success, but support from higher-level administrators is important as well (Guskey, 2000). With adequate support at both the campus and district levels, professional development should be intentional, systemic, and ongoing to be effective and to positively impact student achievement (Guskey, 2000). Steps that assure professional development is intentional are:

a. Goals for the staff development should be clearly defined so that everyone involved is clear as to the purpose. The level of implementation of learned practices as well as expected outcomes should be stated initially.
b. The stated goals should be important and worthwhile to all participants. These goals should relate to district and/or campus goals.
c. Acceptable evidence of performance should be stated up front so that all participants know what is expected of them.(Guskey, 2000).

Successful professional development must also be systemic. Many times, professional development is ineffective because there is no follow-through to support the new learning. A systemic approach provides support for change within the system itself rather than just the individual. There needs to be commitment within the system for the change to happen (Guskey, 2000).

Meaningful professional development must be ongoing. Because of expanding knowledge in all content areas as well as in the field of education itself, it is necessary for educators to continuously review and learn new material to keep abreast of changes. Learning must be viewed as part of each educator's daily job (Guskey, 2000). Professional development days should build upon one another and must be "perceived as a coherent, integrated whole" in order to be meaningful (Marzano, 2003).

Another important factor to note regarding effective professional development is that is should be embedded within the work that the teachers do and should occur during the school day. Learning communities that are successful find ways to build in time for learning in a variety of ways, including faculty meetings and grade level planning times (Sparks, 2002).

There must be administrative support for professional development. The campus administrator is responsible for carrying out the stated mission of the district as well as the campus. While leadership style plays an important part in effectiveness of the leader, styles may vary based on conditions. But the administration must support implementation and changes to be brought about by the professional development if they are to be used effectively on that campus (Guskey, 2000).

In order to provide effective training and professional development for teachers, it is important to have an understanding of how adults learn. Malcolm Knowles (1970), a pioneer in adult education, identified several characteristics of adult learners. Adults are self-directed learners who come to the learning situation with a variety of life experiences and knowledge. Additionally, adults are both goal and relevancy oriented as well as practical. Adults usually want to be actively involved in their learning rather than sit passively while someone lectures to them (Smith, 2002). An excellent tool to use for this purpose is technology (Grant, 1996). It is imperative that adults can connect their new learning to what they already know and that they understand how the topic relates to them

or that they can apply the information in what they do (Lieb, 1991). Teachers need to have training related to technology presented in a way that helps them gain confidence in their abilities so they will feel comfortable using technology in their classrooms (Swain and Pearson, 2002).

Leadership and Change

Research Question 3 focused on flexibility associated with leadership effectiveness, so it was important to this study to review literature on change and how to approach change. Studies of principals by Gene Hall and Shirley Hord (2001) revealed three distinct styles of change facilitators: Initiator, Manager, and Responder. The Initiators are very clear and strong regarding the vision they have for their school and are very motivating. Managers attend to making everything function on schedule in the organization and try to do many tasks themselves. Responders tend to focus on the present rather than the future and allow others to take the lead. The researchers found that the teachers who had the greatest success with implementation change were those who had principals who were Initiators (Hall & Hord, 2001). Principals who possess

the qualities identified as those of the Initiator would, hopefully, be effective in implementing an innovation.

Several basic principles concerning change have become evident to researchers (Hall and Hord, 2001) as teams have studied the change process over time. Patterns occurred time after time in observations and were categorized by these researchers into themes. These principles of change, in summary, are:

1. Change occurs slowly (process), not quickly (event)
    a. Implementation of the change process will look different based on whether it is viewed as a process or an event. If viewed as a process, the expectation will be three to five years for implementation with resources and support built in. If viewed as an event, the expectation will be short-term with little follow-up.
2. Development of an innovation is different from implementation
    a. Development of an innovation deals with the creation of the innovation where implementation deals with adoption among users. Many times, developers are ready to

move on to something else while those responsible for implementation are still hard at work.

3. The people in an organization must change before the organization itself will change
    a. The rate of making a change varies by individual, even when the change is presented to everyone at the same time.
4. The size of the innovation may vary
    a. Innovations may be processes or products, large or small scale. They may also be centered on a central topic or theme, but in reality they may be a collection of several smaller innovations.
5. A variety of events must happen for the change to occur
    a. Specific activities and events have to occur for the change to occur. These do not all have to be big (workshops, training sessions), because little ones (short conversations about the innovation) can have a very large impact.
6. A democratic approach to leading the change works best

   a. People at either end of the continuum of change---from policymakers to teachers---do not understand the responsibilities that each other have. A lack of trust and understanding among all on the continuum should be replaced with a horizontal approach where all stakeholders are viewed as equals working toward a common goal.

7. For the change to have continued success, administrative support is key.
   a. Change can begin at any level, but for it to be sustained over time it has to have the support of the administration or it will eventually die, even if it is a very good program.
8. Establishing requirements and monitoring participants is effective in implementing change
   a. Mandates do not work if they are only one-time announcements. If there is follow-up and support, mandates can work well.
9. Each school is important in the change process
   a. Schools within a district will progress at different rates in making a change. Each

school will need support based on the rate of change that is occurring and other needs specific to that school.

10. Working together is a primary element in facilitating change
    a. Collaboration among all stakeholders is critical to the success of the innovation adoption.
11. Monitoring the change and intervening when necessary lowers the level of concern
    a. The level of understanding the leadership has regarding the change will impact the level of pain associated with the change.
12. The school environment impacts the change process
    a. The culture of the school, one that is collegial, more easily adapts to change and will actively seek change for the sake of improvement. (Hall and Hord, 2001).

Calabrese (2002) stated, "To lead change, the leader must understand change. To understand change, the leader must understand how to change. To understand how to change, the leader must personally experience the change process".

A principal's behavior must be consistent with the stated beliefs. Argyris and Schon (1974) refer to these beliefs as "espoused theories" and "theories-in-use". Leaders who operate from one set of theories but state another lose the trust of those they are trying to lead.

Why do innovations fail? Some require gradual changes and others require changes that are more severe. These changes can be classified as first and second-order changes(Marzano, Waters, & McNulty, 2005). The first-order changes are more subtle and are typical changes that one might expect throughout the course of a school year. Second-order changes are very dramatic changes that take a sharp turn away from the norm. The differences in the two types of changes have been characterized as "incremental change" and "deep change" (Marzano, et al. 2005). It is possible that many innovations fail because they are actually second-order changes but are facilitated in a way that may have been successful if the change had been first-order.

The natural response is to approach all change as though it is a first-order change (Marzano et al., 2005). Leaders approach problems using their experiences to help solve them. But second-order change is so drastic that it

requires "a dramatic shift in direction and new ways of thinking and acting"(Marzano et al., 2005).

According to Marzano, Waters, & McNulty (2005), to successfully facilitate a second-order change, leaders should exhibit certain skills:

Knowledge of Curriculum, Instruction, and Assessment – aware of best practices

Optimizer – is optimistic and inspires others

Intellectual Stimulation – makes faculty aware of current theories and practices

Change Agent – willingness to challenge the status quo

Monitoring/Evaluating – extent to which leader monitors

Flexibility – adapts to needs of current situation; comfortable with dissent

Ideals/Beliefs –demonstrates behaviors that reflect strong beliefs

Effectively leading change is a very complex process. Change does not happen by simply introducing an innovation and stepping aside. "Planning and change are inextricably intertwined and, as such, are a central part of the principal's job. The principal who wants to increase

educational excellence in his/her school will be involved in change"(Erlandson,Stark,& Ward; 1996).

Leadership and Technology

The innovation in this study was one that utilized technology. Literature on leadership and technology was reviewed to help answer the research questions since each question is associated with leadership.

National technology standards for teachers (ISTE, 2002) were introduced to promote the use of technology in the classroom. One of the greatest barriers to teachers using technology and one that has caused great frustration for them is the element of time. They are constantly barraged with more to do than they can get done in their workday with more being added each year. Time to plan effective instruction is identified as one of the first order barriers to technology integration (Ertmer, Addison, Lane, Ross, and Woods, 1999). However, in a recent study, Vannatta & Fordham (2004) reported that:

"The process of learning to use technology requires time---time spent in training, but also time spent playing with and exploring technology. This willingness to commit time to the technology learning process may be represented by

one's willingness and commitment to spend time beyond the typical workweek to prepare instructional activities. As such, this result suggests that time is essential in becoming a technology using teacher, but also that technology use may predict time commitment to teaching."

Teachers also have a need for support as they implement new technology-related resources, even if the support is informal and involves conversations with colleagues (Stevenson, 2004). Lack of support is considered to be another barrier to technology integration in the classroom (Ertmer, et al. 1999). According to these authors, first order barriers are access, time, and support, with second order barriers being "beliefs about teaching, beliefs about computers, established classroom practices, and unwillingness to change"(Ertmer, et al, 1999).

Teachers must feel supported when trying new or innovative approaches including the use of technology. To create technology using teachers, one technology leader, Jason Ohler, suggests the following:

1. Compensate them – provide some type of reward (conference attendance, new software) for those willing to step up and learn new technologies.

2. Provide assistance - make sure there is adequate support for teachers as they attempt to use new software or hardware.
3. Recognize them – make them feel valued for what they do by recognizing them on the school web site, newsletter, etc.
4. Help them gain more education - help them keep up with the fast pace of technology changes ("A Converstion", 2001)

Principal support for teachers using technology is so important that Van Cooley (1998)a former superintendent stated, "Principals with technology skills have the edge" (Cooley, 1998) as one of the Seven Realizations of Technology (Appendix E) and stated that the principal is the key player in reforming schools for technology use.

The principal is the instructional leader of the campus and is responsible for academic achievement on his or her campus. "Since instructional leadership is one of the roles typically assigned to principals, it is incumbent upon them to understand how computer technology can best be used in the school and to facilitate its implementation", (Hope and Stakenas, 1999). For technology to have a positive impact on student achievement, ongoing technology

professional development must be in place (Slowinski, 2000) and the campus leader must support this. Principals must lead by example and provide support for teachers who use technology in innovative ways (Dempsey, 1999).

For principals to provide the support necessary for teachers to use technology effectively, it is necessary for them to also have professional development to enhance their skills (Hope and Stakenas, 1999). Given that administrative leaders are such an important factor impacting technology integration, little attention is given to their technology needs (Dikkers, Hughes, and McLeod, 2005). Many principals have the desire to improve technology use on their campuses, they just do not know how to do it (Hinson, LaPrairie, and Cundiff, 2005). Technology standards for administrators were released in 2001 by the International Society for Technology in Education to address these needs (Brooks-Young, 2002). These standards, as part of the National Educational Technology Standards project (Thomas and Knezek, 2002) are:

1. Leadership and Vision
2. Learning and Teaching
3. Productivity and Professional Practice
4. Support, Management and Operations

5. Assessment and Evaluation
6. Social, Legal, and Ethical Issues

Summary

The literature on innovations in schools suggest that, although there are many innovations, they usually are not in place long enough to have the impact for which they were intended. However, one critical piece to the success of the innovation is the leadership support (Hall and Hord, 2001).

Literature on leadership does not provide a clear definition or theory of exactly what leadership is, but does provide information for further research. It also provides information for use in identifying characteristics of leaders who are successful in leading change (Hoy & Miskel 2001; Green, 2001; Hall and Hord, 2001). Literature on change highlights the importance of support for those who are involved in the change process and that those teachers who are most successful in implementing change are supported by leaders who have a clear vision of where the school is headed (Hall and Hord, 2001).

Literature on professional development supports the need for an ongoing, systemic, and intentional process as well as leadership support at both the campus and district

level in order to have a positive impact (Guskey, 2000). Literature on technology skills for teachers and administrators reflects an ongoing need for support for both groups.

The purpose of this study was to determine the impact of leadership in the implementation of an online curriculum management system by identifying effective leadership strategies, determining why these strategies were effective, and determining if flexibility in that implementation positively impacted usage by adopters. In addressing Research Question 1 regarding strategies associated with effective leadership, several characteristics were reflected through the literature. Leaders who are more team oriented, who support task completion, and have positive relationships with subordinates tend to be more effective (Blake and Mouton, 1985).

In researching why these strategies are effective, the literature revealed that leaders who deal well with change and are able to lead through a change process tend to have more support of their followers (Hall and Hord, 2001). Leaders gather their power from their subordinates as they are accepted and give power as they assign responsibility

(French, 1993). Leaders also must also behave in a way that that is consistent with what they say to have the trust of those they lead (Argyris and Schon, 1974).

Flexibility in effective leadership was investigated to answer Research Questions 3. Leaders who support intentional, ongoing, and systemic professional development are more apt to be successful in implementing change (Guskey, 2001). Understanding how adults learn positively impacts the professional development they receive, which also helps to bring about the change (Lieb, 1991). Effective leaders must be aware that individuals within a system vary in the rate in which they make a change (Hall and Hord, 2001). Leaders who are flexible adapt well to change and are comfortable with dissent (Marzano, et al., 2005). Also, to lead a change involving technology, leaders need to feel comfortable with the technology themselves (Hope and Stakenas,1999).

CHAPTER III

METHODOLOGY

The general methodology used in conducting the study is described in Chapter III. The intent of this study was to answer the following research questions:

1. What, based on emerging and existing data, are qualities that are associated with leadership?
2. Why, as perceived by stakeholders, are these leadership strategies effective in implementing an online curriculum management system?
3. How is flexibility in implementation of an innovation related to the effectiveness of leadership strategies?

For this study in determining leadership strategies that were effective in implementing an online curriculum management system, an action research model was chosen to reveal a rich account of principals who were successful in their endeavor. This action research model was built upon principles of naturalistic research and targeted quantitative data that made fertile data analysis possible. Quantitative data were used to compare system usage from one year to the next and to determine where the highest usage occurred so those principals could be invited to participate in interviews. The combination of both

qualitative and quantitative research techniques and the triangulation of data (Erlandson, Harris, Skipper, and Allen, 1993) collected allowed the researcher an opportunity to provide a fuller account of what occurred than could be represented through quantitative data alone. This study was a longitudinal trend analysis that incorporated descriptive statistical measures in the analysis of data. (Gall, Borg, and Gall,1996).

Overview of the Study

To address the requirements of the No Child Left Behind legislation, many school districts have turned to various strategies including implementation of new and innovative programs to ensure that teachers know and teach the standards applicable to their grade level and content areas.

An innovation recently introduced into a mid-size central Texas school district was an online curriculum management system. The purpose of implementing this innovation was to assist teachers in learning the Texas Essential Knowledge and Skills (1998)(TEKS) they are responsible for teaching to their students. An additional

component of this system was an online lesson-planning tool for teachers to use in creating and storing their plans that includes a feature for accessing and inserting state and district standards. It was the goal of the district that this management system would assist teachers in learning the standards they must teach and to positively impact student learning which would be reflected by higher standardized test scores.

Teachers experienced difficulty moving to a new system for studying the TEKS (1998) and lesson planning. Many of them were involved in a variety of innovation implementations throughout their careers and were reluctant to spend a great deal of time learning something else that might "come and go" as Alexander, et al. (1996) described.

Input was gathered from selected teachers and principals to help determine ways to provide support for further implementation of the innovation. Continuous gathering and reviewing of data was important in the facilitation of this innovation to determine the effect of particular practices that positively impacted the change that was necessary for successful implementation. District leaders perceived implementation of this innovation to be very important to the success of teachers helping students

learn the required standards for their grade level and impacting their achievement reflected on state mandated tests. There was a need to determine the extent to which leadership played a role in the successful implementation of this innovation.

The curriculum management system technical support group provided the district with information regarding usage by campus. These data showed which campuses had a high volume of usage and helped guide the selection of principals for interviews. These principals and the technology specialists who served as trainers on these campuses suggested names of teachers who might participate in interviews based on the teachers' usage of the system.

Surveys (Appendices A and B) were sent to teachers at the end of the first year of implementation (2001-2002) to determine how teachers perceived the overall implementation of the curriculum management system. Surveys were also sent to teachers at the end of the second year of use (2002-2003) to determine whether or not there were any changes in their usage and perceptions. The data from these surveys were compared and used to help answer research questions 1-3 regarding leadership qualities, strategies, and levels of flexibility. The surveys contained mostly the same

questions. Differences in the surveys were minor. The year two survey added a question that asked the campus name and if the respondent had answered the survey in the previous year. Data gathered on questions that were the same for both years were compared to determine what, if any, changes had occurred. Both surveys had a section for comments for anyone who wanted to provide information other than that which was solicited in any of the questions.

Teachers were encouraged to complete and return the surveys, but participation was voluntary. The surveys were returned through inner-school mail, delivered by the technology specialists, and by teachers personally delivering them to the Instructional Technology office. Every attempt was made to ensure that the surveys were categorized by campus to enable the researcher to track trends.

The data sources are depicted with a timeline in Figure 3.1.

Timeline	Questions	Data Used	Tool Used
May '02 May '03		-determine which campuses had the greatest increase in usage of the system from Year 1 to Year 2 -principals selected to participate in interviews	Usage Reports
May '02 May '03	-Appendix A and B -Supported findings from interviews	- determine teachers usage, principal expectations, and principal requirements across the district	Teachers Surveys
May '03 Trainers Principals June '03 Teachers	Research questions 1, 2, and 3	gather qualitative data regarding: -leadership qualities -why these qualities were effective in implementing the innovation -how flexibility in implementation is related to the effectiveness of the leadership strategies.	Interviews

Figure 3.1. Timeline and Data Collected

Conditions of Entry

The researcher analyzed data from the usage reports that were prepared by the company (COAST) that provided the

curriculum management system. By analyzing the reports, the researcher was able to determine campuses with the highest reported usage of the system. The researcher also contacted Technology Specialists who served those campuses and asked them to assist in determining the campus leaders who supported usage of the system on their campuses. Once those campus leaders were determined, the researcher contacted them and asked if they would be willing to participate in an interview regarding usage of the curriculum management system on their campuses. They were informed that the interview was strictly voluntary and their identity would be kept confidential. Administrators from each campus who were contacted agreed to participate. These interviews provided information regarding leadership qualities, leadership effectiveness, and flexibility of the leaders to assist in answering all research questions.

Technology specialists who trained and supported teachers on the selected high-usage campuses were also asked to participate in an interview. They were informed of the confidentiality of the interview and all who were contacted agreed to participate. These technology specialists recommended teachers who were avid users of the system and who also might be willing to participate in an

interview process. The interviewer contacted each principal and secured permission before contacting the teachers. Eight teachers from the four campuses that were identified as having high usage were contacted and six of them completed the interview questions.

The researcher visited each of the four identified principals on their campus to conduct the interviews for the convenience of the principal and to gain a glimpse of the context in which the principal operated. The technology specialist interviews were conducted at the Instructional Technology office. Teachers were sent their interview questions via email due to a tragic event that occurred in the life of the researcher. Teachers completed the interview questions and emailed them to the researcher. The researcher contacted each of the teachers to make sure that they had an opportunity to provide any additional input they wanted to include.

There was no problem gaining entry into any of the campuses for this research. The researcher was a district employee who knew all of the principals. The researcher had a high degree of theoretical sensitivity (Strauss and Corbin, 1990) because of the relationship to the district, the principals, and the curriculum management system

itself. The Assistant Superintendent approved the research project and all participants were very willing to participate.

Triangulation of Data

The company that provided the curriculum management system compiled a usage report for the school district after the first year of implementation. This report contained data that showed the number of logins for the district, for each campus, and for each individual who had an account. The district requested a similar report after the second year of usage to compare the data from year one to year two. Both of these reports were used in this study to determine the increase of usage (if any) after interventions were made.

After year one, a district content coordinator created a survey to send to teachers and administrators to attempt to determine how users used and perceived the system. Several teachers and administrators in the district completed and returned the survey to the coordinator who compiled the results and shared those results with district personnel. This survey provided a foundation to study the qualities, strategies, flexibility of administrators in

this district who were successful in implementing the curriculum management system. In order to have data to compare from one year to the next, the researcher sent out the same survey after Year 2. The return rate of the voluntary surveys for both years was over 30%.

The researcher conducted interviews with administrators, technology specialists, and teachers from schools with high usage of the system as determined from the usage reports. Interview data were analyzed and compared within each group (principals, technology specialists, and teachers) to determine similarities among those who were interviewed.

Member Checks

The researcher reviewed the interview data from notes taken and consolidated it into a written document for each person who participated in a personal interview. The document was given to the interviewee who was asked to review the contents and determine if they agreed that the contents reflected what they believe they said or meant during the interview. All interviewees agreed that the documents accurately reflected their responses. Teachers

responded in written format to the interview questions because time constraints at the end of the school year prevented the researcher from meeting with the teachers one-to one. Therefore, the answers they supplied to the interview questions were taken as given.

Review of Principal A

During this study, an important phenomenon occurred. One of the principals who was a strong supporter and high-level user of the innovation became an Executive Director in the participating school district. Her leadership abilities, not only in implementing the curriculum management system but overall, were recognized by other district leaders, which led to this promotion. What follows is a short case study of this principal.

Principal A learned to use the system along with her teachers. She attended training with the teachers and investigated the different features it had to offer. By doing this, she was able to make the system work for her campus. She used it to view lesson plans teachers submitted, and even asked the creators of the program to include a section in which administrators could leave comments for the teachers. This was done and was considered

to be an important addition to the system by stakeholders throughout the state of Texas.

Principal A also worked with her staff so that they could use COAST to indicate the state standards they were teaching in each of their units. She showed them how each grade level could take each of their units and correlate their grade level and content area standards to make sure they were teaching everything they were supposed to teach each year. By using this method, teachers could see if there were any gaps in what they were teaching so they could plan additional lessons to ensure coverage of all standards.

Principal A did encounter some resistance by her staff. When this happened, she would work with individual teachers to help them see how they could use the system as an instructional resource and to help them plan, collaborating with stakeholders to ensure success of the intervention. This action was supported by Hall and Hord's (2001) Change Principal #5 regarding the importance of interventions in the success of the change process. One teacher in particular was very resistant, but after one-on-one coaching she became such an avid user that she would

actually make presentations to large groups advocating usage of the system.

Principal A was on the district committee to help promote usage of the system in the second year of implementation. She helped plan an administrator's training session to help others see how she had been so successful in getting her faculty to use the system and in what ways. She explained that her expectations for usage were incremental and step-by-step. She explained that she had expectations for her campus and that she added to the expectations, but that she tried to make sure the things she was asking of her faculty were manageable. She also offered individual coaching for faculty members, and she would make adjustments for those who were overwhelmed or struggling. Her success in implementing this curriculum management system on her campus was largely attributed to her flexibility with her staff and relates directly to research question three:

How is flexibility in implementation of an innovation related to the effectiveness of leadership strategies?

This principal also mentored a new principal and as part of this mentoring helped her with implementation of the system on her campus. Principal A guided the new

principal in setting expectations for her campus and mentoring her own faculty.

After Year 2 of implementation, the new superintendent asked that the district review the system as well as other systems that were available to make sure that COAST was the one that best met the needs of the district. District personnel performed Internet searches and asked state technology coordinators about other systems to evaluate. A set of questions (Appendix D) was developed by district personnel that would address the needs of all stakeholders. A committee of campus and district administrators was formed to research other curriculum management systems to determine if another system would better meet the needs of the district.

Once the other curriculum management systems were located and identified, the questions were sent to their contact people along with a message that explained the review process. The current curriculum management system (COAST) was also included in this process. They were asked to respond to the questions by a certain date if they were interested in being considered by the district. As the vendors began to respond, the information was shared with

all committee members. At that time, the committee decided to ask representatives from two of the systems to come into the district for a presentation.

After all of the reviews and presentations, the committee recommended that the district keep the system (COAST) that was in place. Committee members felt that the current system did meet the needs of the district and that making a change would only confuse and frustrate users. This action is supported by one of the principles of effective change identified by Hall and Hord (2001) that states that administrative support is essential to the success of long term change. This also provides information for the research question that seeks to identify leadership qualities.

Principal A led her campus for two years. During that time she helped her campus as well as the entire district see the value of using the curriculum management system. She was a technology leader who was "involved in discovering, evaluating, installing, and operating new technologies of all kinds" (Creighton, 2003) while still focusing on student learning. Although there were still those who did not see the value of the system, many did due

to her leadership. This did not go unnoticed at the district level. Due to her leadership, she was moved to the executive level in the district to become Executive Director A to lead the design and implementation of a new curriculum. One issue she felt was critical was to again evaluate the curriculum management system being used by the district.

New and emerging systems were available and this new district leader felt that it was important to evaluate any that might meet the district's needs to ensure the best product was being used. She formed a committee to evaluate COAST and other management systems that might meet the needs of the district. She used the same questionnaire that was used in the previous evaluation two years prior, adding only minor changes to gather information she considered critical with respect to the inclusion of the curriculum.

She gathered information from various vendors who were interested in working with this district. Four vendors (including COAST) were asked to come into the district to make a presentation to the committee and answer questions. Interestingly, during the presentation made by COAST, the committee learned that the company had merged with another company to provide a data disaggregation component.

District committee members could not get a firm answer regarding how this merger would affect or impact the arrangement shared between COAST and the district, only that it would be different. Because the committee felt that COAST no longer met the needs of the district and because the committee was unsure about how the merger would impact the current contract, the decision was made to end the relationship when the contract expired with COAST and enter into a contract with a new curriculum management system that would better serve the needs of the district.

Executive Director A saw the need to have the newly written curriculum loaded into the new curriculum management system before teachers saw it or were expected to use it. Leadership was again evident in her efforts to mentor the content area coordinators by helping and supporting them as they learned to use the new system. They, in turn, assisted the curriculum writers in each of their respective content areas in entering curriculum units into the new system for teachers to have available when a new school year begins.

The expectations for use of the system will be incremental, but there will not be an option of use or non-use. In the previous system, there was never a district

mandate for usage. Usage was encouraged, but not directed. Under the leadership of this new Executive Director, all stakeholders are expected to use the system because that is where the curriculum will be located. There will be no binders filled with printed copies of the curriculum. Teachers will have to access the system to locate their curriculum so they will know what they are responsible for teaching.

The leadership style, the curriculum background, and the vision of implementing an online curriculum management system all contribute to answering the research questions which focus on leadership and have also had a huge impact on the way instruction is delivered in Central ISD.

CHAPTER IV

FINDINGS

Introduction

The purpose of this study was to determine the impact of leadership in the implementation of an online curriculum management system by identifying effective leadership strategies, determining why these strategies were effective, and determining if flexibility in that implementation positively impacted usage by adopters. Data for the study were collected through usage reports, surveys, and interviews. Usage reports provided data that showed the number of logons to the system for each month and were received by the district at the end of Year 1 and Year 2 of implementation. Surveys were distributed and collected at the end of both implementations years also to gather information regarding teacher usage, principal expectations and requirements, and training needs. District survey data from Year 1 and Year 2 reflecting teacher responses and campus usage reports from this same period were gathered and compared.

The results from these surveys and reports, along with interviews conducted with trainers, principals, and

teachers, are reported in this chapter. These data sources and a timeline corresponding to each is depicted in Figure 3.1.

Background

During the 2001 school year, there was interest from this school district to find a vehicle of delivery for the curriculum. Upper administration wanted to find a method of delivery to ensure that teachers could access the district curriculum both at school and at home without having to rely on large printed notebooks. In addition to the access issue, it was also important to be able to update the curriculum as needed in the fastest, most efficient way. It was determined that the best way would be through an electronic digital medium. With this in mind, administrators began to look for a way to do this. They discovered that a consultant for the district had begun to develop such a vehicle. Administrators asked to see a district that was using the service. A team from the district was formed and a site visit was made to another district that was using the service. The team consisted of both Central Office and campus administrators (Assistant Superintendent for Curriculum and Instruction,

Instructional Technology Director, District Math Coordinator, Campus Principal). After the site visit, another committee was formed to review the findings of the initial committee. This second larger committee included teachers, support staff, and more principals. The initial committee reported what they learned and made an electronic presentation showing examples from the district they visited. The second, larger committee viewed, discussed, and asked questions about the visit and the product. It was decided, after much discussion and input from teachers and administrators, that the district would purchase and implement this online curriculum management system. This decision was made near the end of a school year for implementation the following year. This decision process was consistent with findings from Iowa studies on leadership led by Kurt Lewin as far back as 1939 that recognized the effectiveness of shared decision-making (Green, 2001). In the span of time between the decision to purchase the system, the actual purchase, and the implementation, some administrative changes occurred. The driving force behind the decision to purchase the system, the Assistant Superintendent for Curriculum and Instruction, left the district. The purchase had already

been made and there was an expectation of use by teachers and administrators.

Perception of Need

There was a need in the district to provide a vehicle to deliver the curriculum to teachers in a way that was fast and accessible. It was also important to be able to update the curriculum quickly and easily. Additionally, it was considered important to be able to provide content resources for teachers such as curriculum guides, scope and sequence documents, and lesson plans to use as they would teach the curriculum. These resources could be provided electronically also and could be easily updated in this manner. Another very important factor in the decision was to be able to provide a resource for teachers to have their content area TEKS (1998) available to them in the same location as the curriculum. The curriculum management system allowed for this to happen in attempting to remove roadblocks to goal attainment by making these resources available as supported in the Path-Goal Theory (House, 1971).

Intervening Conditions

Training had to occur so that all stakeholders would be able to use the system appropriately. The first phase of training was for the curriculum supervisors and the technology staff (Dempsey, 1999; Guskey, 2000; Slowinski, 2000). Next, the campus administrators and support staff were introduced to the system and guided through the various components (Cooley, 1998; Hope and Stakenas, 1999; Slowinski, 2000). Then, teachers were trained to use the system on their respective campuses. Training occurred in stages because teachers needed to have a chance to practice what they learned and because there was too much to learn in one sitting (Guskey, 2000). Technology specialists were the ones who developed and delivered the training sessions for both district and campus personnel. The training materials from the company were always reviewed and, when necessary, modified to conform to the computer platform in use on the campus. Training was offered throughout the school day during teacher conference periods on days when technology specialists were scheduled to be on the campus (Sparks, 2002).

Actions-Interactions

The district administration encouraged principals to use the system, but there was no mandate instructing them that they had to use it. The district administration view was that principals would know the proper time to make sure teachers were using the system and left that decision to campus administrators. This response supports Hall and Hord's (2001) change principle #9 – each school is important in the change process and schools within a district will change at different rates. The expectation that principals held for their campus use varied widely at the beginning of implementation with some principals holding extremely high expectations for use. Because there was an online lesson-planning tool included in the system, this was one of the first features to be used by teachers. Just as there were varying levels of expectation on the part of administrators, there were also varying levels of usage among teachers, reflective of change principle #3 – individuals change at different rates (Hall and Hord, 2001). Technology specialists worked diligently to provide campus training sessions to assist teachers in using all aspects of the system. Trainers were encouraged and supported by their direct supervisors to assist teachers in

any way possible. They worked out technical issues, revised training materials as necessary to make it easier for teachers to follow, and acted as conduits between teachers and administration to assure proper communication among all users.

Results

Usage reports – To answer the research questions for this study, it was first necessary to identify campuses with high usage of the system so trainers, principals, and teachers from these campuses could be contacted for interviews. The curriculum management system technical support group provided the district with information regarding usage by campus. From these reports it was determined that certain campuses exhibited high volumes of usage.

Data from the usage reports are represented in Figures 4.1-4.3. A chart for logons for the entire district is presented in Figure 4.1. From these data, a chart of logons for the first and second year of implementation is presented in Figure 4.2. Figure 4.3 is a representation of the difference in logons from Year 1 to Year 2 by four principals with high usage on their campuses.

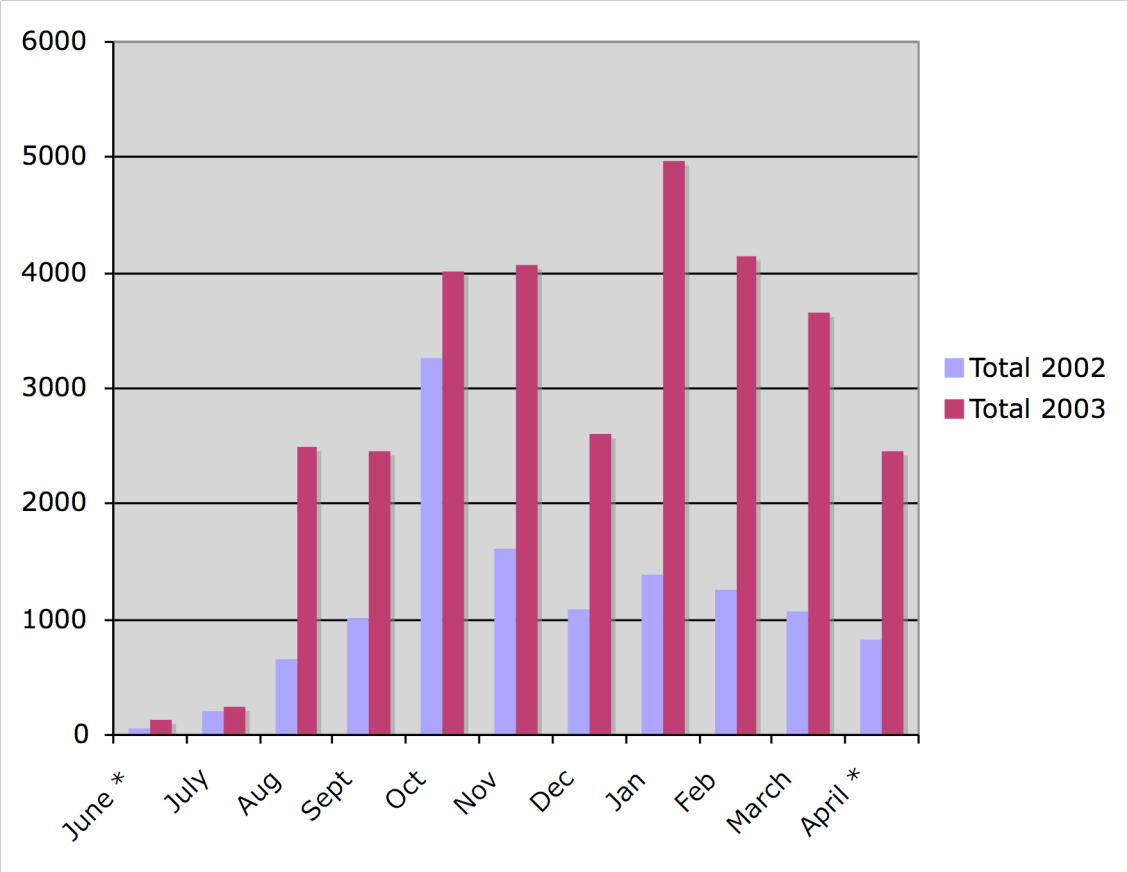

Figure 4.1. Total Logons of All Campuses by Month

Figure 4.1 is a depiction of all district logons per month from June through April in both Year 1 and Year 2. The asterisk on June and April indicate that only a partial month of logons was included. From the depiction of these data, it is apparent that greater usage occurred in Year 2 than in Year 1. There were 12,432 logons in Year 1 and 31,118 in Year 2, a 150% increase.

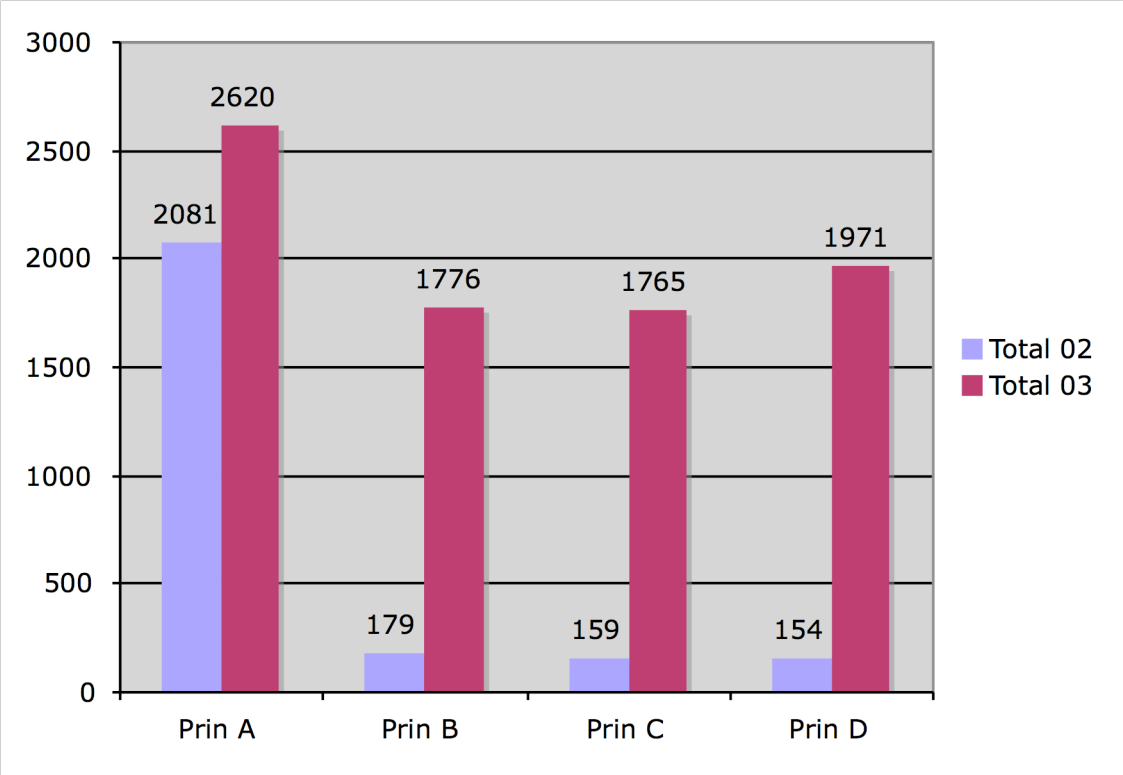

Figure 4.2. Logons for Four Campuses Showing High Usage in Year 2

Figure 4.2 is a representation of logons from the campuses of the 4 principals who were asked to participate in interviews. Principal A already had high usage on her campus in Year 1, but also showed an increase in Year 2. Principals B, C, and D were not in charge of implementation on their campuses in Year 1. There was a change in campus leadership on these campuses in Year 2 of implementation. From the depiction of these data, it appears that the change in leadership on three campuses was a factor in

increased usage. Percent of increase for Principal B's campus was 890%, 1001% for Principal C's campus, and 1170% for Principal D.

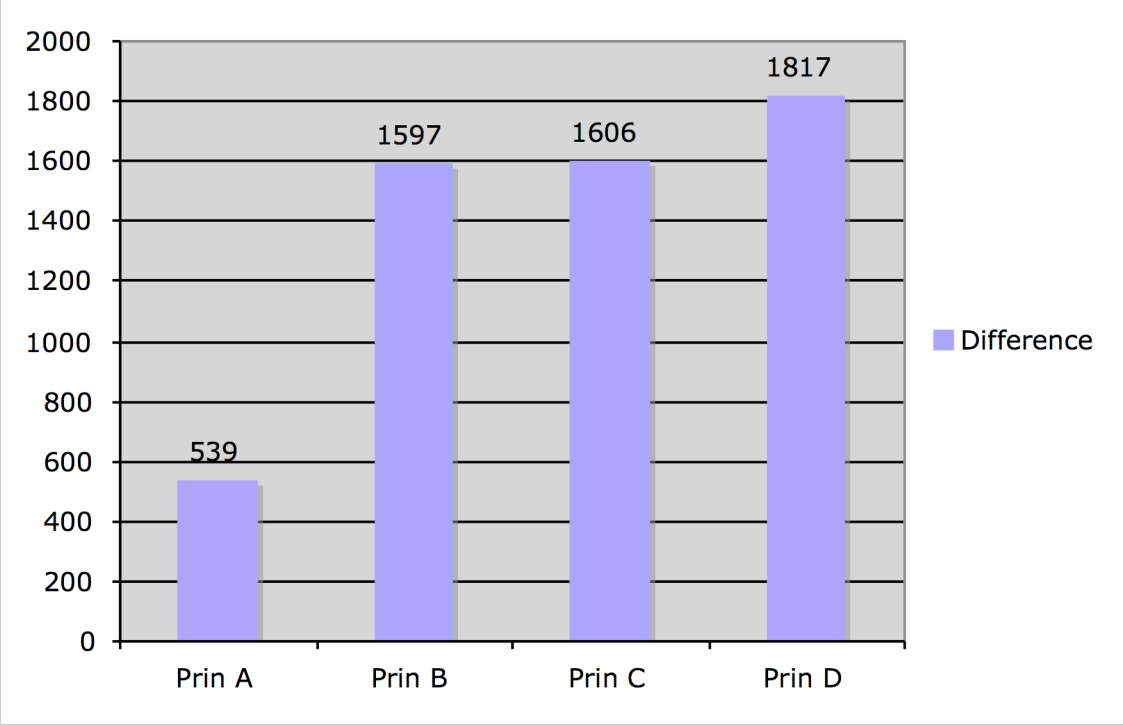

Figure 4.3. Difference in Logons from Year 1 to Year 2 for Four Campuses with High Usage

The data in Figure 4.3 represents the difference in logons for each principal's campus from Year 1 to Year 2. Even though usage on Principal A's campus was high in Year 1, this campus showed an increase in Year 2. The increase in usage for the other three campuses could be attributed

to the new leadership, supported by Hall and Hord's (2001) change Principles 7 and 8 – administrator leadership is essential for change and mandates can work.

Surveys - After the first year of implementation, a survey was sent out to all teachers and principals to collect data regarding this implementation in order to ascertain buy-in. During the second year, the survey was again administered to teachers and principals to gather the same information and to compare data from Year 1 to Year 2 of implementation. The data gathered from these surveys were analyzed using frequency counts and graphed for visual representation in bar charts shown in Figures 4.4-4.14 to reflect more detail regarding usage from Year 1 to Year 2.

Comparison of results of teacher survey Year 1 And Year 2

The first three questions on the surveys (Appendices A and B) dealt with teacher usage. Figure 4.4 represents frequency of use of COAST for all teachers in the district in Years 1 and 2. Figure 4.5 illustrates application of COAST as a "primary" sources, "secondary" source or neither for lesson planning. A third chart reflecting teacher usage is displayed in Figure 4.6. The data presented reflects Year 1 and Year 2 responses from teachers who said they

were "not required", "don't know how", or "don't like using" the system as reasons why they did not use it.

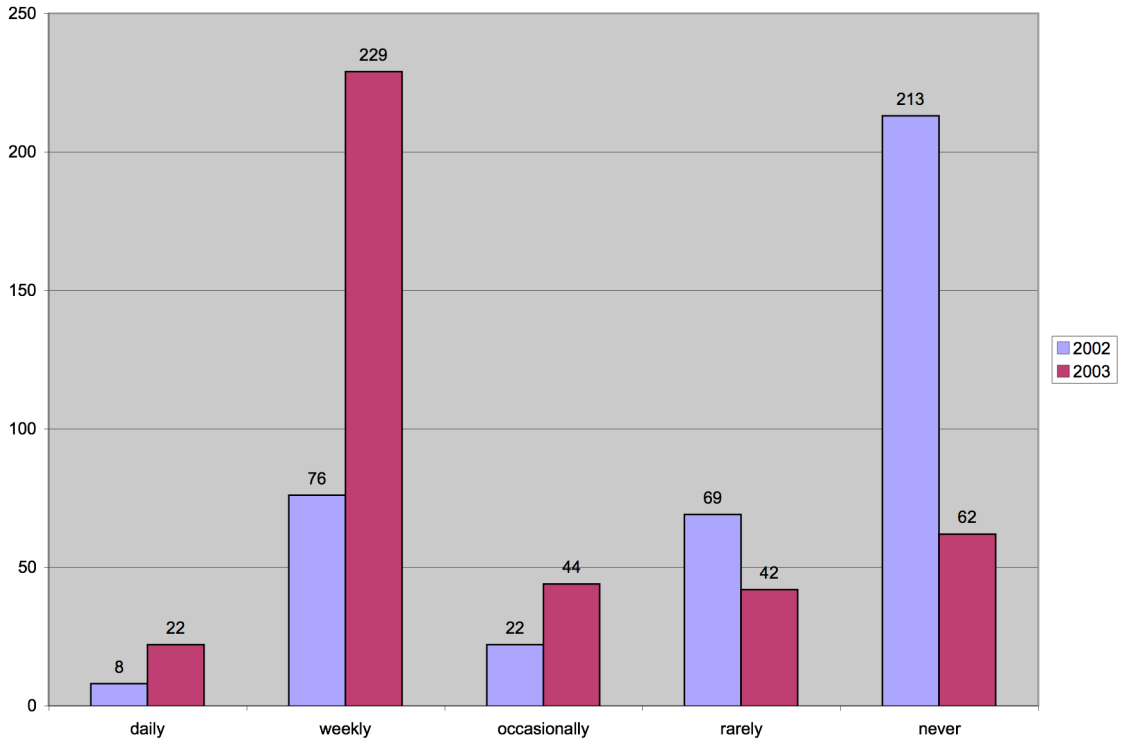

Figure 4.4. Frequency of Use Among All Teachers in the District Year 1 & Year 2

From the data presented in Figure 4.4, it appears that the majority of respondents "never" used the system, but in Year 2 the majority of them used it weekly.

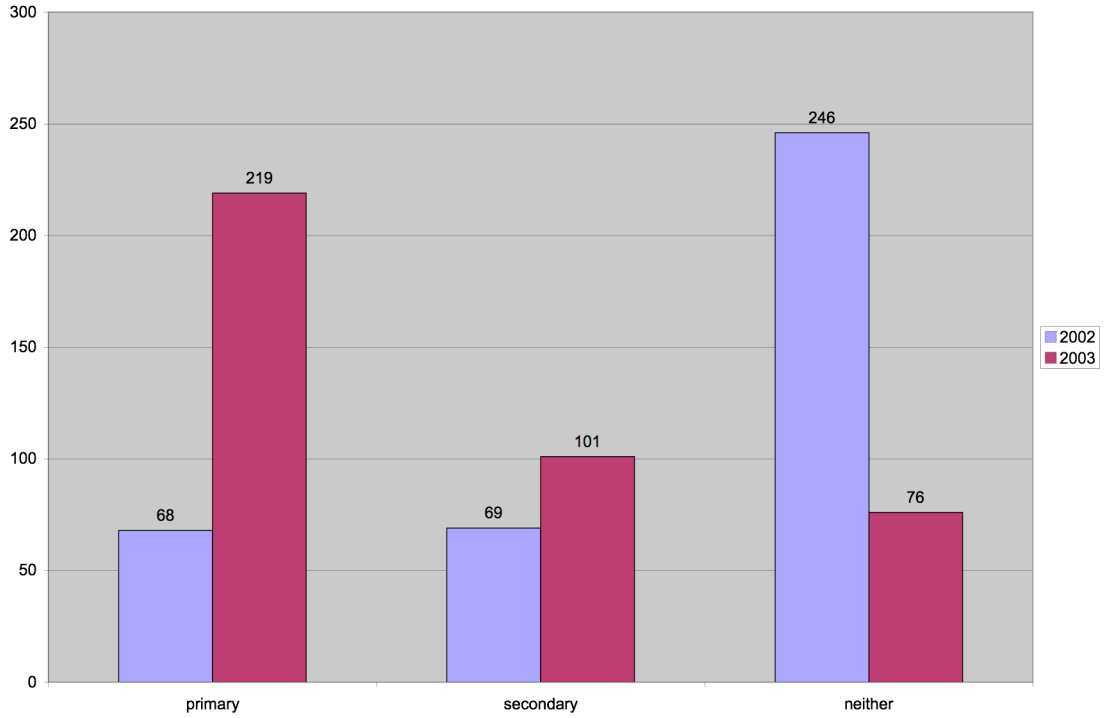

Figure 4.5. Primary or Secondary Source of Lesson Plans

Data reflected in Figure 4.5 provides evidence that more teachers were using the system for lesson planning in Year 2, either as a primary or secondary source and fewer responded that they used it for neither. From year 1 to Year 2, there was a 222% increase in respondents who reported using the system as a Primary Source of Lesson Plans.

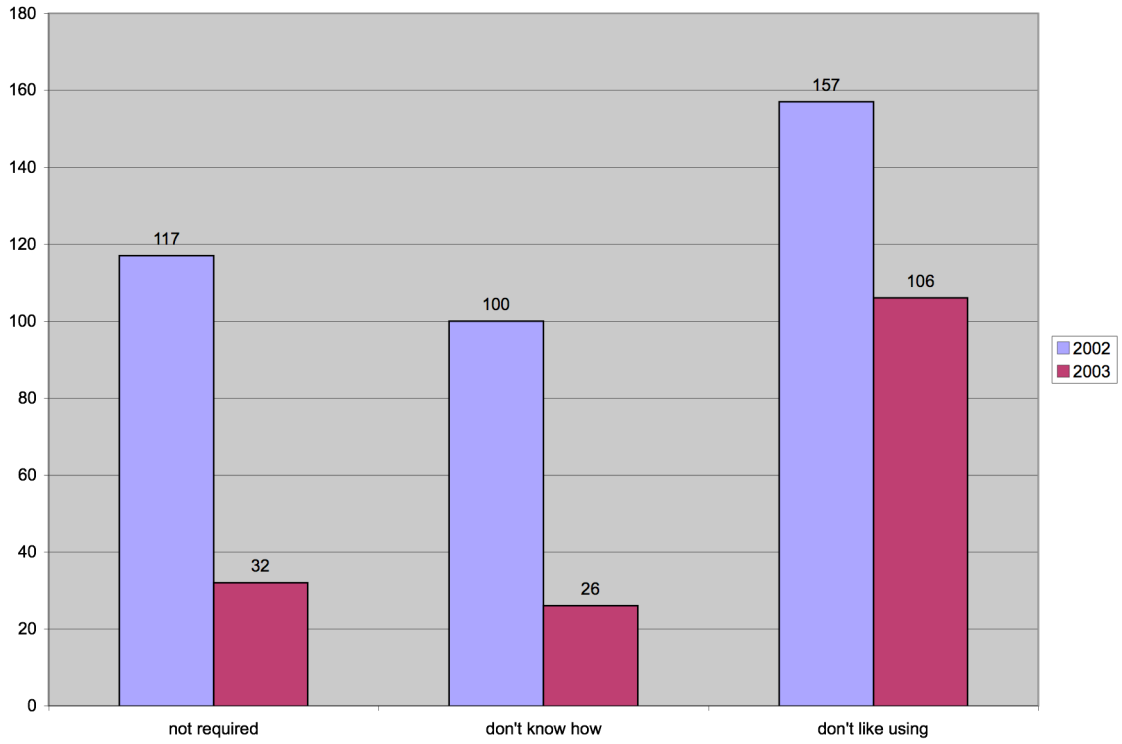

Figure 4.6. Reason Teachers Did Not Use the System

Shown in Figure 4.6, the numerical values indicate that there was a shift in usage from Year 1 to Year 2. The data reflects a 78% decrease in respondents who reported that they were not required to use the system.

The next three questions in the surveys (Appendices A and B) centered on principal requirements, expectations, and supervision of teachers using COAST. Data collected regarding the requirements for system usage by the principal is reflected in Figure 4.7 using categories "yes", "no", or "limited use only".

Figure 4.8 reflects data regarding principal expectation for system usage. Teacher responses were based on their perception of how their principal expected them to use the system. Choices for this question were "use for lesson plans and TEKS (1998) alignment", "use for lesson plans to turn in to the principal", or "no expectations are communicated".

The chart in Figure 4.9 shows responses to a question about how the principal supervised system usage. Teachers could circle more than one response to this question. The responses revealed whether principals were checking their lesson plans online (principal checks), had a minimum use policy, asked them about their usage, did not check their usage, or they did not know how the principal supervised their usage.

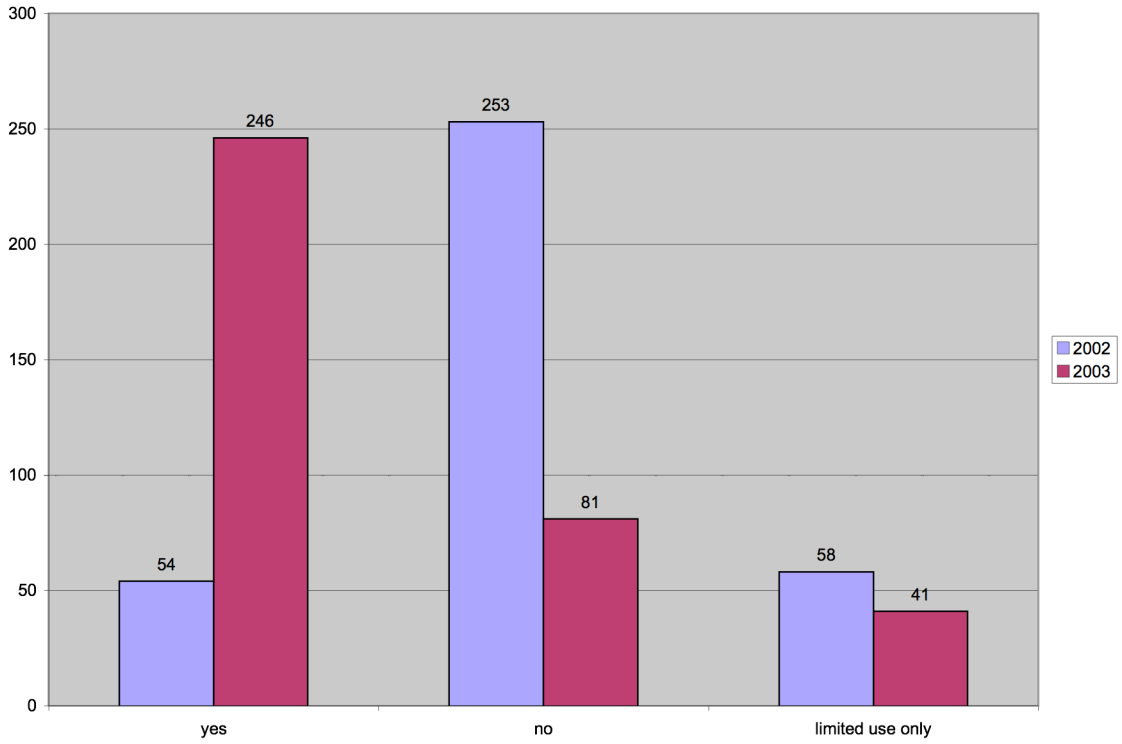

Figure 4.7. Principal Requirement for System Usage

Observing Figure 4.7, in Year 1 of implementation out of all possible respondents only 54 reported that their principal required them to use COAST. Additionally, in Year 1, 253 of all the possible respondents said their principal did not require them to use the system. That number dropped to 81 in Year 2, a decrease of 68%.

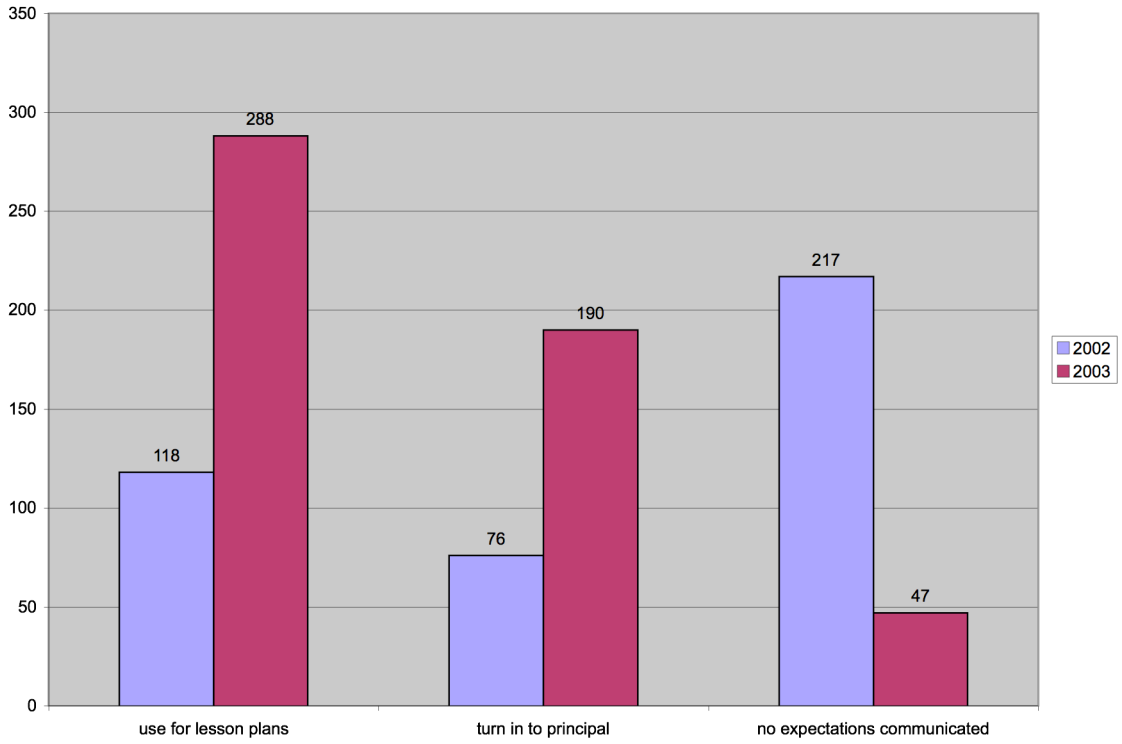

Figure 4.8. Principal Expectation for Teacher Usage

From Year 1 to Year 2, the expectation by principals for teachers to use the system increased. In Year 1, 217 of all possible respondents indicated there were no expectations for usage communicated to them. This number dropped to 47 in Year 2, a decrease of 78%.

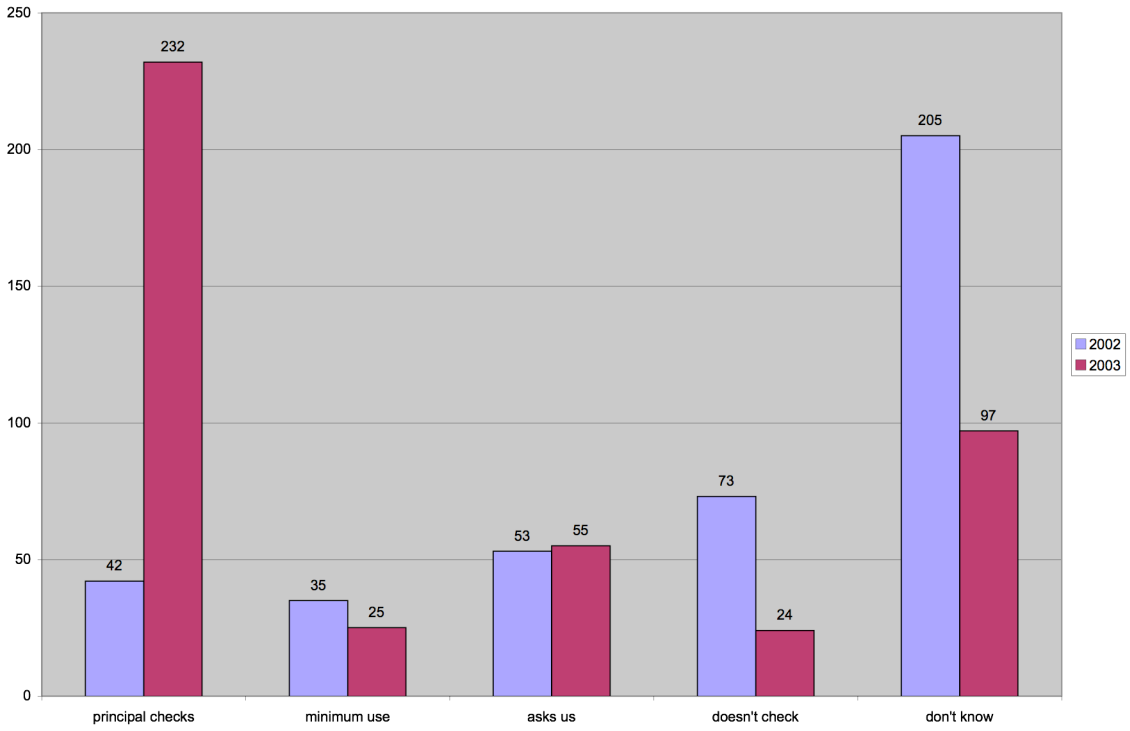

Figure 4.9. Principal Supervision of Teacher Usage

From data presented in Figure 4.9, it appears that most respondents did not know how their principal monitored their usage of the system in Year 1. In Year 2, 232 of possible respondents reported that their principal checked their usage.

Two survey questions dealt with the training teachers received on system usage. Teachers were asked how much training they received. This data, which is reflected in Figure 4.10, indicates if teachers had received "one", "multiple", or "individual/special group" training.

Teachers could choose more than one response to this question.

Teachers were also asked what types of future training they might like to have. Categories they could choose were "introductory", "advanced", "creating lesson plans" or "aligning TEKS". This data is displayed in Figure 4.11.

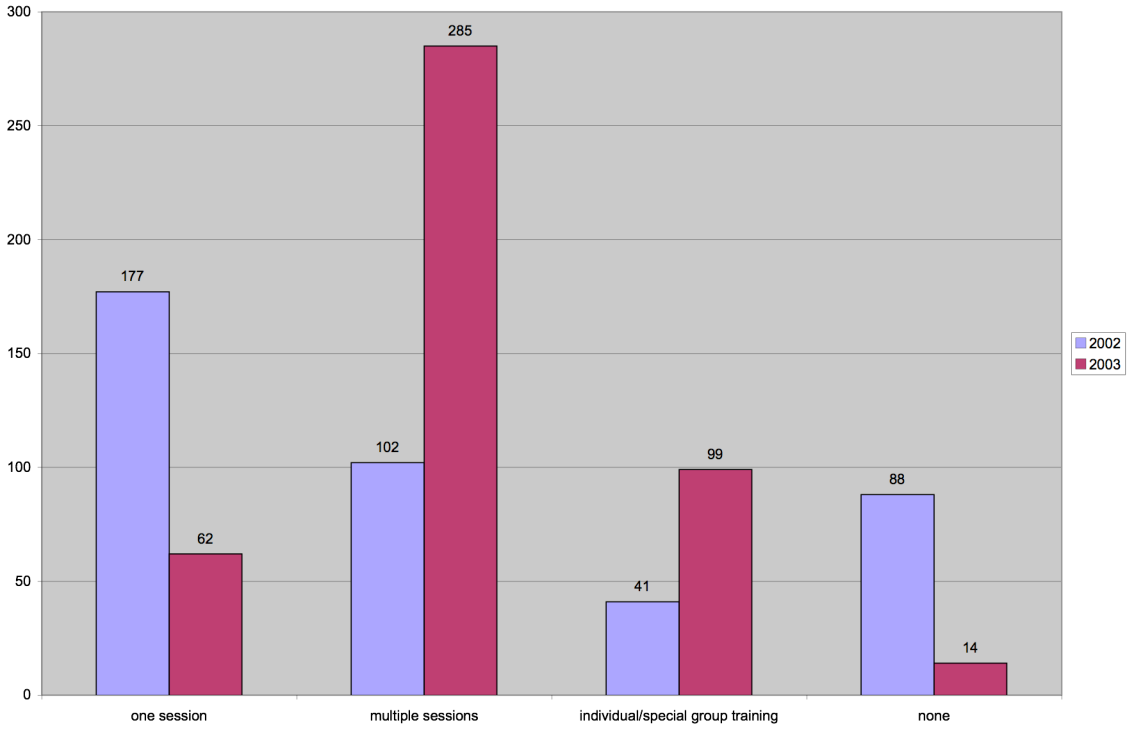

Figure 4.10. Frequency of Training

In Year 2, 285 of possible respondents indicated they had received multiple training sessions in using COAST.

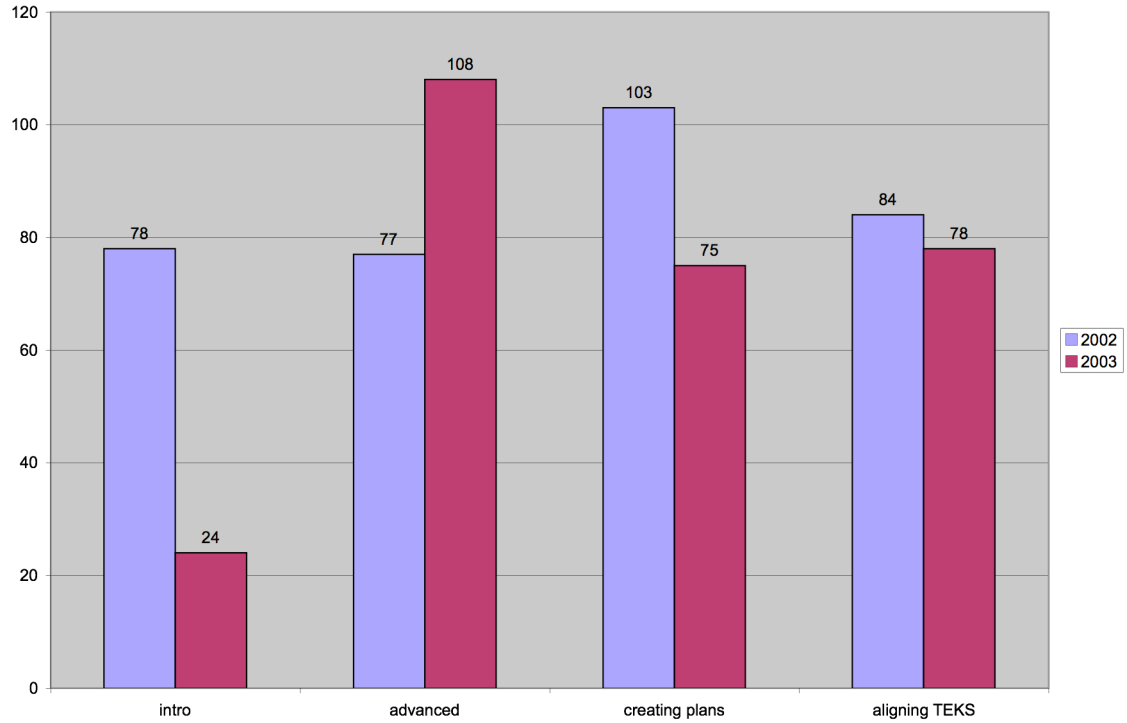

Figure 4.11. Types of Future Training Requested

Data in Figure 4.11 were used to assist trainers and principals in determining the kind of training that should be offered to teachers for the following year. In Year 1, most respondents wanted Introductory or Lesson Plan training. In Year 2, 108 respondents indicated they would like to have Advanced training.

The last three survey questions were used to determine teachers' comfort level and perceptions of the COAST system. Figure 4.12 reflects responses to the question regarding comfort level. Possible responses were "very comfortable", "comfortable", "uncomfortable", or "very

uncomfortable". Data in Figure 4.13 is a representation of the responses to the question about what was needed to become more comfortable with possible responses of "more training", "more time", "more supervision", and "more mentoring". Teachers could choose all answers that applied to them.

The final survey question was used to determine if teachers understood why COAST was in use by the district. Choices were "lesson plans", "study TEKS", "aligning lesson plans with TEKS", or "online lesson plans". Figure 4.14 represents the responses to this question.

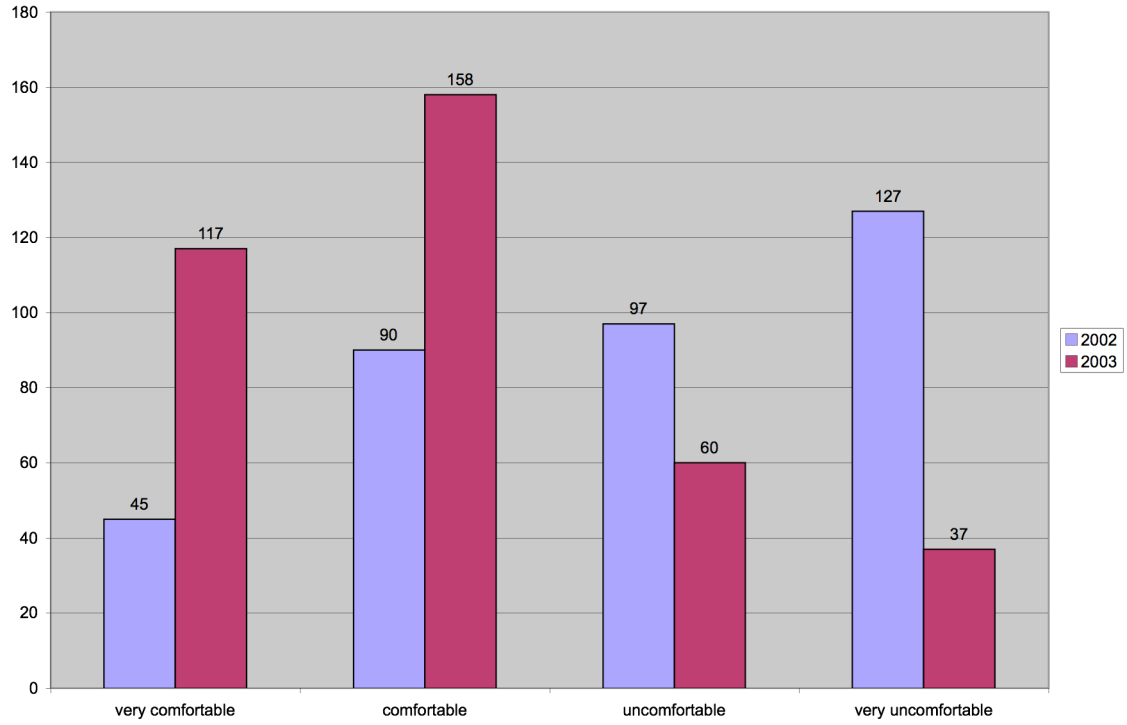

Figure 4.12. Comfort Level in Using COAST

As illustrated in Figure 4.12, in Year 1, fewer teachers were "very comfortable" or "comfortable" using COAST. In Year 2, numbers of those "very comfortable" or "comfortable" increased and the number of respondents "uncomfortable" or "very uncomfortable" decreased.

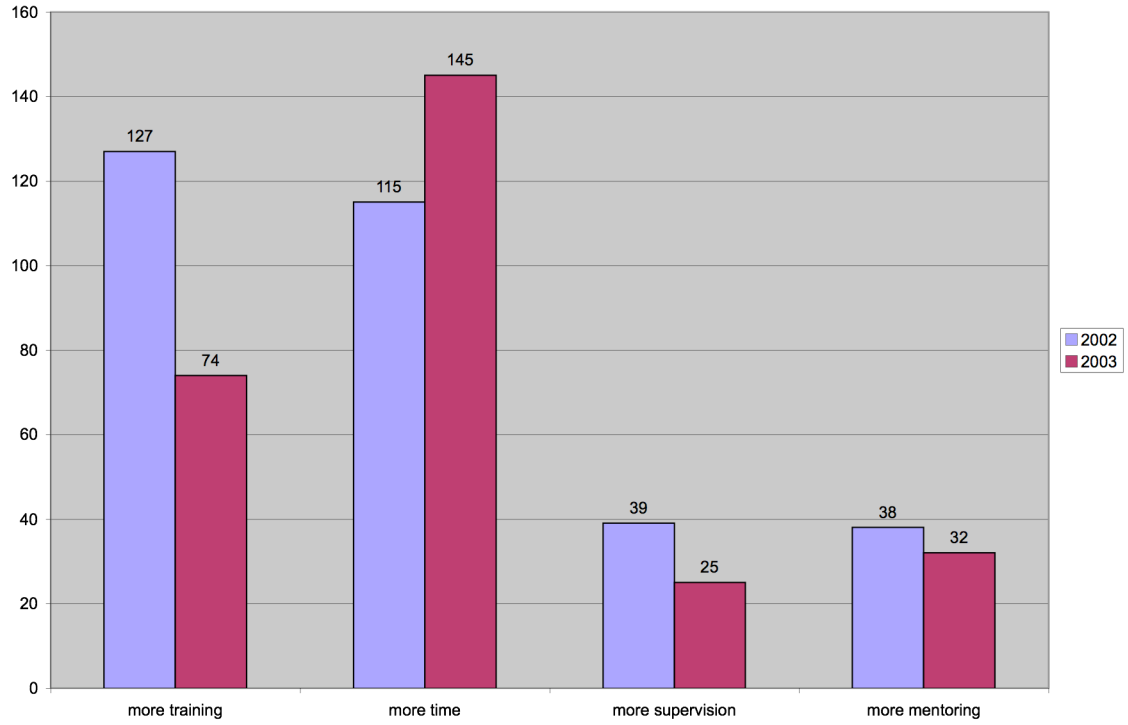

Figure 4.13. Support Requested to Increase Comfort Level

As illustrated in Figure 4.13, fewer teachers reported that "more training" was necessary to help them feel comfortable using COAST in Year 2. Respondents in both Year 1 and Year 2 reported that they needed "more time".

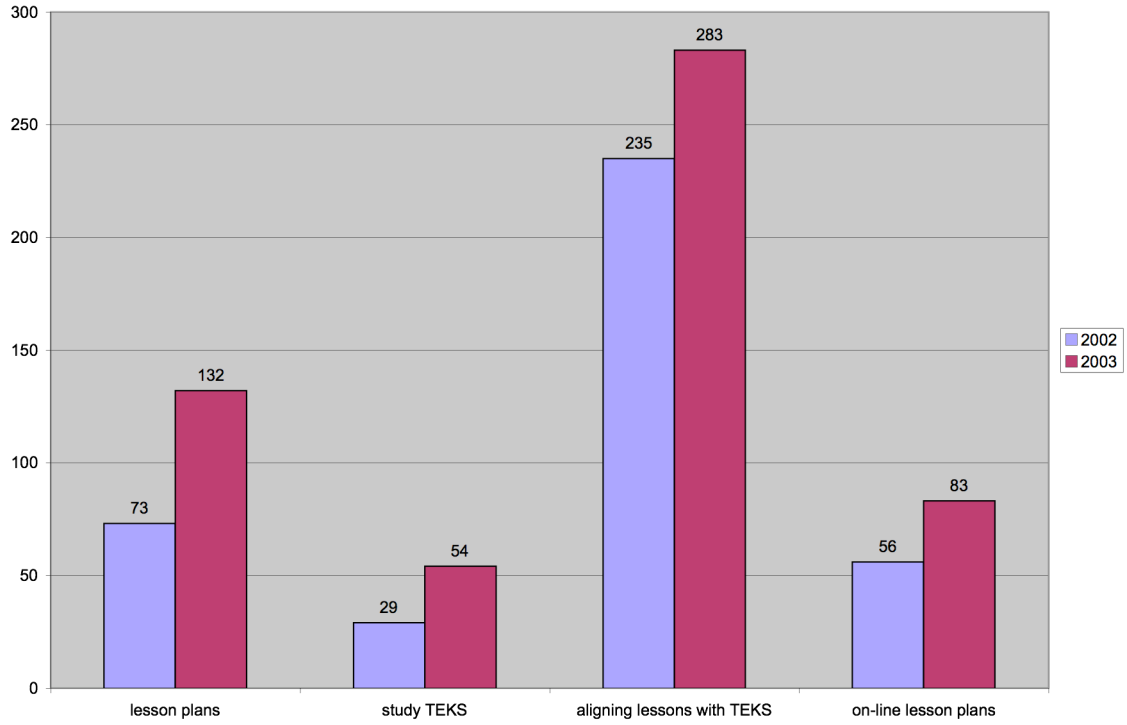

Figure 4.14. Primary Focus for Having Coast

In both Year 1 and Year 2, most respondents indicated that the primary focus for implementing COAST was to align their lessons to the state standards (TEKS).

Interviews - Interviews were conducted with technology trainers, administrators, and teachers from campuses that showed high usage of the system as recorded and reported by the curriculum management system vendor (COAST). Common themes emerged throughout the interviews that were conducted to provide additional information to answer the research questions. Listed below are the research questions and the interview questions that were used to provide answers to each of the research questions as well as the common answers provided by each group – trainers, principals, and teachers.

Research Question 1: What, based on emerging and existing data, are strategies associated with effective leadership?

Trainers

Trainer interview items 1,2,5, and 7 addressed Research Question 1. In answering trainer item 1, "Describe the overall level of usage of the online curriculum management system you see among the teachers you have trained",

all three trainers reported increased usage among groups they trained from Year 1 to Year 2. Two trainers on elementary campuses reported increased usage, but it varied from campus to campus. This is supported by Hall and Hord's

(2001) change principle #3 – an organization does not change until the individuals within it change. These trainers provided support to five different campuses. The middle school trainer reported differences in usage among the content areas on her campus. This trainer provided support only for this campus.

In trainer interview item 2, "Do you notice a difference in usage among the campuses where you train? If so, describe the difference", all three trainers reported differences in usage. This is supported by Hall and Hord's (2001) change principle #9 –the primary unit for change is the school and schools within a district will progress at different rates in making change. The two elementary trainers reported differences in usage and differences in implementation on the campuses they served. The trainers provided training on five different campuses. The middle school trainer reported differences in usage among the different departments. This trainer provided support only for this campus.

In addressing trainer interview item 5, "Describe the support you would like to see next school year to make the system more helpful or usable for teachers", the elementary trainers agreed that expectations from district

administration should be the same for all campuses. One trainer said, "So I would like to see the district continue its commitment to it (COAST) and that commitment cover all campuses and all grade levels with the expectation is that everybody will be using it.".

In trainer interview item 7, "Do you think other changes should be made? If so, what are they?", both elementary trainers said they believe there should be more support and accountability from the district level so all campuses would use the system. All three trainers said there should be more campus level administration involvement on all campuses. This is supported by Hall and Hord's (2001) change principle #7 regarding the necessity of administrator leadership to long-term change success.

Principals

Principal interview items 2,6, and 8 addressed Research Question 1. In answering principal item 2, "What factors do you think most strongly influenced their (teachers) use of the system?", all four principals said using the system was an expectation or requirement they held for their teachers. They also said that they checked online to see if teachers were using the system and left notes for the teachers indicating they had read their

lesson plans. Principals A and B said their expectations for use were in incremental steps.

In addressing principal interview item 6, "Is this a valuable instructional tool that should have continued (or increased) district support? Explain.", all principals agreed COAST was a valuable instructional tool and should be continued. Principal A and B said they felt there should be more support from the district level in getting people to use the program. Principal C and D felt teachers needed to work together to support each other to become more proficient in using the program, in addition to the training that was provided by the technology department. In addressing principal interview item 8, "Do you think other changes should be made? If so, what are they?", principal A and B both wanted more support at the district level for all campuses to use the system. Principal C wanted to see more support for the program from other principals. Principal D wanted more support for training teachers and providing them additional assistance.

Teachers

Teacher interview items 1 and 7 addressed Research Question 1. In answering teacher item 1, " What are the

factors that influenced your use of the online curriculum management system? Describe.", the teachers responses were:

Teacher A: "COAST was presented to us in "bite size chunks". We were required to implement those pieces after each training in a progressive manner that did not feel overwhelming. If we were 'catching on more quickly' you could move on more quickly than required. Our administrator truly put best teaching practice into use and met each teacher where they were and moved them on accordingly to their comfort level and ability. All of our staff use COAST very happily and proficiently."

Teacher B: "My first year of teaching our principal encouraged us to use COAST at the beginning of the year. As we became more familiar with it, it became a requirement to use COAST."

Teacher C: "I was introduced to COAST when I started teaching at my school. Our principal asked the teachers to begin using it gradually, with the goal of complete implementation (COAST being used for all subjects) by January."

Teacher D: "I started to use it primarily because Principal B asked me to. I really became more dependant on it as I used it more."

Teacher E: “The main factors influencing my continuing use of COAST are that 1) it’s available on-line. I can work on it at home or at school. 2) It’s organized and neat. 3) My lessons are accessible by an administrator so that I don’t have to be concerned about whether or not I remembered to turn in paper copies of my lessons. 4) Because there are electronic copies, I don’t have to worry about the administrator losing my paper copies only to ask me for them at year’s end. 5) I like being able to see a taught report for the TEKS covered. 6) I understood that there was some expectation on the part of my supervisors that we teachers were to begin using COAST regularly.”

Teacher F: “To use technology in lesson plans.”

For teacher interview item 7, “Were changes made in implementing the online curriculum management system? If so, what are they?”, the teachers responded as follows:

Teacher A: “No—it was done well the first time.”

Teacher B: “I noticed that early childhood objectives were added. This has allowed me to implement some standards into my lessons.”

Teacher C: “To my knowledge, no changes were made in implementing COAST.”

Teacher D: “We were required to use the system. That was a change. In the system itself, moving from one design to another was implemented.”

Teacher E: “Regarding changes in implementation, changes were made in the COAST user interface and in the resources available. The user interface has become somewhat more user friendly and additional COAST resources were made available.”

Teacher F: “New outlines of the lesson plan format.”

Research Question 2: Why, as perceived by stakeholders, are these leadership strategies effective in implementing an online curriculum management system?

Trainers

Trainer interview item 3 addressed Research Question 2. In answering trainer item 2, “What factors do you believe influence the difference in usage?”, all three agreed that the greatest influence on usage was the expectation of the campus administrator. One trainer said, “I’ve noticed that when the principals gave the expectations up front to the teachers, it really did help”. Another trainer said, “So, overall I would say that the biggest thing is the expectation of the principal”.

Principals

Principal interview items 3,4, and 5 addressed Research Question 2. In responding to principal item 1, "To what extent were you involved in the staff development for using the curriculum management system that your teachers received?", all four principals required teachers on their campuses to attend training on the system provided by the technology specialists. Principals A and B attended training along with their staff. Principal C attended occasionally when possible, but "popped in" at least once during every training session for every grade level. Principal D attended the training for administrators but not with the teachers.

In addressing principal interview item 4, "What (if any) changes would you like to see, from a district perspective, that would influence usage by your campus?", all principals expressed concerns regarding support for the program. Principal A felt more resources to support the curriculum should be provided for teachers within the online system. Principals B and C felt that there should be more support from the district level for using and continuing the program. Principal D felt there should be more support for using the program from administrators.

In responses to principal interview item 5, "Do you think using this system has helped your teachers learn and address the standards they are responsible for teaching?", all principals strongly agreed that using this system helped their teachers learn their standards. Principal A said, "My teachers know their state standards now backwards and forwards".

Teachers

Teacher interview item 3 addressed Research Question 2. In response to teacher interview item 3, "Which of these factors (that influenced usage of the system) would you attribute to administrative leadership? Explain.", the teachers replied as follows:

Teacher A: "ALL!!!!!!"

Teacher B: "My administrator is knowledgeable in technology and encourages the use of it in many different avenues."

Teacher C: "The main factor was administrative leadership. If an expectation had not been set by our principal, I may not have started using COAST. I was a bit apprehensive because I do not feel confident with new technology applications."

Teacher D: “Making us learn the program made me like it and I attribute that to Principal B.”

Teacher E: “Assuming that I understand the question correctly, I’d say that supervisor expectations would be that factor. While I enjoy new technology, I notice that teachers really begin using it only when principals have clear expectations that technology be used and when those expectations are frequently reiterated.”

Teacher F: “Our science coordinator thought it was important to use and so I did and found it to be helpful.”

Research Question 3: Is flexibility in implementation of an innovation related to the effectiveness of leadership strategies?

Trainers

Trainer interview item 6 addressed Research Question 3. In responding to trainer item 6, “Were changes made in implementing the online curriculum management system? If so, what were they?”, all three trainers said changes were made regarding training. One elementary trainer said the training had been analyzed and broken into smaller components, which made it easier for teachers to digest. Another elementary trainer said training new teachers on how to use the system before the beginning of the school

year helped the teachers to become effective users of the system. The middle school trainer said that a change in leadership at her campus resulted in expectations for teachers to attend training.

Principals

Principal interview items 1 and 7 addressed Research Question 3. In answering principal item 1, "Describe the expectations you have had for your teachers to use the online curriculum management system.", all principals said they had a plan for implementation. Principals B, C, and D were not the campus leaders during the first year of implementation as Principal A was. They came into their campus leadership roles in Year 2 and had a plan for implementation of the system at that time, similar to the "grand vision" Guskey (2000) says must guide changes. All four principals said training was a big part of the expectation they held for their teachers. They also said that they tried to assist teachers by helping them and encouraging them at their level of comfort and helped them move forward.

In responding to principal interview item 7, "Were changes made in implementing the online curriculum management system? If so, what are they?", principal B, C,

and D said that changes were made in the expectations they had for the teachers to use the system. They each said that they had to adjust the expectations they had for teachers when they realized that the expectations they had were too high. Principal A focused on changes that were made in the system itself. The techniques leaders use to implement the change necessary for the success of an innovation are critical to the success of the innovation (Marzano et al. 2005).

Teachers

Teacher interview item 2 addressed Research Question 3. The responses to teacher interview item 2, "Would you continue to use this tool if your campus administrator did not hold it as an expectation? Elaborate." were:

Teacher A: "OF COURSE!!!! I can't imagine teaching without it. It has improved my "teaching focus" for every lesson to be on the TEKS and not on the activity. I pre-plan when all my objectives will be taught on the 'taught report' and plan all subject areas on the lesson-planning tool. I no longer have to make a separate substitute lesson plan. COAST is easy to read and follow and is plenty detailed for a sub to follow. I have often said, 'If I had to go back to writing lesson plans in a box on paper, I would go work

at Foley's.'"

Teacher B: "I would continue to use it. I like that it is online and that I can access it from wherever I am. I also like that I can access early childhood and kindergarten objectives from the same site."

Teacher C: "Yes. It has helped me to monitor my progress as I implement the TEKS in my lesson plans."

Teacher D: "Probably. I like a lot of things about it – documentation, purposes, organization, and the TEKS easily found."

Teacher E: "Yes, I would continue to use COAST if it were available, whether or not its use were an expectation. See the factors listed in answer number 1."

Teacher F: "Yes, it is a start for our school's expectations."

Summary

The findings of a study of the impact of leadership on the implementation of an online curriculum management system were presented in this chapter. In the first part of the chapter, an introduction and overview of the study was presented. Next, survey data from teachers gathered from both Year 1 and Year 2 of implementation of the online

curriculum management system were compared and presented in charts. The last section in this chapter presented the information gathered from interviews of technology trainers, principals, and teachers from campuses that showed high usage of the system. The next chapter will include a summary of the study, results, and recommendations for further study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS FOR FURTHER STUDY

Introduction

A summary of the study and important conclusions drawn from the data presented in Chapter IV will be presented in this chapter. The chapter contains five sections: a summary of the study, major findings, findings related to the literature, conclusions, and recommendations for further research.

Statement of the Problem

School districts typically implement innovations perceived to be the answer to a difficult problem they need to solve. However, when the problem is not solved in a timely manner, sometimes without regard to the severity of the problem, the innovation is tossed aside and another takes its place due to pressure that is imposed to resolve the original problem (Alexander, Murphy, & Woods, 1996). There was a need to determine the extent to which leadership played a role in the successful implementation of an innovation.

Purpose

Although an innovation may be re-invented or somewhat changed depending on the setting or school in which the implementation occurs (Rogers,1995), the long-term success of the innovation will depend upon the administrative leadership of the school (Hall & Hord, 2001). The purpose of this study was threefold:

1. To determine, based on existing and emerging data, qualities that are associated with leadership.
2. To determine why these strategies are effective in implementing an innovation.
3. To determine if flexibility in implementation of an innovation would positively impact usage by the adopters.

This information will be used to positively impact the usage level on other campuses in this school district and to make that information available to other districts as they implement similar technology innovations.

Research Questions

1. What, based on emerging and existing data, are qualities that are associated with leadership?

2. Why, as perceived by stakeholders, are these leadership strategies effective in implementing an online curriculum management system?
3. How is flexibility in implementation of an innovation related to the effectiveness of leadership strategies?

Review of the Methodology

In this study, the researcher examined the leadership qualities associated with principals who were successful in implementing an innovation – an online curriculum management system – on their campuses. Both qualitative and quantitative measures were used to gather data for this study. The research was conducted in three phases.

Usage reports for Year 1 were sent to members of the district leadership by the technical support team of the online curriculum management system (COAST) for monitoring purposes. These reports were requested by district leadership members after Year 2. Both sets of data were compared and analyzed for frequency of use on all campuses and to determine which campuses had the highest usage. From this data, campuses with high usage of the system were identified.

Four principals from campuses with high usage were asked to participate in interviews and were assured of the confidentiality of this process. Throughout each interview the researcher asked for elaboration and clarification from the participants. The interviews were both transcribed and taped. Final copies of the interviews were sent to each participant for editing or further clarification. These interviews were conducted on the principal's campuses so they would not have to take the time to travel to another site. All principals were asked the same set of questions (Appendix A). These leaders were also asked to suggest teachers with high usage on their campuses for possible participation in interviews. Trainers who worked on these high-usage campuses were also selected for interviews.

Surveys were given to all teachers in the district at the end of both Year 1 and Year 2 of implementation (Appendix B & C). Teachers were asked to complete and return the surveys on a voluntary basis. In 2002, 392 surveys were returned. In 2003, 403 surveys were returned. The district listed 985 teachers in 2002 and 992 teachers in 2003. Data from surveys from both years were analyzed for frequency and types of usage.

Major Findings

Research Question 1: What, based on emerging and existing data, are qualities that are associated with leadership? In answering Question 1, the data indicate the following:

The positive effect of administrator expectations and monitoring was supported in interviews with the trainers, the principals, and teachers. The expectations that the campus leader held for the teachers they supervised was a vital factor in the usage of COAST. Survey data depicted in Figure 4.7 supports the positive effect of principal requirements and Figure 4.8 supports the positive effect of principal expectations. Along with the expectations that the principals set for the teachers, they also monitored the usage. Survey data regarding principal supervision of system usage represented in Figure 4.9 reflects the positive impact of principal monitoring.

The elementary trainers who were interviewed said they noticed a difference in usage among the campuses they served and the middle school trainer noticed differences in usage among departments. Trainers attributed the difference in participation in training sessions to campus leadership. The increase in the frequency of training sessions attended

by teachers from Year 1 to Year 2 is evidenced in the survey data depicted in Figure 4.4.

All four principals who were interviewed said they set the expectation for their teachers to use the system that is supported by district survey data reflecting ***Principal Expectation for Teacher Usage*** shown in Fig. 4.8. These principals checked online to monitor teacher usage and responded to teachers by leaving online notes to inform teachers their lesson plans had been reviewed. District survey data shown in Fig. 4.9 shows an increase in principal supervision in the second year of implementation.

Teachers used the system because they were required to use it. Fig. 4.7 illustrates the increase in teachers whose principal required them to use the system. Several teachers said they learned to use COAST in stages or gradually, but all of them used it because their campus administrator expected them to use it. The increase in usage attributed to principal expectation is supported by the data depicted in Figure 4.8.

Research Question 2: Why, as perceived by stakeholders, are these leadership strategies effective in implementing an online curriculum management system?

Strategies principals used in implementing COAST usage on their campuses included:

1. setting clear expectations for teachers to use COAST and monitoring their usage
2. meeting with individuals and groups to deal with problems as they arose
3. actively participating in learning the COAST system so they could support teacher usage

In answering Question 2, the data indicate the following:

Principals' policy of total participation with no option to decline illustrates their expectation for teacher usage of COAST. A common approach was 1. Principals clearly stated what they expected from their teachers;
2. Principals expected some resistance and dealt with it on an as-needed basis; 3. Principals attended training either with the teachers or with other administrators. Principals met with individual teachers when problems occurred and helped teachers work through the difficulties they were having.

Interview data from each of the trainers reflected the application of the leadership strategy of stating clear expectations for usage by the campus administrator as evidenced by one trainer who said it helped when the

principal gave that expectation “up front”. Another trainer said, “Without a doubt!” when asked if principal expectation influenced COAST usage on her campus. Along with the requirement for use, the principals did not allow teachers on their campuses to be non-users of COAST.

Data from the interviews with principals further supported the importance of their expectations of the teachers. Principals said they required their teachers to attend the training that was offered to help them learn to use the system. All of the principals involved themselves in some level of training to become familiar with how the system worked and options available within COAST. Principals stated they needed support from the district level in requiring teachers to use the system. They also responded they thought other campus administrators should show support by requiring their teachers to also use the management system. All principals strongly agreed that system usage helped their teachers learn their state standards. This assertion is supported by survey data depicted in Fig. 4.14, which reflects teacher respondents who knew they were using COAST to help them with their TEKS.

Teachers, in their interviews, said principal presentation and implementation of COAST, the principals' administrative leadership, and the principal's knowledge of technology were all factors in the successful implementation of COAST on their campuses. Expectations set by campus or district administration influenced teacher usage as supported by interviews with teachers and trainers. Evidence of this influence is reflected in the data depicted in Fig. 4.6 and 4.8, which reflect a shift in requirement for usage, by the principal from Year 1 to Year 2.

Research Question 3: How is flexibility in implementation of an innovation related to the effectiveness of leadership strategies?

In answering Question 3, the data indicate the following:

Interviews with trainers specified that changes were made in the training session format. Delivery of instruction was presented in meaningful chunks. District data depicted in Fig. 4.13 show fewer teachers district-wide felt that more training was needed after Year 2, indicating that training modifications may have helped the teachers use the COAST system more easily. Also, trainers said that new teachers should be trained to use COAST

before the school year started to increase their comfort level in using COAST. In support of this suggestion, new teachers were trained on using COAST before Year 2 of implementation began. The data shown in Fig. 4.12 indicated an increase in comfort with the program. This increase (as illustrated in Year 2) may have been influenced by the supportive help new teachers received prior to the start of the school year.

All principals indicated they had a plan for implementation. These principals also supported training efforts on their campuses that helped their teachers learn more about COAST. Principals of the campuses where implementation of this innovation was successful each reported that shared decision-making played a key role in increased teachers usage. Each principal found ways to work with teachers who were struggling. These leaders met with teachers, either in teams or individually, to help them find a way to use the system at their own comfort level. All principals stated in an interview that their expectations were revised when they were found to be unachievable. Then, they increased expectations as the users were able to perform at a higher level of usage. A change in campus leadership, as evidenced in Fig. 4.2,

occurred on three of the campuses and positively impacted usage.

Teachers realized the benefits of COAST after they became proficient users. One teacher said, "Making us learn the program made me like it and I attribute that to Principal B". Another teacher stated, "I can't imagine teaching without it. It has improved my 'teaching focus' for every lesson to be on the TEKS and not on the activity". They liked being able to access their standards and their lesson plans from any place they had an Internet connection. A middle school teacher said, "[One of] the main factors influencing my use of COAST [is] that 1) it's available online. I can work on it at home or at school". They valued the documentation that was available through the online system. A Life Skills teacher responded, "I also like that I can access early childhood and kindergarten objectives from the same site".

Findings Related to the Literature

The findings in this study were directly supported by the literature. These findings revealed successful facilitation of the change process led by the principals and parallel the literature on the change process. The

expectation and requirement for usage, the need for administrative support, the planning for implementation, are all supported through Hall and Hord's change principles. These principals expected resistance to change, as acknowledged by Marzano, Waters, and McNulty (2005), and dealt with it as the need warranted.

Training and professional development for usage of COAST was expected by the successful campus administrators, as supported by Guskey (2000). Likewise, modification of the training to be more effective was also expected. As Sparks (2002) suggested, these sessions were embedded in the school day. The principals themselves also attended training providing leadership by example (Dempsey, 1999). Teachers realized relative advantage (Rogers, 1995) of the system after being required to use it.

Principals worked with teachers who struggled and exhibited flexibility as supported by Marzano, et al., (2005) who referred to this in their work. Although the principals had certain expectations for usage, they also allowed shared decision making for some of the decisions regarding implementation, a model supported by the work of Lewin, Blake & Mouton, and Vroom &n Yetton (Greene, 2001). When necessary, they met with individual teachers to assist

them, which is reflective of communication through interpersonal channels (Rogers, 1995) and supported as a way to work with adult learners (Knowles, 1970). The principal's knowledge of technology impacted implementation, supported by Cooley [online]who stated that these principals have the edge and Hope & Stakenas (1999) who stress that administrators should understand how technology works in order to support its use.

Conclusions

Several themes emerged from this study that support the importance of these leadership skills when implementing an innovation such as Central ISD did. As the data from this study suggests, to adopt an innovation such as an online curriculum management system, certain leadership qualities are necessary. As expectations and pressure upon school districts mounts to increase performance, school district leaders will continue to seek innovative approaches to impact teacher and student performance.

Clear expectations and requirements that are monitored

- expectations and requirements for use set forth by the campus leaders were the most important factors in system usage.

- specific expectations varied by campus, but each of the principals made their expectations clear
- the usage was monitored by the campus leader
- teachers knew what the requirements were and they also knew they were being monitored by the principals.

Consistency; non-use not an option

- principals continued to support the teachers on their campuses, regardless of where the teachers were in the implementation process
- principals expected some of the teachers to be resistant
- they did not give the teachers the option of non-use
- principals dealt with problems as they arose
- principals met with teachers either in groups or as individuals
- they worked through issues together

Modify expectations; move learners as they are comfortable

- principals monitored system usage
- they also monitored where teachers were in the implementation process
- principals stayed involved
- they were willing to be flexible with their expectations

- each principal set expectations for teachers
- they would modify their expectations when they noticed teachers struggling or becoming frustrated
- principals were willing to meet the teachers where they were with their learning, allow them to become comfortable with that learning, then set new expectations
- principals did not lower their expectations, they only modified them to meet the level of concern of the teachers.
- principals added new requirements, but only when they felt that the teachers were ready for the next step.

Benefits realized as expectations and usage increased

- Teachers who were resistant realized the positive impact
- As requirements for usage increased, greater realization of benefits became apparent to teachers.

Recommendations for Further Study

The knowledge of the change process in implementation – To effect a deep, dramatic change in any environment can be disastrous if there is not depth of understanding of the many pitfalls that can occur during implementation. Further

study should focus on successful implementations during which the stakeholders also studied the change process and were aware of what they might expect to occur as the process developed. These level-two changes can be very difficult and further information regarding successful implementation of them would be very valuable to others who attempt to effect that type of change.

Longitudinal studies of innovations in schools – Innovations need time in order to become adopted by the stakeholders. Too often, schools do not allow the time necessary for the innovation to become adopted and successful. More information is needed about schools that have adopted innovations successfully. The information would provide support for schools that are trying to implement an innovation but are struggling with the process.

Successful curriculum and technology implementations – As technology becomes more and more a part of everyday life, it also becomes more a part of the way schools work. Traditional practices in schools are changing to keep up with and to make use of faster, more efficient methods. In many districts, the curriculum is blended with technology to provide broader access to resources for teachers,

administrators, students, and parents. Further study should be done on successful implementation of these endeavors by forward-thinking schools and districts.

Recommendations for School Districts

Resources should be front-loaded into the system and available for teachers to use before implementation. It is difficult at best to show teachers the power of an online curriculum management system when there are little, if any, resources in the system. Districts planning to implement such a system should ensure that the resources are available for teachers and for those people who are responsible for training the teachers.

The curriculum department should be the driving force behind implementation and expectations. The online curriculum management system should be the vehicle for delivery of the curriculum driven by the curriculum department of a school district, not the technology department. The technology department should work with the curriculum department to support the use of the system but they should not be the ones who deliver the expectation or monitor the use of the system.

Expectations for use should be consistent at the district and campus levels. Interview data from trainers, principals, and teachers supports the necessity for clear expectations in ensuring successful implementation of an innovation such as an online curriculum management system. There is a tendency to "wait it out" among those who are reluctant to change the way of doing things when there is no clear expectation set for them. Because of the nature of innovations in schools coming and going so quickly, participants have learned that if they just wait a while the latest innovation will go away almost as quickly as it came. Clear and consistent expectations for usage at both the district and campus levels can go a long way in alleviating this problem.

Formulate a plan for implementation. Each of the successful principals in this study said in their interviews they had a plan for implementation. School districts should determine the expectations they have for the users and develop a timeline for each step to occur. To assist them in this matter, district representatives should talk with members of other districts who have gone through the same process in order to learn about the successes and

struggles they have encountered. Implementation should be in stages, being monitored and adjusted along the way.

Determine how the implementation process will be evaluated. A plan for formative and summative evaluation should be in place that will provide data throughout the implementation of an innovation. District should be able to determine what is working well and what needs adjustment as data is gathered and analyzed so that changes can be made. Once the innovation has been implemented, a summative evaluation will provide information that should be helpful in implementing the next innovation.

Train new staff before the school year begins to get them caught up to the rest of the staff. Trainer interviews revealed the need to implement this important piece of the implementation process, which was begun before the start of Year 2 . To help move the implementation and usage along more smoothly, teachers new to the district should learn how to use they system before the new school year starts. In doing so, new teachers can be ready to learn new things along with the veteran teachers who have already been using the system. This approach has a two-fold advantage: a. the new teachers are “up and running” when the school year begins and b. they learn the benefits of the system before

they can be negatively influenced by those who do not like it.

There should be an in depth study into the change process. There is a difference in expected, yearly changes in a district or on a campus and the deep, dramatic changes that are difficult to deal with. Both administrators and teachers should study and become familiar with the change process to help them deal with the difficulties they will encounter along the way.

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APPENDIX A

Interview Questions for The Impact of Leadership on the Implementation of an Online Curriculum Management System

Interview Questions for Teachers:

1. What are the factors that influenced your use of the online curriculum management system? Describe.
2. Would you continue to use this tool if your campus administrator did not hold it as an expectation? Elaborate.
3. Which of these factors would you attribute to administrative leadership? Explain.
4. Where would you rank yourself regarding level of usage of this system? Ex: Very Proficient, Proficient, Needing Assistance.
5. Describe the support you would like to see next school year to make the system more helpful or usable to you.
6. Do you think using this system has helped you learn and address the standards you are responsible for teaching? Explain.
7. Were changes made in implementing the online curriculum management system? If so, what are they?
8. Do you think other changes should be made? If so, what are they?

Interview Questions for Administrators:

1. Describe the expectations you have had for your teachers to use the online curriculum management system:
    Year 1-
    Year 2-
2. What factors do you think most strongly influenced their use of the system?
3. To what extent were you involved in the staff development for using the curriculum management system that your teachers received?
4. What (if any) changes would you like to see, from a district perspective, that would influence usage by your campus?
5. Do you think using this system has helped your teachers learn and address the standards they are responsible for teaching?
6. Is this a valuable instructional tool that should have continued (or increased) district support? Explain.
7. Were changes made in implementing the online curriculum management system? If so, what are they?
8. Do you think other changes should be made? If so, what are they?

Interview Questions for Trainers:

1. Describe the overall level of usage of the online curriculum management system you see among the teachers you have trained.
2. Do you notice a difference in usage among the campuses where you train? If so, describe the difference.

3. What factors do you believe influence the difference in usage?
4. Is this a valuable instructional tool that should have continued (or increased) district support? Explain.
5. Describe the support you would like to see next school year to make the system more helpful or usable for teachers.
6. Were changes made in implementing the online curriculum management system? If so, what are they?
8. Do you think other changes should be made? If so, what are they?

APPENDIX B

A Study of Leadership on the Implementation of an Online Curriculum Management Innovation (Archived Data)

Survey Questions and Answer Choices – Teachers

1. How often do you use COAST?
    a. Daily, Weekly, Occasionally, Rarely, Never
2. Is COAST your primary or secondary source for lesson plans?
    a. Primary, Secondary, Neither
3. If you don't use COAST, why not?
    a. Not required, Don't know how, Don't like using it
4. Does your principal require you to use COAST?
    a. Yes, No, Limited Use Only
5. What expectations does your principal have?
    a. Use for lesson plans, turn in to principal, no expectations communicated
6. How does your principal supervise your use of COAST?
    a. Principal checks, minimum use, asks us, doesn't check, don't know
7. How much training have you received with COAST?
    a. One session, multiple sessions, individual/special group training, none
8. Would you attend more training?
    a. Yes, No
9. If you answered yes to #8, what types of training do you wish to see offered?
    a. Intro, Advanced, Creating Plans, Aligning TEKS
10. What is your comfort level in using COAST?
    a. Very comfortable, comfortable, uncomfortable, very uncomfortable
11. If you answered uncomfortable or very uncomfortable, what do you need to be more comfortable?
    a. More training, more time, more supervision, more mentoring
12. What is the primary focus for having COAST in TISD?
    a. Lesson plans, study TEKS, aligning lesson plans to TEKS, on-line lesson plans
13. Comments:

APPENDIX C

The Impact of Leadership on the Implementation of an Online Curriculum Management Innovation

Survey Questions and Answer Choices – Teachers

14. How often do you use COAST?
    a. Daily, Weekly, Occasionally, Rarely, Never
15. Is COAST your primary or secondary source for lesson plans?
    a. Primary, Secondary, Neither
16. Why don't you use COAST?
    a. Not required, Don't know how, Don't like using it
17. Does your principal require you to use COAST?
    a. Yes, No, Limited Use Only
18. What expectations does your principal have?
    a. Use for lesson plans, turn in to principal, no expectations communicated
19. How does your principal supervise your use of COAST?
    a. Principal checks, minimum use, asks us, doesn't check, don't know
20. How much training have you received with COAST?
    a. One session, multiple sessions, individual/special group training, none
21. What types of training do you wish to see offered?
    a. Intro, Advanced, Creating Plans, Aligning TEKS
22. What is your comfort level in using COAST?
    a. Very comfortable, comfortable, uncomfortable, very uncomfortable
23. What do you need to be more comfortable?
    a. More training, more time, more supervision, more mentoring
24. What is the primary focus for having COAST in TISD?
    a. Lesson plans, study TEKS, aligning lesson plans to TEKS, on-line lesson plans
25. What level is your campus?
    a. Elementary, Middle School, High School
26. Did you respond to these survey questions last year?
27. Comments:

APPENDIX D

Evaluation Questions for Curriculum Management System

What is the cost of the program?

- Is this an annual cost or a one-time fee? Will the district own the program? Are there free upgrades or will a cost be involved? If so, how much and how often?

What is the breadth of the program?

- Lesson plan tool for teachers - Is this feature available? If so, how extensive or dynamic is it?
- Is a scope and sequence or lesson plan bank with TEKS #'s and statement of student outcomes included?
- Correlated lessons available for teacher use-Are there lesson plans that are correlated to the TEKS available for teachers to use?
- TEKS/TAKS alignment-If this is available, to what extent?
- Test Bank-Is there a bank of tests available for teachers to use to assess mastery of TEKS?
- Upload of district resources-Can district resources (such as scope & sequence, TAAS analysis, etc.) be uploaded, stored, and accessed by teachers and administrators from any computer with internet access?
- Individualized by teacher-To what extent can the program be customized or suited to individual needs?
- What grade levels and subject areas are included?
- Describe levels of principal oversight or access.

How user-friendly is the system (ease of use for technophobes)**?**

- Is the program easy enough to use that even those who are not particularly comfortable with technology can use the system fairly easily?
- How much training is involved? Who provides the training?
- What are the levels of flexibility within the program?

How extensive is the TEKS alignment?

- Indicate the level to which you believe alignment is present. Then describe the alignment to provide the committee as much information as possible.
- Are all content areas represented in the alignment? Core content areas only?

Is the system correlated to Texas standards?

- Are standards from several states included or is this program specific to Texas standards? Which TEKS are included?

Are assessment tools provided within the system?

- If the answer is "yes", describe in detail.

What is the life expectancy of the program?

- Who are the major responsible parties involved with the organization that produces or supports the program? What is the likelihood that the program will continue to be in existence over time?

What are the levels of support for this system?

- Is the program browser-based? What other programs or plug-ins have to be installed for the program to run? What support is available from the company? What support will be necessary from the district? Is it platform specific or will it run on both Mac and Windows OS?

APPENDIX E

Participant Interview - Agreement of Understanding
The Impact of Leadership on the Implementation of an Online Curriculum Management System

Directions: Before you begin, please read the following carefully. If you agree to give the researcher, Betty Sanders, permission to tape record your responses to the questions that follow, please sign.

"I,_____, understand that this research study has been reviewed
Signature of participant to be interviewed
and approved by the Institutional Review Board –Human Subjects in Research, Texas A&M University. For research-related problems or questions regarding subjects' rights, I can contact the Institutional Review Board through Dr. Michael W. Buckley, Director of Research Compliance, Office of Vice President for Research at (979) 458-4067 (mwbuckley@tamu.edu).

I,_____, understand that my responses to interview questions
Signature of participant to be interviewed
posed by the interviewer, Betty Sanders, will be used for research and evaluation purposes only. All information submitted in this evaluation will be coded and confidential. I also understand that the purpose of this research is to gain information on the implementation of an online curriculum management system. I understand that the interview tapes will be kept for a period of five years and then erased. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction and I voluntarily agree to participate in this project. I have been given a copy of this consent form.

_____ _____
Signature of participant to be interviewed *Date*

_____ _____
Signature of Principal Investigator *Date*

Contact Information:
Betty Sanders
bettle@bryanisd.org
846-4112 home
731-7710 office
731-7714 fax

APPENDIX F

Seven Realizations of Technology

1. Technology will not transform a mediocre school into a good one.
2. Understand why you are investing in technology.
3. Be aware of school culture-it is either a friend or an enemy.
4. Principals with technology skills have the edge.
5. Hire technology support now or pay high price later.
6. Don't start until a staff development program is in place.
7. Recognize that, once you invest, you have embarked on a fast and open road.

Cooley, V. (1998) Technology Lessons. Electronic School Online. Retrieved January 13, 2003, from http://www.electronic-school.com/0698f3.html

VITA

Name
Betty Murdock Sanders

Address
College of Education, Texas A&M University, College Station, Texas, 77843-4226

Education
Ph.D. August 2006
M.Ed. August 1986
B.A.T. August 1971

Certifications
Provisional Elementary
Supervision
Reading Specialist
Principal
PDAS

Professional Memberships
International Society for Technology in Education
Texas Computer Education Association
Consortium for School Networking
Texas Distance Learning Association
Association for Supervision and Curriculum Development
National Staff Development Council

Special Awards
1999-2000 Instructional Technology Professional Specialist of the Year

Publications
Sanders, B., Brown, C., Zellner, L., (September, 2002). Piloting, Polishing, and Perfecting…Creating and Implementing a Technology Staff Development Model. T.H.E. Journal, Vol. 30, No. 2.