Theses and Dissertations

Theses and Dissertations

8-7-2010

The High School Redesign Initiative: teachers' perspectives

Rebekah Fair Terry

Follow this and additional works at: https://scholarsjunction.msstate.edu/td

THE HIGH SCHOOL REDESIGN INITIATIVE: TEACHERS' PERSPECTIVES

By

Rebekah Fair Terry

A Dissertation
Submitted to the Faculty of
Mississippi State University
In Partial Fulfillment of the Requirements
For the Degree of Doctor of Philosophy
In Elementary, Middle, and Secondary Administration
In the Department of Leadership and Foundations

Mississippi State, Mississippi

August 2010

THE HIGH SCHOOL REDESIGN INITIATIVE: TEACHERS' PERSPECTIVES

By

Rebekah Fair Terry

Approved:

_____

Dr. Dwight Hare
Professor
Leadership and Foundations
(Director of Dissertation)

_____

Dr. Ed Davis
Associate Professor
Leadership and Foundations
(Committee Member)

_____

Dr. Fred Perkins
Adjunct Professor
Leadership and Foundations
(Committee Member)

_____

Dr. Clyde Lindley
Adjunct Professor
Leadership and Foundations
(Committee Member)

_____

Dr. Frankie Williams
Department Head and Graduate
Coordinator
Leadership and Foundations

_____

Dr. Richard Blackbourn
Dean of Education

Name: Rebekah Fair Terry

Date of Degree: August 2010

Institution: Mississippi State University

Major Field: Leadership and Foundations

Major Professor: Dr. Dwight Hare

Title of Study: THE HIGH SCHOOL REDESIGN INITIATIVE: TEACHERS'
PERSPECTIVES

Pages: 122

Candidate for Degree of Doctor of Philosophy

Redesigning High Schools for the 21st century became a goal of the Mississippi

Department of Education in 2006. The focus of redesign is to ensure that students gain

the knowledge necessary to compete in the technological world they will enter after high

school graduation. Students who choose not to go to college are to leave high school with

the skills that have prepared them for employment.

The redesign process incorporates classes of technology in grades 7–9. Grade 7

students will be involved in Information and Communication Technology I. Information

and Communication Technology II will include eighth-grade students. Science,

Technology, Engineering, and Mathematics (STEM) courses will be added to the ninth-

grade curriculum. During the second year of implementation, Career and Technical

Education (CTE) classes will be converted to Career Pathway classes for students in the

10th grade.

Using a competitive grant application process, 13 school districts were chosen to

participate in Phase I of Redesign. In the second year of implementation, 19 school

districts were chosen to begin Phase II of the redesign initiative. This study focuses on the Alcoville School District (a pseudonym), which was chosen as a Phase II school. The purpose of this study was to understand the issues of redesign that were faced by the teachers involved in the implementation process. Emphasis was placed on the knowledge the teachers had of the redesign implementation in this district and the problems they faced as implementation occurred.

The results of this study suggested that teachers (a) wanted to be more involved in the planning of redesign, (b) thought there was a lack of training, (c) were concerned with the lack of knowledge of their trainers, (d) were concerned with the difficulty of the curriculum, (e) stated there was no follow-up training offered from the Research and Curriculum Unit (RCU) at Mississippi State University, (f) reported that the RCU was not able to answer their questions, (g) stated there was not a network of Phase I teachers with whom to talk, and (h) reported that the administration did not understand their curriculum or show concern with what they were teaching.

Key words: High School Redesign Initiative; Information and Communication Technology I; Information and Communication Technology II; Science, Technology, Engineering, and Mathematics; Career Pathways.

DEDICATION

This research is dedicated to my late parents, Harry W. and Luella Beck Fair, and to my children and their families, Chris and Candi Terry, Bryce, and Baylee; Joey and Jill Carpenter, Mady, and baby to be. The knowledge my parents instilled in me concerning education was that pursing an education is an accomplishment no one can ever take away from you. I would like to leave that thought with my grandchildren as they eventually enter the education arena.

ACKNOWLEDGMENTS

It is a humbling experience to be able to acknowledge with heartfelt gratitude the people who have selflessly made this dissertation possible.

First, I wish to thank Dr. Dwight Hare for assuming the role of director of my study. The passion he feels for not only the students he serves but also for the field of research bestowed on me the knowledge necessary to attain what I had thought to be an unreachable goal. I would also like to thank the other members of my committee, Dr. Ed Davis, Dr. Clyde Lindley, and Dr. Fred Perkins. Your insight into the different arenas of education gave me the ability to step outside the box and become a more confident leader.

Next, I would like to thank my family and friends for your constant support and encouragement during the past 3 years. To my children, Chris and Jill and their families, thank you for believing in me and standing beside me as I undertook this degree endeavor. Not only have you stood beside me during this endeavor, you also have offered many a "You Can Do This," which in itself gave me the strength I needed to see this project to fruition. To my friends, and especially to May May, thank you for not only continually pushing me toward this goal but also believing that I was capable of accomplishing this task.

And finally, to Cliff, my cohort in this endeavor. We started this journey toward a doctoral degree together 3 years ago. The end seemed far away at that time, so it is

unbelievable to think I am now writing acknowledgments to a dream come true. Thank

you for standing beside me as we have accomplished this goal. Our faith in each other to

find the light at the end of the tunnel has paid off. We have definitely proved a lot of

people wrong. Wayne would be so proud. It has been a ride of a lifetime, and I am

blessed to be able to share this experience with you.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

Introduction

The state of the American high school presents challenges to educational achievement. The demand for a highly skilled workforce is a reality of the 21st century global economy. Increased knowledge and skills are necessary for high school students as America evolves from an industrial economy to a knowledge economy. Because of the demand for highly skilled workers, it is necessary for American high schools to focus on dropout rates; insufficient communications, math, and science skills; high postsecondary remediation rates; and large achievement gaps (Lynch, 2000). The old saying, if people do what they have always done, they will get what they have always gotten, takes on a new meaning as Americans look toward the future.

Redesigning High Schools for the 21st Century has become a goal of the Mississippi Department of Education (MDE, 2006). Under redesign, students are to gain the knowledge necessary to compete in the technological world they will be entering after graduation. At the same time, students who may choose not to go to college are to leave high school with the skills that have prepared them for employment. Engaging local businesses in the education process will allow schools to offer classes that will not only keep students in the local area but also will enhance the employment opportunities for

these businesses. Incorporating these classes into the high school curriculum will require planning on the part of the local district. Teachers will need to be trained for the new curriculum, and administrators will need to understand what the redesign encompasses (MDE, 2006). With the implementation of the redesign initiative, there are many areas of concern to be addressed. Redesign was implemented in phases. The first year of implementation was 2007–2008, and participating schools known as Phase I schools. Phase II was implemented in the 2008–2009 school year. The implementation of Phase I resulted in many questions to be addressed in the first two courses taught in redesign.

Information and Communication Technology I (ICT I) replaced Computer Discovery in seventh grade and Science, Technology, Engineering, and Math (STEM) was incorporated into the ninth-grade curriculum for all ninth-graders (MDE, 2006). As Phase II schools began implementation in the fall of 2008, new ICT I and STEM teachers still had questions as they train, begin preparation for classes, and engage students in the new curriculum.

All of the schools in Mississippi will have to introduce the redesign initiative in the next few years (MDE, 2006). The purpose of this research was to understand the problems that teachers faced with the redesign effort and to prepare a procedures guide for schools involved in the redesign process. Mississippi's redesign effort involved the incorporation of seventh-, eighth-, and ninth-grade student computer labs into ICT I, ICT II, and STEM labs. ICT I prepares students with technology literacy, workforce, and academic skills necessary to compete in a global workforce. These students study interpersonal and self-directional skills; basic technology operations; social, ethical, and human issues related to technology; technology communication and research tools;

multimedia presentation applications; word processing applications; spreadsheet applications; and design applications. Taking the place of the Tech Prep class Career Discovery, these labs are being enhanced with new computer technology not seen in high school classrooms before.

ICT II labs prepare students with advanced technology literacy in the eighth grade. Workforce and academic skills are incorporated to prepare these students to compete in a global workforce. Not only do these students study interpersonal and self-directional skills, but they also learn input applications, design applications, database, graphic design, Web page design, networking, and problem solving and decision making with technology skills (MDE, 2006).

STEM labs for ninth-grade students enhance science, technology, engineering, and mathematics skills. This course is designed to prepare students for a future study in the postsecondary academic and vocational arena. These students are exposed to a rigorous technology application tool curriculum. Their mathematical skills are enhanced by applying mathematical concepts and theories to solve real work industry-specific problems as well as allow them to complete an online course (MDE, 2006).

With these new labs in place, teachers need to be trained exclusively in order to be able to implement the new curriculum. Once the grant to the new schools is received, teachers are enrolled in summer training necessary to understand the curriculum and be ready to have the labs functioning by August. New textbooks, computers, smart boards, furniture, and a wide range of other items need to be in place and ready for the teachers as training is finished. Many questions will be asked and answers must be sought as these teachers embark on their journey of teaching for the 21st century workplace.

Review of Related Literature

Changes in Labor

Research by Stone (2004) noted that one-half to two-thirds of the new jobs will be created at the bottom of the wage scale, meaning that a high school diploma is all that will be required. Math and technology skills will be essential for high school graduates who plan to enter the workforce immediately after graduation. Combining vocational and academic curricula and promoting work-related experience will train young people to be ready to compete in the global market.

Hull (2005) noted that although it is next to impossible to forecast where America's job market is headed, globalization has created pressure on United States workers. Because of this, American workers have to upgrade their skills and competitiveness, or the country will lose a large cohort of students that could be capable of competing in the job market today.

Hull (2005) found that the trend in employment suggests that employers want their workers to be familiar with and trainable in their specialties, but they want the employee to have the foundations first. These include computer literacy, critical thinking, problem solving, teamwork, and interpersonal relations. Hull (2005) reported a survey in South Carolina showed that employers reported that 85% of their jobs require education and training beyond high school, but only 20% require at least a 4-year college degree. This shows that 65% of the jobs require some education beyond high school but not necessarily a 4-year degree.

No Change in Schooling

In regard to the American high school, B. Gates (as cited in Hull, 2005) stated the following:

American high schools are obsolete. By obsolete, I mean that our high schools, even when they are working exactly as designed, cannot teach our kids what they need to know today. Training the workforce of tomorrow with high schools of today is like trying to teach kids about today's computers on a 50-year-old mainframe. It's the wrong tool for the times. (p. 31)

There have been concerns about the inadequacy of high school academic preparation for college and the workplace (Harnish & Lynch, 2005). There is a demand-driven labor market that is in need of highly skilled employees and the call for students to continue their education beyond high school. The authors also noted the college participation gap in the United States points to the need for state policy and funding to ensure that postsecondary education participation is available for a greater number of students. At the same time, options should be available for students who wish to learn a skill or trade so they can enter the workforce after high school graduation. It is not enough anymore to just lead students down one or two paths.

Hull (2005), author of *Career Pathways: Education with a Purpose*, noted that many of our students earn high school diplomas without having the knowledge and skills necessary to be successful in postsecondary education and the workforce. Hull suggested that America's young people are not seriously preparing for the demands of college and the workplace and also that public high schools are not meeting the needs of all students. The author noted that far too many students leave high school before earning diplomas.

Other students fail to make the successful transitions to post secondary education.

Therefore, the high school experience must demand more focus and rigor.

Redesign

Need for Redesign

An understanding of the necessity of a High School Redesign Initiative is evident after reviewing research. Vocational education in the United States is large, diverse, and complex (Lynch, 2000). Used as a collective term in high schools, vocational education is meant to identify curriculum programs that are designed to prepare students to acquire an education and job skills that will enable them to enter employment immediately upon high school graduation. Enrollment in vocational education increased until the early 1980s. There has been a steep decline since 1982. Reasons for the decline seem to be that programs were not meeting the needs of students, employers, and the community. The author also noted that vocational education has also competed against other curriculum programs, and some of the programs of study were also targeted primarily to educationally disadvantaged students.

Several forces underpin the demand for reform in high school vocational education. These include (a) the new economy, (b) the public expectation of students, (c) new research on student learning and effective teaching, and (d) a vocal and loud call for the reform of the American High School (Lynch, 2000). Major factors in the purpose of a new 21st Century High School and Career and Technical Education program is that it needs to provide career exploration and planning for students. Academic achievement and motivation need to be enhanced to show that students actually learn more. Generic

work competencies and skills that will be useful for employment need to be acquired. Paths for continuing education and lifelong learning need to be established.

According to H. Bounds, former State Superintendent of Education, (MDE, 2006), "Mississippi high school graduates need to be prepared academically as well as equipped with learning and thinking skills, global awareness, information and communications technology literacy, and life skills" (p. 1). Ready to respond to America's evolution from an industrial-based economy to a knowledge-based economy, Mississippi is engaging in the Redesign for the 21st Century Workforce.

Awareness of the above mentioned evolution has been brought on by other studies across the nation. In a research study by Redmann and Kotrlik (2004), the authors noted students must have a foundation that enables them to move into new technology-based work environments quickly, without a heavy emphasis on on-the-job training. The way to prepare students for this technologically advanced work environment is to make sure that technology is an integral part of the teaching and learning process.

A research study entitled "Is Vocational Education Still Necessary?" (Walter, 1995) investigated the educational effectiveness of the traditional college preparatory high school program of study. Research indicated in this research that times have changed. High school students have changed their aspirations dramatically over the last 20 years. Walter found majority of students say they will attend college, which has left a declining enrollment in vocational education classes. Although college prep courses are designed to reach the academically bright student, most students who want to go to college are enrolled in these prep courses. An alternative according to this article would

be for high schools to integrate the new High School Redesign initiative into schools, which would give students tools necessary to form a career pathway of study.

Harnish and Lynch (2005) noted concerns about the inadequacy of high school academic preparation for college and the workplace. There is a demand-driven labor market that is in need of highly skilled employees and the call for students to continue their education beyond high school. The college participation gap in the United States points to the need for state policy and funding to ensure that postsecondary education participation is available for a greater number of students. At the same time, the researchers advocated options should be available for students who wish to learn a skill or trade so they can enter the workforce after high school graduation. To lead students down one or two paths is not enough anymore.

A study that analyzed youths' career decision making in a career and technical education program found that incorporating work-based learning experiences and a pathway that linked high schools and community colleges allowed students work experiences that are not generally available to adolescents (Ryken, 2006). In doing so, students are not only prepared for specific entry-level jobs, but they are also prepared for more advanced jobs or lifelong careers. Students are able to learn about themselves and their interests. Encouraging students to think in new ways that are not generally available to them in the school classroom allows them to be able to define problems, work in groups, and access the physical and social resources of the workplace.

Research obtained from an article on an exemplary career and technical education center reemphasizes the ability of these centers to enhance the learning experiences of students (Gentry, Rizza, Peters, & Hu, 2005). When career and technical education

(CTE) helps to balance the theory and practice aspects of high school programs, students are allowed to explore interests and careers while progressing through regular school curriculum. When education is placed within the context of career training, the learner can take center stage in a learning process that is directly relevant to their future plans. Reform issues have been seen across the United States, and Mississippi has been no exception. CTE has set goals to prepare students to become future workers and to also promote lifelong learning. More advanced training and the incorporation of CTE with academic education leads not only to a high school diploma but also to possibilities for apprenticeships and a career and trade about which they are enthusiastic.

When President Bush signed into law the No child Left Behind Act of 2001, legislation was put into motion that required states to set clear standards for what every child should learn and also held schools accountable for student progress (MDE, 2006). As Chadd and Drage (2006) noted in their research with high school principals and CTE teachers throughout Illinois, both teachers and principals believe that CTE courses can help students reach high standards and graduate from high school The method of teaching in CTE courses is effective in helping students learn and retain content and also in motivating them to stay in school.

Mississippi's Approach to Redesign

Realizing the need for a complete redesign of high schools, Mississippi implemented the Redesign for the 21st Century Workforce plan (MDE, 2006). The demand for highly skilled workers had increased, and Mississippi had seen an alarming trend of increased dropout rates; inadequate math, science, and communication skills

among graduates; remediation needs at the postsecondary level; and a misalignment of workforce training and economic development. The new redesign initiative in Mississippi focused on Core Academic Subjects, Learning and Thinking Skills, Global Awareness Literacy, Information and Communication Technology (ICT) Literacy, and Life Skills and 21st Century Assessments.

Mississippi's Redesign effort involved incorporating seventh, eighth, and ninth grade computer labs to include ICT I, ICT II, and STEM as well as the implementation of Career Pathways. Training for teachers should enable those teachers involved to implement the new curriculum (MDE, 2006). Once the grant money is given to the new schools, teachers are immediately set up for the summer training necessary to understand the curriculum and be ready to get the labs running by the time school starts in August. . New textbooks, computers, smart boards, furniture, and a wide range of other items need to be in place and ready for the teachers as training is finished. All involved in the redesign process will have questions. Answers must be sought as these teachers begin the task of teaching for the 21st century workplace.

Teacher Involvement

According to Sporte, Kahne, & Correa (2004), after three years of implementation of a High School Redesign of the Chicago Public Schools, it was found that 95% of the teachers were on board with the new design. At the same time, teachers said that being included in all aspects of the decision-making process made a huge impact on the acceptance of the initiative. A major concern of these Chicago teachers was the inability to continue the redesign if funds were limited or cut. These teachers also mentioned

communication between administrators and teachers as an ongoing concern with the redesign.

Vrasidas and McIsacc (2001) noted that for successful technology integration in schools, the programs by which teachers are trained play a crucial role. Teachers should be provided with a solid understanding of all of the media they will encounter. Training teachers should involve teaching them constructively in order to provide them with the opportunities to think like experts in making decisions, structuring their learning activities, and being able to select the correct media. Their voices should be heard, because they are the ones that will ultimately be responsible for the classroom instruction using the new technologies.

Because redesign incorporates aspects of a school-to-work program, it is important to understand teachers' perspectives when being asked to implement such a program. Research done by Yan, Goubeaud, and Fry (2004) indicated that teachers have a very positive attitude about the value that school-to-work plays in preparing students for the workplace. However, unless adequately prepared to incorporate the curriculum into their classroom practices, teachers frequently feel inadequate. This research suggests that teachers are not involved by the administration in the planning and designing of the programs that they are asked to implement. Also suggested is the fact that the lack of effective professional development could explain the anxiety of the teachers involved. By developing small learning communities during common planning times, initiating parental and community involvement, and implementing career pathways for students, Mississippi's high schools should sustain into the 21st century and beyond.

Summary of Literature Review

The changes in the American workforce have been cause of great concern for America's schools. In this technological age, students must be equipped with the knowledge necessary to compete in this ever-changing labor force. Regardless of whether a student wants to continue his or her education past high school, the technology literacy required today is imperative to school curricula.

Vocational education has taken a back seat to advanced courses for college-bound students. At this point, educators and researchers are seeing the demand for highly skilled workers in the American workforce. The need to incorporate new technology and problem-solving skills through a rigorous curriculum is enabling vocational education to take front and center stage.

Research shows that the United States in general sees the need for a new vision for the American high school. Regardless of the region of the country, a common theme emerges: American high schools need to be redesigned so that students are enabled to compete in the growing global economy.

Mississippi is no exception to seeing the need to prepare students for today's workforce. Redesigning Mississippi high schools incorporates technology and skills for both students who will continue in a postsecondary program and those who will enter the workforce after high school. At the same time, engaging local businesses in the process will enhance employment opportunities.

Teachers involved in the redesign initiative in the state of Mississippi need to have their voices heard. They are the ones who will be implementing the new technology curriculum into their classrooms. Training should be adequate and professional

development ongoing to allow these teachers what they need to be successful. At the same time, as implementation of Redesign continues, new teachers to the process would benefit from knowledge gained from Phase I and Phase II redesign participants.

The entire redesign process is important to Mississippi students of today and tomorrow. The teachers involved need to be included in the process, and areas of weakness in the Redesign initiative need to be discovered to enable other teachers to successfully initiate implementation.

Statement of the Purpose

The purpose of this research study was to understand the issues of redesign faced by ICT I (seventh grade), ICT II (eighth grade), STEM (ninth grade), and Career Pathway teachers as they began the redesign initiative in their local school systems. Utilizing interviews, field observations, and relevant documents of ICT I, ICT II, STEM, and Career Pathway teachers, redesign from teachers' perspectives attempted to answer many questions teachers had as they transformed their classrooms as part of the redesign initiative. Knowledge was gained from the interviews and observations that gave a better understanding of the problem areas that existed with implementing the high school redesign. These interviews and observations gave a broad collection of ideas and practices that had worked and could work to make the process of implementation an easier one. The results of this case study will be compiled into a procedures manual for teachers to better enable them to implement the Redesign initiative.

Research Questions

Research shows that the success of any school reform hinges on the classroom teacher's implementation of the concepts of the initiative. In the article "Does School-to-Work Matter? Teachers' Implementation of School-Based and Work-Based Activities," Yan et al. (2004) indicated that teachers have a favorable attitude toward implementing Redesign, but at the same time the actual implementation is lacking. Understanding the issues involved in the redesign process will give future teachers involved in the redesign initiative the knowledge necessary to engage their students in the new curriculum without the reform effort being so overwhelming during the first and second year of implementation. Because I had been involved since the beginning of the redesign in my district and had seen teachers struggle with the implementation, I wanted to know their experiences with Redesign and possible recommendations for changes in the implementation of redesign. The following questions served as a basis for this study:

1. What does the high school redesign initiative mean to the teachers in the Alcoville School District participating in Redesigning High Schools for the 21st Century?

2. What issues do teachers who are implementing the redesign initiative in the Alcoville School District face?

CHAPTER II

RESEARCH METHODS

In this chapter, the methods of the research are discussed. The design of the research is explained first. The method of selecting the participants is next. Then, the steps that are used for collecting data and how the data are analyzed follow.

Research Design

The purpose of this study was to understand the issues of High School Redesign faced by Information and Communication Technology I (ICT I), Information and Communication Technology II (ICT II), and Science Technology Engineering and Mathematics (STEM), and Career Pathways teachers. Phase I of the Redesign included 13 schools from all areas of the state. Phase II of the Redesign was implemented in the school year 2008–2009 and included 19 schools (Research and Curriculum Unit (RCU), 2009). There are approximately 120 remaining schools to be implemented in the years ahead.

According to Merriam (1998), a case study involves gathering in-depth information through interviewing and observing. Using the case study method allows the researcher immediate feedback. Light can be shed on an issue by understanding the processes or events that are involved in the study. Because questions were asked in this research, a case study was the best plan for having those questions answered. This case study included ICT I, ICT II, STEM, and Career Pathway teachers who had been involved in the Redesign initiative in the Alcoville School District. Interviews and observations of teachers as well as relevant documents were used to conduct this study.

Data obtained fulfilled the goal of this study so that a procedures manual for future

Redesign sites will enable teachers to understand the issues faced as their districts

implement redesign.

Participants

The teachers involved in the redesign initiative were instrumental in answering

the questions presented in this study. They were the ones who attended the training that

was offered and had to implement the new curriculum into their classrooms. Participants

included 3 ICT I teachers, 3 ICT II teachers, 3 STEM teachers, and 1 Career Pathway

teacher, for a total of 10 participants in the redesign initiative in the Alcoville School

District.

Procedures

In order to collect the data necessary, an Institutional Review Board (IRB) for the

Protection of Human Subjects application was submitted for approval. The Alcoville

School District's Superintendent was asked to grant permission in writing for this study

to be conducted. The principals of Alcoville Middle and High school, along with the

vocational director, were asked for permission to conduct the study. Consent forms were

collected from each participant. Data were then collected using case study methodology.

The case study used triangulation of data in order to substantiate the findings.

Triangulation involved the use of multiple sources of data collection and analysis,

including interviews, observations, and relevant documents. According to Merriam

(1998), interviews are necessary when there is interest in the thoughts and feelings of

participants. Merriam also noted that interviews are necessary when there is interest in

past events. Because the Redesign was implemented during the 2008–2009 school year in the Alcoville District, interviewing teachers allowed pertinent information to be obtained involving issues the teachers faced during the Redesign implementation.

Questions were the same for all participants. Interviews consisted of both formal, tape-recorded hour-long sessions and casual informal conversations with each of the participants. These interviews were then transcribed for analysis and inclusion in the results.

Formal observations of the participants in their classroom settings further allowed issues to surface that the interviews did not provide. At the same time, it was be possible to substantiate thoughts and feelings not expressed during the interview process. Field notes were taken that encompassed the physical setting, the participants, the activities in the classroom, and the interactions of the teachers and students. Informal observations were conducted as follow-ups to further answer any questions the field notes caused to arise.

Finally, archival documents were collected during the research process to complete the triangulation of data. Types of documents included Mississippi Department of Education briefs, RCU's Web site information, lesson plans of teachers, and curriculum data for all subject areas. Photographs of the labs involved were also used as a means of studying details of the labs.

Data Analysis

According to Glesne (2006), data analysis involves making sense of what one has learned by organizing what has been heard, seen, and read. The analysis involves

describing, creating explanations, and linking the data collected. The data analysis for this research included coding in order to identify important information. Data were analyzed by transcribing the interviews and interpreting the observations from the field notes.

Using the topics talked about with the teachers, I created files for each interview and observation. Each transcribed interview was incorporated into the file of each teacher with marginal field notes made by me. As data were filed, common themes emerged that enabled analysis of the most critical aspects teachers faced. These themes led to the design of a logical matrix.

Once all data were collected and coded, the separate codes were arranged into a logical matrix design including domains, dimension, and critical issues. The domain dealt with the motivation of the teachers and the critical issues they faced during implementation of redesign. For the dimensions, I looked at the purpose and who the redesign initiative was attempting to serve. A limited number of categories were organized in order to better develop a procedures manual for future redesign teachers.

For study credibility, triangulation and emic were incorporated. The use of a matrix allowed a visual representation of the data that were collected. According to Glesne (2006), matrices enable the researcher to identify the elements of the study and focus on emerging patterns and themes.

Because emic is the ability to understand from the participant's perspective, (Merriam, 1998), it was an essential part of this study. The teachers' perspectives were the underlying themes that emerged. The triangulation strategy involved using multiple sources of data; including interviews, observations, and relevant documents.

CHAPTER III

RESULTS AND DISCUSSION

This chapter is divided into five sections. These sections are (a) introduction, (b) definitions of terms used, (c) presentation of the case study with within-case analysis of the data, (d) discussion of related literature, and (e) summary.

Introduction

The purpose of this study was to understand the issues of the redesign initiative faced by ICT I, ICT II, STEM, and Career Pathways teachers. Allowing these teachers to share their experiences can gave insight into the problems they encountered implementing Redesign. The information that was obtained from conducting interviews and observations provide other teachers in the state of Mississippi critical information as they begin the implementation process of the redesign initiative. Data generated from interview transcripts, observations, and document analyses were grouped into emerging themes as they related to the research topics.

Definitions of Terms

According to the Mississippi Department of Education (MDE, 2006), Mississippi defines *School Redesign* as incorporating core academic subjects, learning and thinking skills, global awareness literacy, information and communication technology literacy, life skills, and 21st century assessments.

Information and Communication Technology I (ICT I) describes an innovative instructional program that will prepare students to effectively use technology in learning, communication, and life (RCU, 2009). This seventh-grade computerized classroom replaced the Computer Discovery classroom that was introduced during the Tech Prep era. These classrooms are equipped with technology equipment and a curriculum that is to prepare students with technology literacy, workforce, and academic skills that are necessary to compete in a global workforce. Not only will these students study interpersonal and self-directional skills, basic technology operations, technology communication and research tools, and multimedia presentation applications, but they also will study word processing and spreadsheet applications (MDE, 2006).

Information and Communication Technology II (ICT II) involves preparing students with advanced technology literacy in the eighth grade. Incorporated into the curriculum are workforce and academic skills, interpersonal and self-directional skills as well as input applications, design applications, and graphic and Web page design along with problem-solving and decision-making skills using technology (RCU, 2009).

Science, Technology, Engineering, and Mathematics (STEM) is designed to prepare students for a future study in either the postsecondary academic world or the vocational arena. The rigorous technology application curriculum will enhance the student's mathematical skills and ability to solve real work industry-specific problems. At the same time, students will complete an online course (RCU, 2009).

Career Pathways is a broad category that encompasses numerous occupations sharing a common theme. This broad theme gives students a context for connecting what they are learning across a wide spectrum of academic and technical subject areas.

Aligned with the national 16 Career Clusters, these pathways are designed to expand options and opportunities for all students (RCU, 2009).

The Case Study

The following case study is the result of interviews and observations conducted with each participant. The words in this case study are those of the participants.

Implementation of the Redesign initiative began in Mississippi during the 2007–2008 school year. A competitive grant process ensued prior to the awarding of the first 13 pilot site districts. The first schools awarded the grant were titled as Phase I schools. The grant process awarded monies to install the Information and Communication Technology I classrooms for seventh-graders and the Science, Technology, Engineering, and Mathematics classrooms for ninth-graders in pilot site districts. The classroom/lab size capacity was 24 students; therefore, the number of labs granted to a district depended on enrollment. During the second year of implementation, Phase I districts would gain eighth-grade Information and Communication Technology II classrooms for eighth-graders. At the same time, the career and technical centers were to begin converting their current programs to the new Career Pathway programs.

The Alcoville School District applied for the Redesign grant during the early months of 2008 with hopes of acquiring the grant during the 2008–2009 school year. I was asked to become a part of the district's Redesign Committee that consisted of an assistant superintendent, vocational director, technology coordinator, and me. The committee met with the superintendent and assigned parts of the grant application to individuals whose expertise fit the desired areas. I worked mainly with the assistant

superintendent on demographics of the district that were an essential part of the grant application. The assistant superintendent and I also worked closely with the vocational director to ensure that all areas of the career and technical center data were correctly written into the proposal. I then assisted in compiling all of the information necessary for the grant application into a packet to deliver to the State Department of Education.

The school district was awarded the Redesign grant in the spring of 2008. As a Phase II school, the district was included in the 19 schools awarded the Redesign grant for the second year of implementation. The committee attended meetings with State Department personnel and RCU personnel during the spring to learn how to begin the implementation process.

As stated earlier, enrollment figures in grades 7 through 9 were used to award the number of classrooms/labs that the district would be entitled to per grade. During the first year of implementation, the district was involved in converting three classrooms at the middle school into the new ICT I classrooms for seventh grade and three STEM classrooms for grade 9 at the high school. Each of these classrooms was awarded $90,000 for implementation. The one Career Pathways program that was implemented was Marketing and Economics, which is housed at the career and technical center. That classroom was awarded $75,000 for its conversion.

During the spring, the committee traveled to several Phase I districts to see how their classrooms were set up. Only two of the teachers that were to teach in these classrooms were involved in these visits. The decision as to the identification of the other teachers was not made prior to the visits. After seeing other classrooms and how they were converted into labs, the decision was made by the assistant superintendent and other

members of the Redesign committee to install Formica countertops around the perimeters of the classrooms for the computers to be installed on. The countertops were more cost effective according to the maintenance department and would take the place of the computer workstations that were a part of the lab specifications. The State Department was contacted about changing the specifications for workstations, and installation of the countertops was approved.

The monies for the conversion of these classrooms were not awarded until July 1, 2008. This meant that equipment could not be ordered before that date. The technology personnel began the task of checking existing wiring, and the assistant superintendent began to look at options for ordering furniture. I sat in on several committee meetings but never knew when exact decisions had been made.

On July 1, 2008, the vocational director pointed out that books and supplies needed to be ordered, and as a member of the committee, I was delegated to see that these items were purchased. The technology coordinator began ordering the technology equipment, and at that time construction began in the classrooms.

For the second year of implementation, three more classrooms at the middle school had to be converted to house the ICT II labs. The money in the grant was cut from $90,000 to $75,000 per classroom by the State Department.

This study focuses on the 3 ICT I teachers and 3 STEM teachers who were involved in the first year of implementation. To become certified to teach ICT I, ICT II, STEM, or a Career Pathways class, a teacher must attend the 3-week summer training or its equivalent during the fall semester and hold IC^3 certification. IC^3 certification is required of all ICT I, ICT II, and STEM teachers. This certification is an Internet and

computing core certification that covers basic computing and Internet knowledge and skills (RCU, 2009).The study also includes the 3 ICT II and 1 Career Pathways teachers who were involved in the second year of implementation. All of these teachers were involved in interviews, casual conversations, and observations of each of the classrooms. I obtained documents from each of the programs to be used in the analysis of the data found during this study. These documents include lesson plans, curricula, Mississippi Department of Education briefs, and pictures of the classrooms.

The remainder of this chapter includes an explanation of each group of labs in ICT I, ICT II, STEM, and Career Pathways. Each explanation is followed by the analysis of the teachers and a within case analysis. A between case analysis is provided for each group of teachers, followed by a cross case analysis of all participants.

Information and Communication Technology I (ICT I) Teachers

The ICT I labs are housed in the older part of the Alcoville Middle School building. Built in 1955, the older part includes a sixth-grade hallway, gym, cafeteria, seventh-grade hallway, and combination sixth- and seventh-grade hallway. The ICT I labs are located on the seventh-grade hallway with two of the labs being converted from the Tech Prep seventh-grade Discovery classes and one lab converted from a classroom. All three classrooms are located at the end of that hallway. Two of the labs are on the right or east side and one lab on the left or west side of the building. Although through the years the classrooms had received fresh coats of paint, the blinds on the windows are the pull-down shades made of a type of burlap material. There are numerous holes in the blinds. Some blinds do not go all the way up and some will not go all the way down.

Buffy

Of the 3 ICT I teachers interviewed and observed, Buffy, a 41-year-old White female, is the one with the least educational experience. She has only been teaching for 2 years. Holding a bachelor's degree in business administration, her concentration is in marketing. At the time of the first interview, she was not certified to teach ICT I.

Buffy took the Praxis in special education and had taught as an inclusion teacher the previous school year at Alcoville Middle School. She had 12 children enrolled in special education she was responsible for and moved from classroom to classroom with them during the school day. Upon hearing of the Redesign grant and the new classes that would be started, Buffy approached the administration about becoming part of the ICT team. It was after the school year began in 2008–2009 that the decision was made to hire her as an ICT I teacher. Buffy began her training to become certified to teach ICT I and at the same time was trying to accomplish becoming IC^3 certified.

Buffy was not involved in any of the planning of the labs, nor was she involved in visiting any of the other school districts to see how labs were set up prior to construction. She literally came into the classroom with little knowledge of the grant proposal and the curriculum involved in ICT I and with limited technology classroom experience.

When asked her overall interpretation of the redesign initiative, she answered with, "You mean my definition?" Her response of Redesign was as follows:

The Redesign is focusing on preparing students for the new technology

knowledge we will be facing in the future. There is a high ongoing process of

online learning. Also, any job you have, there are steadily advancing. I believe

basically what we are doing in these courses are preparing these students for what they are facing in the future so they will be more comfortable.

Buffy and I discussed the administration and other faculty members and their knowledge of the Redesign and what it means and will mean in the future to the Alcoville School District. Her first response was, "Well, I can answer that by saying, 'I don't know a whole lot about it, so I know they don't. No one has even mentioned the word *redesign* to me.'" She went on to say the following:

> All they see is the large amount of money being spent in these areas to upgrade, and I'm sure most of them look at it like it is another fad coming through that we will throw money at and as soon as we get it set up with funding it, down the drain it will go.

When asked if it would have been beneficial to inform the general faculty of the Redesign process, she answered, "Probably not." She noted that the success of the redesign initiative would make it sell itself.

We then discussed what the success of the redesign initiative would entail. She stated that she knew dropout prevention was part of the redesign initiative. Career clusters came into the conversation, and she stressed the importance she felt toward students being given a direction other than college track. Buffy knew the vocational center would experience changes, but she was not fully aware of what those changes would be. In fact, her last response on the subject was as follows:

> I think we will be teaching technology through ICT I and II and STEM, but it's going to be the responsibility of the vocational center to sell itself. They are the ones that need to lead these students in a direction with the career clusters. This

will allow them to see what they could possibly get, but vocational needs to sell itself.

Buffy is enthusiastic about being a part of the redesign effort. Numerous times in talking with her, she made it clear that this type classroom is what she had wanted to be involved in. She stated, "I was excited when I started teaching. I was really focusing my future in the vocational–technical end of it." She went on to express how she wanted to be able to use her knowledge she had acquired through her business background to help others get prepared for the workforce. "I was thrilled to know that I was gonna get to teach this and have all these luxuries, which made it even more fascinating for me."

Buffy made it clear that having to be trained to teach ICT I while actually trying to teach ICT I was very frustrating to her:

> I really think that if I could have had my training up front, it would have been much easier on me because I am spending a substantial amount of time, which personally I'm making sure I am prepared to teach my children, making sure I am comfortable before they come in here. I am training and trying to answer questions, but as I try to do it, it is very overwhelming.

When describing the specific aspects of the training in which the ICT I teachers had been involved, Buffy had numerous pros and cons. Even though the training was tough, she was excited each time she went. One of the main aspects of training she found most helpful was what she was able to bring back to the classroom.

In contrast to face-to-face training, Buffy was less than enthusiastic about the online training she received. She talked continuously about the broadness of the material given and the small amount of instruction that accompanied the lessons: "I was ready to

throw my hands up," Buffy said. She continued, "There is no way anyone could prepare to do this job without having way more support."

One area about which Buffy talked was the use of Blackboard that is offered through the RCU. Blackboard is a learning management system software application. It is used for the administration, documentation, tracking, and reporting of classroom and online events, training programs, e-learning programs, and training content. Some of Blackboard's features include grading, discussion board, blogs, e-portfolios, a chat room, parental access, groups, and electronic assignment submissions. Buffy said that she had not been involved in the summer training using Blackboard and that what she had learned had been through the online course she had taken concerning the use of the program. She said that she had to consult the Blackboard manual continuously to find the ICT competencies units. Buffy stated the following:

> I wish we had a manual that we could keep on hand, not one that we have to pull up online. We could just open it up until we felt more comfortable with the scenario. There are so many things I could have done if I could have just sat down and studied and learned it. Then it would have been a lot easier on me.

According to Buffy, there is not an online manual that can be printed and used as needed. She stated that there was a "toolbox" button and a "24/7" button for questions but not a downloadable manual.

As our conversations continued through the first year of implementation, we talked more about the 3 weeks of training prospective teachers receive in the summer. Buffy noted there was no way she could learn everything she needed to know in 3 weeks. She suggested ongoing training throughout the year. To Buffy, being able to have

training during the school year would enable teachers to have questions answered as they taught the units in their curriculum. She also stated that being assigned a certain person to contact at the RCU about questions would help her as well. She said that when she called or e-mailed, she was sent from one person at the RCU to the other before she could get an answer to her questions: "I have called a few times and each time I am given someone new to talk to. There is not just one person to call to get answers from."

She was also very interested in seeing if the networking of teachers they were told about during training would take place. During the training sessions Buffy attended, she was told that the RCU would develop a list of teachers and their contact information so they would have other teachers involved with the redesign initiative with whom to communicate. These teachers would include both Phase I and Phase II teachers involved in the redesign initiative. This list, according to Buffy, would enable her to talk to teachers who had taught the units she was teaching and to ask questions when needed.

One major concern of the training involved being taught on Microsoft Word 2003. The students use Microsoft Word 2007. She noted the books the students use are 2007. She stated that she was going to have to teach herself the 2007 version of Word.

When Tech Prep was introduced in Mississippi in 1993, not all schools chose to participate. Tech Prep used innovative teaching methods for that era, such as cooperative learning and application-based learning, to integrate academic and vocational courses. Tech Prep began with 15 pilot sites, and by 1997, 88% of the state's school population was involved. The Discovery Courses in grades 7–9 introduced students to technological and high-tech computer skills. The seventh-graders in Career Discovery would explore career opportunities, while the eighth-grade Computer Discovery students would learn

computer skills that ranged from word processing to database management. These students would also be involved in desktop publishing and telecommunications. The ninth-grade Technology Discovery students worked to explore technology resources and to discover paths for career development and advanced educations.

Another area of concern Buffy had was students coming into a redesign district who had not had Tech Prep or ICT. She stressed that the possibility of getting these students caught up was definitely going to be a task. Buffy continued by saying:

As part of the grant proposal, our district chose to require students to take ICT I, ICT II, and STEM as part of the curriculum. If a student comes in from another state—or even another Mississippi district—that does not require computer literacy in grades 7–9, what will Redesign districts do?

Buffy stated the following:

If a student comes to us in eighth grade and has not had ICT I, we have been told that more than likely that student would retain their eighth-grade status but would take ICT I. Now, how will that student ever catch up?

Buffy raised another important issue:

Say, for example, a seventh-grader takes my class and passes it but does not pass enough units to move on to eighth grade, will they take ICT I over? What if the student fails my class but passes all other subjects? Will that student take my class over in eighth grade? If they take my class over, when will they take ICT II? When I ask, no one knows. I have asked my principal, I have asked teachers in other districts, I have asked the RCU. I cannot get an answer. I realize there is a

lot that needs to be worked out, but this is an issue that should have been discussed and decided on before a school is even a Redesign school.

We spoke of the curriculum being used in ICT I, and I asked Buffy's opinion of it. She stated that she did not see much she would change. The problem during the first year of implementation was she did not see how teachers would finish the curriculum in 9 months. At this point, the problem of equipment not being ready at the beginning of school surfaced. Buffy stated, "We went 9 weeks without computers. I just do not believe we can cram all this into a year throwing all of this on them at one time."

During our discussion of the curriculum, it was interesting that only three aspects surfaced. Excel was mentioned as an aspect of Microsoft Word but only to the extent that she would be teaching basics of that program. Buffy mentioned PowerPoint and the fact that Microsoft Word is used for Power Point. The only other aspect of the curriculum she mentioned was Career Choices. Career Choices includes two competencies. The first is exploring foundation skills and knowledge of academic and technical literacy. Career choices also include the Mississippi Career Pathways Model. In competency 2, students explore each of the seven Mississippi Career Clusters. With each of these competencies, students complete online journals and surveys and research a career of interest.

This led me to believe Buffy was not knowledgeable of the entire curriculum. The ICT I curriculum includes the following:

1. Unit 1: Orientation and Ethics   10 hours

2. Unit 2: Basic Operation and Technology Concepts   15 hours

3. Unit 3: Technology Communication and Research Tools 10 hours

4. Unit 4: Keyboarding   35 hours

5. Unit 5: Word Processing and Publishing   35 hours

6. Unit 6: Multimedia Applications   25 hours

7. Unit 7: Career Exploration   10 hours RCU (2009)

According to the RCU Web site (2009), to achieve a Carnegie unit, 140 hours of instruction is required. Each unit is accompanied by competencies and suggested objectives, suggested teaching strategies, suggested assessment strategies, integrated academic topics, 21st century skills and information and communication technology literacy standards, technology standards for student, and references.

I found it interesting that each competency provides all of the areas mentioned above, but, according to Buffy, very little of the curriculum is discussed during training. She stated the following:

Since I came on board after summer training, what I have attended on weekends dealt with the computer programs used and not the curriculum per say. On top of that, the RCU required "Understanding by Defined" lesson plans, and they take a tremendous amount of time. So I have lesson plans for the RCU, and I have lesson plans for my school. I also have to keep two grade books, one for my school and one for the RCU. I grade everything by hand except what I can do on Blackboard.

The first observation in Buffy's classroom took place during the first year of implementation. At the beginning of the first year, the decision had been made by the Assistant Superintendent and other members of the Redesign committee to use Formica countertops that reached the entire length of the classroom. Computers were on the tops

but had not been installed. Because the computers were not accessible, students were working on worksheets provided by the teacher that engaged them in a chapter of *7 Habits of Highly Effective People* by R. Barth. The worksheets included a learning style inventory that had been downloaded by the teacher. This book is part of the curriculum for ICT I (RCU, 2009). According to Buffy, if computers had been installed, students would have been able to research journal articles related to personality traits and completed the learning style inventory online.

Rolling chairs had been provided for each student at his or her computer station. The four tables in the center of the room had six chairs each. Exposed wires of the computer drops were still being seen. The teacher workstation was at the front of the classroom, and that is where Buffy was standing. The books that had been ordered were still in boxes, and the filing cabinets had not yet been delivered.

From this observation, Buffy's frustration became clear with the lab not being ready when school started. Not all students were on task; rather, they were rolling from one neighbor to another.

During the second year of implementation, observations took on a new meaning. The computers were operational. Computer wires had been enclosed in cable, and all of Buffy's furniture was in place. Students were at their computer stations, and Buffy was standing at the front of the room teaching using the Promethean board. While the majority of the students were on task, students in the back of the room were playing games on the computers. The rolling chairs were still an obstacle as students rolled from one neighbor to the next.

As Buffy taught that day, students were told to add clip art to their assignment. Each time students added the clip art, computers slowed to a crawl. Students who could not get the Clip Art feature to work began to play video computer games. Buffy did not seem to notice.

When students started using another computer tool to replace words in a story, the software did not work for three students. The page they were on showed a legend that included all of the tools necessary to complete the task. Each time the students clicked on the necessary tool, the page froze. The students switched computers and tried again. On the third switch, the students were able to complete the assignment. During this particular class period, there were only 18 students present. Buffy indicated that some of the installed software froze when students were using the computer. She had asked the technology personnel for answers as to why and had not received responses.

As students were dismissed, I asked Buffy about the students in the back of the classroom who had been playing the computer games. She responded that the School Vue software had never worked. That particular software should allow her to see what each student is working on at his or her computer from her workstation. Using this software, from her teacher workstation, Buffy should be able to actually take control of the mouse at a student workstation and stop the student from attempting to gain access to anything other than what she is teaching. She said that when she tried to use it, it usually would lock up the server. When this happens, some of the computers freeze or shut down. Some students lose their work when the computers have to reboot.

As we continued to talk about the software, she said that anytime all of the students were in a particular program, the program slowed down so much that students

34

would get frustrated. She said she had talked to the technology personnel and they had told her it was too much for her server to handle although the server was bought according to ICT I specifications. The server to which her classroom is connected is for her classroom only. Buffy had complained numerous times to the technology personnel but had not received answers that would solve the server problem.

During one of our last conversations, Buffy explained that more than any of the problems she had encountered, one of the main concerns was not being able to get the RCU to answer questions she had. She explained as follows:

I've emailed, and I've called. The first year they told me to contact teachers who had already had questions. I can't get those teachers to respond either. It's like they think they had to figure it out on their own and I should too. When I tell the RCU that, they tell me they will find out the answers and get back with me. I'm trying, but if I don't know, I don't know.

Within Case Analysis for Buffy

Buffy is a 41-year-old white female with 2 years of teaching experience. Her degree is in Business Administration and Marketing. Buffy holds certifications in ICT and Special Education and is IC^3 certified. She believes that Redesign prepares students for new technology and also for the future. Buffy was not involved in planning Redesign in this district, nor was she involved in setting up her classroom for ICT I. Training has been a critical issue for Buffy. Because she was not hired to teach ICT I until after the beginning of the school year, she stayed behind during the first semester of implementation. The majority of her training took place online, and she has not felt

comfortable with the training she has received. Other parts of her training took place on weekends. According to Buffy, there was very little training on the curriculum for ICT I.

Buffy has also been concerned with students transferring into the Alcoville School District who have had no prior computer training. She was worried that no decisions have been made as to whether these students will be allowed to take the ICT I classes.

A major problem as far as Buffy was concerned is that the labs were not functional until the 9th week of school. Not being familiar with the curriculum, Buffy said that she struggled to keep the students where they needed to be so that all of the curriculum could be covered during the first year.

Issues with the computer equipment were a concern for Buffy also. She noted that she had not received answers from the technology personnel about software problems that cause computers to either slow down or crash. Being told the server could not handle all of her computers was not an answer to her problems.

Buffy also believed the RCU had not followed through with its promises. She said the Understanding by Design (UBD) lesson plans the RCU requires are too time consuming and that there had been no support from Phase I teachers. There had not been a networking of Phase I and Phase II teachers. She also stated that when she contacted the RCU she did not get specific answers to questions she asked.

Suzanna

A 60-year-old White female, Suzanna has been employed in the Alcoville School District since 1997. She holds a bachelor's degree in elementary education (K–8) with certification in the same. Suzanna taught English at Alcoville Middle School until an

opening 3 years ago in Tech Prep occurred. At that time, she began teaching Technology Discovery and continued in that class until the district received the Redesign grant.

Before interviewing Suzanna, I spent several days observing in her classroom. Like in Buffy's classroom, the Formica countertops were used for student workstations. The length of each wall is Formica with computers on top and rolling chairs for each student. The center of the room has four tables and six non-rolling chairs. The teacher workstation is along the north wall with the Promethean board behind Suzanna's desk.

As I entered Suzanna's classroom on this particular day, she was calling roll. All but two computers were in use, and the students were rolling toward the middle of the room visiting with each other. Once roll call was completed, students began to roll to their computer stations.

During this class period, students were using Micro Type, the computer software that teaches keyboarding. Students at the front of the room seemed to be engaged, but students in the back of the room where I was sitting were playing computer games. Suzanna continually told the students to get busy on their assignment. As the class period ended, I asked her if I could talk with her for a few minutes. She agreed and told me her planning period was the next period so she had free time.

As we discussed Redesign, Suzanna told me what she thought Redesign meant to the Alcoville School District. She told me that the new equipment would help the students learn technology better. She stated that the curriculum was overwhelming to her and because the labs were not operational until 9 weeks into the school year, she was "way behind" in what the students should know.

We began to discuss her training. She told me that the summer training she had received was good but that it was not enough to make her feel adequate in her teaching of the curriculum. According to Suzanna, good was adequate. She said she had spent numerous hours at home trying to learn the software. "Thank goodness," she said, "we were allowed to take our laptops home with us. There is so much I do not know that I have trouble even at home learning the software." She said she had gotten very frustrated trying to figure all of the software out herself.

When describing the room arrangement that had been chosen for the ICT I labs, she told me that she had not been included in the decision-making process regarding how the labs would be set up. She said that as far as she knew, the technology personnel made most of the decisions, and she said that the labs were set up to enable them better access to the equipment. She also told me that all three servers for the ICT I labs are in her classroom. We walked to the back of the room where the servers are located and noticed the huge amount of dust that was collecting on the servers. She said that she had been told they would be boxed in at some point, but to date that has not happened. The noise from the servers had been an issue for Suzanna. She said the students in the back of the room could not hear her well because of the server noise.

As the 2009–2010 school year began, I once again visited Suzanna's classroom during her planning time. We began to discuss how the first year of implementation of the labs had been and what she expected to see happen differently during this school year. She told me she had been extremely frustrated during the first year and that no one seemed to pay any attention to the fact that new labs were even in existence. She stated that even the principal did not seem to understand the logistics behind the ICT I

curriculum. Looking at me she said, "You are the only person who has taken any interest in me or in my lab." Suzanna told me that she had not used much of the equipment that had been ordered for the lab last year; she had spent the majority of the year catching up from being without computers for 9 weeks.

One piece of equipment that each ICT I lab had received was a voting system. This system allows students to have a handheld device with the letters A, B, C, and D that they can push for a right answer to questions the teachers asks. According to the specifications for the ICT I lab, the voting system is an integration of Microsoft. It organizes student response data at both the individual student and class levels. It can create and display question slides with mathematical equations and track points by either student or a team of students. PowerPoint presentations can be automatically generated from existing quizzes, tests, or study guides that are created in Microsoft Word.

Suzanna told me she was prepared to use the voting system for the first time during that coming week and asked me if I would like to see her presentation on it. I entered Suzanna's classroom the next morning just after the students had come into the room. Students were rolling around in their chairs as Suzanna called rolled. Once roll call was over, the students began to roll toward their workstations.

Suzanna assigned an "egg" from the voting system to each student. I later learned that each individual handheld device is referred to as an egg. Suzanna had made a PowerPoint presentation of review questions from a unit of study. As she began the presentation and question one came up on the Promethean screen, students began yelling out the answers. She stopped and explained that the students were to push A, B, C, or D for the correct response.

I was sitting at a back table behind the students. There was much chatter among the students, and at one point one of the handheld devices was thrown at another student. The students were answering questions with their devices. After each question, a graph came up on the screen showing which students answered with each letter. Halfway through the presentation, the Promethean board went black. Panic enveloped Suzanna as she tried to regain the PowerPoint. After several minutes, the screen came back on and she proceeded. At least six times, she noted that she had not put enough answers on the PowerPoint. With each question requiring four answers, she realized that some answers had A and B answers and some had A, B, and C answers, although the majority were A, B, C, and D. The questions that did not have enough responses caused more chaos from the students. As we spoke later, Suzanna told me it was her first time to use the voting system and she thought she had the correct number of responses for each question. She compared the voting system to the game show *Who Wants to be a Millionaire* when the audience has to vote on a correct response. She told me she had told the children the day before they would be playing a game of sorts like *Millionaire*. "I had to teach myself how to use this system. I received no training on the voting system," Suzanna said.

As the class period began to near its end, Suzanna began to take up the handheld devices. Some of the students threw them to her; others were stuffing them in their shirts and walking up to her for her to get out of their shirts. After the students left, we sat down and talked.

Suzanna's frustration was evident as we began discussing the class period I had just observed. The frustration, though, was over her inability to understand the concepts

behind the software and the Promethean board, not behavior of the students. She stated the following:

When I knew that I was going to teach this class, I was excited about going to the summer training. But, after it was over and I came home, I had no more of an idea of what I was doing than I did before I went. Most of the time at training was spent on learning software. But, we never covered all of the software we would be using. We were told about the voting system, but it was never introduced to us as a hands-on lesson. I had to read about it myself and try to understand how it worked. I never even used it last year because I was so overwhelmed with everything else I had to do. You saw the way the software with the Promethean board didn't work today. That's just a little of what I'm talking about. We were told when our technology people installed the board that we would receive one full day of training on how to use it. When the person came to train, the software wouldn't work. They spent three hours trying to get it to work, and it never did. So, we never got the training. We have asked for them to come back, but they haven't. I've tried at home to learn how to use it. It seems to be very good software that students could gain a great deal of knowledge from, but if I can't learn it, I can't teach it.

Suzanna then began to discuss Blackboard and the issues she had with it. She said that her students had found a way to send messages to each other using the Blackboard discussion board. These messages are available for all students in the class to see. Instead of doing their assignments, some were sending hate messages to each other. Students can also connect to Blackboard at home, so messages are being sent at night as well. She has

41

contacted the RCU and was told they did not have an answer for her. She said that the

RCU told her that to disconnect the "chat" would cause her to lose other viable parts of

the Blackboard system. The only solution the RCU had was to turn the messaging off for

everyone that uses Blackboard. Suzanna said she found the path students take to get

around it being turned off, but she has not been able to find a way to block them from

messaging.

> We spoke of her training on the use of Blackboard, and she responded as follows:
> I really don't feel that I was trained enough. They expect you to just get it after a
> few lessons. I took the lessons, but I needed someone to explain more to me. I
> can't get answers. I e-mail; I have even called. They tell me they will get back
> with me and don't. Blackboard is sometimes complicated to use. Some of the
> instructions on its use that we print off are somewhat unclear, or we find flaws in
> the steps to performing the application. It seems difficult to get good instructions
> on setting up and using the grade book.

Suzanna also stated that she had been told there would be a network of teachers

who had received the grant the first year of Redesign implementation that would be

available to new teachers. She has asked the RCU about the network of teachers and to

date has not received an answer. Suzanna stated,

> We need more training. They should not expect 3 weeks in the summer to teach
> us all we need to know and then not have us come back for any follow-up training
> of any kind. I think all the teachers here have asked about more training. We have
> been told there would be some, but we have not been told when that would take
> place.

Her major complaint during this school year is with the computers. Suzanna told me that she had already had numerous breakdowns with the equipment. Three motherboards to the computers had gone out and numerous hard drives. At one point, she bypassed the technology personnel and called the vendor directly. He told her that it was a mass production problem coming from the manufacturer because so many of the Redesign sites had ordered the same type computers during the same time period. She said, "We have no backup computers. If one goes down and I have a class of 24 students, then a student is without a computer. What is that student supposed to do? I think our technology people get tired of me calling them because so many times they will not call me back."

I asked her of any other problems she had encountered this school year. She responded as follows:

> I just do not understand why no one seems interested in our classes. You would think that all of the money that was spent for this new program would make someone interested in what we are doing. Our principal never comes in here unless it is for an evaluation. Then he doesn't stay long. I don't think anyone knows why we have the labs other than maybe they took the place of Tech Prep and we just upgraded computers. You are the only person who has shown any interest in what we are doing. We had also been told that State Department people would come to visit. We haven't seen anyone. The RCU said they would be visiting also. They haven't been here either. From what I understand, this grant was to change the way we look at technology and students. There is so much in the curriculum that will help the students. For example, we have a unit on careers.

And am I right that when they get to high school they will choose a certain

direction because of what we have done in seventh and eighth grade with

Careers? People need to know that. Parents need to know that. No one says a

word. I am proud of all of the software and equipment we have gotten. I would

really like for others to know about it.

Within Case Analysis for Suzanna

Suzanna is a 60-year-old White female with 12 years of teaching experience. She

holds a bachelor's degree in elementary education. Her understanding of Redesign is that

it is to have new equipment that will help students learn technology better. Suzanna had

no involvement in the planning of Redesign in this district, nor was she involved in

setting up her lab.

The ICT I curriculum was overwhelming to Suzanna. She has spent numerous

hours at home teaching herself both the curriculum and how to use the software in the

lab.

Training was an issue with Suzanna also. She said she was not trained enough on

either the Promethean board or in the use of Blackboard. The voting system is another

area in which she is not confident. At training, teachers were only told about the voting

system and were never given a hands-on lesson. Even after contacting the RCU, Suzanna

was still having problems with students messaging each other using Blackboard.

The setup of the lab has left the servers for all three ICT labs open to her

classroom. The noise from the servers keeps students in the back of the room from

hearing as well as they should. Suzanna had been told that the servers would be enclosed in a cabinet of sorts, but to date this had not happened.

There have been numerous hardware problems in Suzanna's classroom. Several hard drives and motherboards had gone out. Occasionally students lost their work when their computers froze and they had to reboot.

Suzanna is concerned that the network of teachers the RCU told them about never happened. She did not receive an answer from the RCU as to why there was not a network of Phase I teachers available to Phase II teachers.

A major area of concern for Suzanna is that no one seems interested in the ICT classes. She did not have visitors to the lab from anyone other than me who seemed interested in what the curriculum was or the equipment that had been installed. She did not think the majority of staff members knew the complexity of the labs or what the curriculum entails that could help the students choose a direction to head in their future studies.

Barbara

A former business owner, Barbara is a 60-year-old White female with 9 years of teaching experience. Going back to school after years in business, Barbara attained a degree in business many years ago. She later completed her master's degree in Elementary Education and passed the Praxis to be certified to teach grades 4–8.

Barbara's first teaching experience was in Alcoville Middle School teaching sixth-grade social studies. She was moved from that position to sixth-grade English and from there to sixth-grade math. During her fourth year of teaching, one of the Computer

Discovery teachers left the district, and Barbara was placed there in December of that year. Barbara stated the following:

> It was not by choice. In Alcoville, it is not what you know, but who you know. We have what I call a private school hall here at the middle school. Parents request those teachers more. I wasn't being requested. I was moved into Tech Prep and told I had to go to summer training to be certified. I think it is because I had a degree in business, but that did not mean I knew technology.

Moving into Tech Prep was not a move Barbara wanted to make. She told me she was not that familiar with computers or computer programs and certainly had no idea that the curriculum would change in the near future. When the district was awarded the Redesign grant, Barbara was told she would be teaching ICT I the first year and ICT I and II the following year. There were enough students enrolled in the district to warrant three labs of each ICT. So, the first year of implementation, Barbara taught only ICT I, and the next year when ICT II was implemented, she taught both. This meant that Barbara would have two classrooms. The ICT I classroom was on the seventh-grade hall, and the ICT II classroom was on the eighth-grade hall. When Barbara found out she would have to go to summer training for ICT I, she was not pleased:

> I was so upset that I sent the vocational director a message stating that I did not want to go to training. He told me that not only would I have to go to training, but I would have to be certified in IC^3 if I wanted to continue in the position. At my age, I did not think I could take going back to school or training or whatever it was they wanted me to do. I cried for days. It was a week or so later that I made

myself realize I had no choice. I am not in this position by choice, but I needed a job. So there you are.

The classroom that was converted for Barbara's ICT I lab was very small compared to the other two labs. Almost an exact square, the Formica countertops were installed along three of the four walls in a U-shape to be used as computer stations. Four tables had been placed in the middle of the room, and the computer wiring drops were enclosed in conduit running from the ceiling down to the floor in the middle of the tables. On the other wall was the Promethean board with the teacher workstation in front of it.

My first observation of Barbara's ICT I classroom was before the labs were completely set up toward the end of August. Helping the vocational director tag all of the equipment with vocational tags, I was able to view the complexity of the labs before setup was complete.

As each piece of equipment was delivered to the labs, reimbursement from the State Department would be made. Once reimbursement was approved, a vocational asset number was assigned to each piece of equipment that costs over $500 or was subject to being stolen. This tag has a barcode that when scanned can tell the exact date the equipment was purchased, the location of the equipment, and the cost. As we tagged equipment that day, we had to maneuver through a maze of boxes that had not been opened. The tables in the middle of the room were piled high with boxes of monitors and keyboards. Barbara's workstation was at the front of the room with the Promethean board hanging on the wall behind her. There was one two-door cabinet that held books, cameras, and the voting system along with other items that had been purchased for the lab. Boxes after boxes were piled on top of the filing cabinets. There was little excess

space in the room. The computers were not working yet. The CPUs had been unboxed and set on top of the countertops, but none of them had been connected. School had been in session for approximately four weeks.

On this particular day, students were seated in rolling chairs around the Formica tabletops and were working on worksheets. Barbara asked us if we had heard anything about the computers being installed, and we told her we had not. She was extremely frustrated and said that she did not have enough work to keep the students busy. She said they were not going to ever get caught up with their typing skills. She then pointed to the windows and said there was too much sunlight coming through and she needed new blinds. This classroom was not used during Tech Prep, and she was not used to the sun coming through during the mornings. She said it would cause the students problems seeing the computer screens. Throwing her hands up in the air, she said, "This is just a fiasco."

I went back to Barbara's classroom several times during that first year. Each time she was either screaming at a child to get in the room or get out of the room. I walked in one day and sat down in the center at one of the tables. Two students got up and walked out of the room, and Barbara never noticed. At the end of the class period, I asked her if she knew the students had left. She said, "Which ones?" As we discussed the summer training she had received, we discussed whether the training had prepared her to teach ICT I. She looked at me and rolled her eyes. She said, "Nothing could have prepared me for this. I still do not know what all I am supposed to be teaching. The training did nothing to prepare me."

In the spring of the first year, I went back to observe Barbara's classroom. During this observation, I sat beside her at the teacher workstation. Never once did Barbara get out of her chair during the class period. According to her, the students were looking up careers. She told me that she had decided to jump to the career unit in the curriculum because she was tired of the students not trying to type. Questions were coming from every corner of the room. Students wanted to know what a career was, what they should be looking up, what to do if they could not find anything, and so forth. One student in particular asked if she could look up brain surgeon. Barbara looked at the student and said, "You ain't gonna be no brain surgeon. Why don't you look up something you might could be, like a model?"

When class was over that day, we discussed the lab setup and the curriculum. Barbara told me she had no input into the design of the lab. She said she had not tried to give any opinions because it was obvious that all of the decisions had already been made. She said that she was given the worst of the seventh-grade students and she was just dealing with it the best way she could. In actuality, Barbara was given the majority of Challenge Track students as indicated by her roster of students in each class. Challenge Track students are those who are at least one grade level behind. She said that the students were all over each other because there was not enough room between them. "I can't make them not talk," she said. Further she stated, "I can yell and scream, but if they are sitting that close to each other, there is nothing I can do about how they behave."

Barbara told me that the computers were constantly breaking down. The computers would freeze or slow down when everyone was trying to do research. Students had to shut down and reboot in order to save their work. There were times they lost their

work when they rebooted. She also stated that Micro Type had errors every time she tried to print. She could not print a class report. She said when she tried to call the technology personnel that she could not get anyone to come help her. She said that to call the technology person in the building was a "joke." Barbara said that when he came to her room he always made her feel like it was her fault that something was going wrong with the equipment. I asked her if she had called the technology coordinator, and she said that she had but he would not return her calls.

Barbara and I talked about the training she had received and her knowledge of the curriculum. She told me that the training consisted of very little that had to do with the curriculum. She said they were told about Blackboard and how they could use that for tests. Explaining different parts of the curriculum, she stated the following:

> The kids learn how to type. We can put the covers on the keyboard to keep them from cheating. But, we could do that when I taught the Computer Discovery lab. The hardest thing for me has been learning Microsoft Word 2007. At training, we were taught on Word 2003. The textbooks these kids have are 2007, and I don't know much about it so it has been hard. They are supposed to learn how to do PowerPoint, but I can't get them to sit down long enough to learn anything. This room is too small, and we are all cramped up together. I started the unit on careers because I knew they could just do some research on that.

The worst part came when Barbara found out that she was going to be teaching both ICT I and ICT II the next year. That would mean that she would have to do training the following summer, too. Although this was not what she wanted to do, Barbara did take

the training this past summer to be certified to teach ICT II. She told me that she

struggled with the IC^3 certification and had to take parts of the test over several times.

With Barbara's ICT II lab on the eighth-grade hallway and her ICT I lab on the

seventh-grade hallway, she splits her time between the two labs. In Barbara's ICT II lab,

the setup is very different and the students have much more room. Because it is in a

newer part of the building, the room is bigger than the lab on the seventh-grade hallway.

One day when I was by her room, Barbara told me she did not understand why she could

not just teach from one lab. She said she knew that the seventh-graders did not need to be

around the eighth-graders, but it sure would make it easier on her. Barbara acknowledged

that the software was somewhat different and having it all installed on one computer

might cause computer breakdowns, but "they break down now," she said, "and I had

rather teach from one classroom than to travel everyday back and forth."

Barbara told me she was tired of other classes using her labs. She said that she

comes back to find items moved from where she had them. She said it was not only being

used for intervention classes, but the labs were also being used for any teacher who

wanted to do remediation with their students. Barbara said the following:

> What can I do? The administration looks at this as a place to stick kids and keep
>
> them quiet. They do not know what we do and don't care. I was told the principal
>
> isn't even going to evaluate the ICT teachers this year. He told me to just keep
>
> them busy and keep them quiet. I think they see these labs as belonging to the
>
> whole school. They break down now, and I can't get any help. They keep using
>
> them for other classes; then we will be without computers.

She told me that at the beginning of this past year, she had her eighth-grade students come to the seventh-grade lab at first. The administration stopped this because they did not want the older students to come down that hallway. Barbara's ICT II lab is discussed in more detail in the ICT II section of Chapter III.

Within-Case analysis for Barbara

A 60-year-old White female, Barbara has a degree in business and took the Praxis to obtain a teaching certificate. To Barbara, the redesign initiative is a means of teaching students new technology skills. She had no involvement in planning Redesign and no involvement in setting up her lab.

Barbara teaches both ICT I and ICT II. With no prior technology experience, it has been difficult for her to learn the software and curriculum she is teaching. Another obstacle for Barbara is that it was not her choice to be involved in either Tech Prep or the Redesign initiative. She was against going to training and struggled earning her IC^3 certification. She was upset when she found out that she would be teaching classes of both ICT I and ICT II.

When talking about the training she received, Barbara stated that she was not taught very much about the curriculum. She still does not understand what needs to be taught. Using Blackboard has been frustrating to her also. She said she was told about Blackboard but not taught how to use it. Also, teachers were taught using Microsoft Word 2003, and the curriculum is taught using Microsoft 2007. She has had to teach herself how to use the 2007 version.

The first year of implementation was frustrating for Barbara. The computers were not functional when school started. The ICT I lab was placed in a smaller room than she was used to teaching in. She did not think she had enough work to keep the students busy. The way the room is situated in the building, the morning sun was a problem with the computers. She stated that the computers froze and when students rebooted, much of their work did not save. When using Micro Type, she got errors when she tried to print. Technology personnel had not helped Barbara.

Barbara had discipline issues in her classroom. She suggested that one reason was she was given the Challenge Track students who are at least a year behind in their school work. Barbara was also upset that she had to be split between labs on the seventh-grade hall and the eighth-grade hall.

Also, Barbara was upset that other classes were allowed to use her labs without her permission. She thought the administration did not care what she was teaching as long as she could keep the children quiet.

Information and Communication Technology II Teachers

The ICT II labs are located on the newer wing of Alcoville Middle School. This hallway was added onto the existing school in 1997. The classrooms are larger than the classrooms in the older part of the building. There are eight classrooms on the right side of the hallway and six classrooms on the left. All three labs are on the south side of the hallway with the first classroom starting just past the main office entrance. Each lab is approximately 16 concrete blocks wide and 30 blocks long. All labs have new window

blinds and new floor tile. There is a server room located between the first two labs, which is also used for storage.

Barbara

Barbara's background in education was stated in the section of ICT I teachers. She is also teaching two classes of ICT II. As a previous Tech Prep Computer Discovery teacher, her eighth-grade classroom was converted for the ICT II lab. The classroom is shared with the Challenge Track program at Alcoville Middle School. This program targets underachieving students who are at least one grade level behind. These students are allowed to use the ICT II computers when they are in that classroom.

The first two periods of the day find Barbara on the eighth-grade hallway teaching ICT II. The remainder of the day is spent on the seventh-grade hallway teaching ICT I. She told me she does not like traveling from one room to the other. In conversations with Barbara, she stated that she worries about the computers being used by students other than ICT students. She said "I understand that we are short on rooms, but there was a lot of money put into my lab, and I come back daily to find things out of place." When I asked her to explain in more detail, she elaborated as follows:

> The teacher that teaches the Challenge Track does not assign students to a certain computer. I have found Web sites they have been on that are not appropriate, but I cannot track which students they are. They have also installed software for these students to use on these computers that have nothing to do with ICT II. We have so much trouble with the computers staying up anyway that I feel like this is causing some of our problems. I have tried to talk to the technology people and

they won't talk to me. The technology person in our building says he's just doing

what he is told when he installs programs. I have also complained about four

computers in the lab that will not save the students' work. Sometimes the students

have to lose everything they have done because the program won't save.

Barbara and I have talked several times about the difference in the ICT I and ICT

II curricula. Barbara said she did not see much difference in the two curricula. During

one of our conversations, I pulled out a copy of an MDE brief that explained what was

involved in the two curricula. I asked Barbara to look at it with me and explain some of

the wording in the ICT II paragraphs. She read the first paragraph that told what the

students would study and said, "Oh, I didn't know it had all of the graphic and Web page

design. We didn't talk about that in training."

Barbara said that the ICT I curriculum was much easier for her to understand. She

said very little time was spent on the new programs she had to learn to teach in ICT II.

She said she was going to use a design program she had found herself instead of using

Photoshop because it is too difficult for her to learn. The textbooks according to Barbara

are also too hard for the students to use. She said the reading content was "way above

their heads."

This particular conversation led us into talking about what her training for ICT II

had involved. She said that during the 3 weeks of summer training, the majority of the

time was spent on learning Excel from a person who evidently had never taught it. She

said the person knew the program but did not know how to teach it to others. When

people asked questions of the instructor, she said, "Oh, we'll get to that." According to

Barbara, they never "got to that." She said the main problem was that she already knew

how to do Excel. She said that she had been teaching that program in Tech Prep and had also taught herself how to use it. Barbara stated,

> Maybe that is why I didn't realize how much more there was to the curriculum. Why did they not teach us graphic design, Web page design, how to teach students to be successful online students, networking? All of the things that I'm reading that are in the curriculum, why didn't they teach us that?

Barbara was not aware of how much funding was cut for the ICT II lab/classroom. When I brought up the cut of $25,000, she said, "Well, I wonder what we didn't get that we could have gotten." She said that she had enough to keep the kids busy and that was what her main concern was. She said, "If they want me to learn more about the curriculum, they need to tell me about it."

When we discussed how the administration felt about the new technology, Barbara stated the following:

> I don't like the administration crawling my ass, especially when they don't know what I'm supposed to be teaching. I just do what I can do to keep the kids quiet. All the administration is concerned with are the test scores. We don't test. But, I have to deal with kids who are at the alternative school for 45 days and then come back to me and are behind. We should have ICT I and ICT II available for kids at the alternative school, and then they could just carry it right on. Lots of these kids don't pass ICT, but they just move them on. I was just told to keep them busy, and that's what I try to do.

Within Case Analysis for Barbara

Barbara tries to keep the students occupied while they are in her classroom. Teaching both ICT I and ICT II curricula have not been a problem as far as Barbara is concerned. The main problem was moving from one room to the other during the day. She was not aware of the entire curriculum until she and I looked at all of the areas involved.

Training had been an issue in both ICT I and ICT II for Barbara. She said that too much time was spent teaching her a program that she already knew how to use. She also said that ICT I was much easier to learn than ICT II.

Barbara was also concerned that the Challenge class shared her classroom/lab during the day. She thought that some of the problems she had encountered with the computers happened because other students and teachers were allowed to use the ICT II technology.

In her opinion, the administration did not care about the curriculum in ICT. She believed they just wanted her to keep the kids busy and quiet. She was also concerned that students at the alternative school came back and were so far behind in her classroom. However, at the same time, she said that the students moved on to the next grade even if they failed her class.

Lucinda

A 31-year-old White female, Lucinda has been teaching in the Alcoville School District for 8 years. She holds a bachelor's degree in computer science. Lucinda began

her teaching career in Technology Discovery in eighth grade and continued in this position until Phase I of Redesign was implemented in 2008.

Lucinda made one trip with the Redesign team to visit a Phase I school district. She said that she liked the way the majority of the classes were set up with stadium seating. She wanted that type seating in her classroom but said the technology personnel did not think it was feasible because of the width of her room. She drew up specific plans of how she wanted the arrangement of student workstations to be. "I got nothing but negative responses," she said, "so you can look at my room and see what I ended up with."

Lucinda's classroom was located in the newer part of the Alcoville Middle School. Her room is spacious. Computers were at students' workstations that were used in Technology Discovery. The specifications originally were for these labs to have new student workstations for each computer, but, because of budget cuts, the workstations that were in Technology Discovery were used. The computers ran down the longest walls in the room (north and south), and Lucinda's teacher workstation was angled to the left of the west wall. The Promethean board hung on the west wall. There were student workstations in the middle of the room also. The server room for all three ICT II labs was in a closet between Lucinda's room and Skyler's room. The first visit in Lucinda's classroom was in August of 2008 before the equipment had been completely installed. At that point, school had been in session for 3 weeks. The computers along the walls were wired, but the computers in the middle of the room were not wired. The servers were not up, so the computers that were wired were connected to the school server.

Lucinda said that the servers had been at the vendors for a week according to the technology coordinator, but the vendor had yet to bring them and install them. She said that all her students could do at that point was get on the Internet and she was running out of things to do with them: "I am killing myself trying to find enough to keep them busy. I have found a few games I trust to download, but we are getting so far behind. I'm not so familiar with the curriculum either, and it is just a mess."

She was also upset that the grant amount had been cut from $75,000 to $50,000. She said, "We did not get to order any new furniture; therefore, we got no tables for our classroom. These computer workstations we already had are too small to accommodate the students and their books."

I visited Lucinda again a few weeks later, and we discussed what she thought of Redesign. She told me she was excited to be a part of the new labs but did not understand why "everybody couldn't get their act together." She continued as follows:

> I am a computer person. I have a degree in Information Technology. I know that
> this is ridiculous that the vendor says one thing and our technology people say
> something else. I called the vendor myself; they said they didn't have the software
> from our tech people. So, I call our tech people. They say the software is at the
> vendors. Who's lying? Who knows?

We discussed other parts of the specifications for the ICT II labs that had been ordered. Lucinda told me that so much of the budget had been cut that only 5 of the 25 writing tablets had been ordered. Explaining the writing tablets to me, she described them as a graphic writing table that uses a pen or stylus to write and/or draw on the computer screen. Students are able to write on the table and see what they write or draw on the

screen in front of them. The tablets also use voice recognition software where the students wear a headset. Using this software, students speak into the headset and what they say appears on the screen. Lucinda stated the following:

> Now, you tell me what I'm going to do with five tablets and 24 students. That was just a waste, and at the same time, they ordered 25 headsets for each class. Why do I need 25 headsets if I don't have the software to use with it? I cannot have a class of 24 students with five doing one thing and 19 doing something else.

We spoke of other items that the budget cut cost the labs. When we began to talk about the Promethean board, Lucinda laughed. "We got a cheaper version," she said. "It's not at all like what we were trained on." Another area of concern toward the budget cut was that the technology coordinator had chosen to order "comparable" software to what was in the ICT II specifications and that it was inferior to what they were supposed to have. "There are glitches after glitches in this software," Lucinda said. She said she has tried and tried to get technology to help her with the software and that they are blaming the vendor. "It's a vicious circle," stated Lucinda.

She spoke of a unit in the ICT II curriculum called Technology Productivity Tools that is used for design applications. She said that with the budget cut, the technology coordinator had chosen not to order this software. "We have no way to even begin this unit," she said.

This led us into her thoughts on the training she had received toward ICT II. When I told Lucinda I wanted her to tell me what she thought of her summer training, she responded as follows:

You do not want me to say. I am a computer person with a degree in computer

science. I know how to do Excel. That is what we spent the most time on. I didn't

need that. I needed more training on the other parts of the curriculum. We did not

get enough training by people who actually knew the ICT II curriculum. I should

have visited more Phase I classrooms last year.

During our conversations, Lucinda and I discussed her thoughts toward school

redesign. She stated the following:

I think it's redesign because it's more advanced. They are getting more out of it.

Technology changes constantly and we haven't changed in the 8 years I've been

here, so….We've been doing the same thing that the seventh grade is going to be

doing now. They should probably be programming before they get out of high

school now. What I am concerned about is that the administration doesn't seem to

understand what our curriculum consists of. They are so concerned over test

scores that technology seems to take a back seat. I wish everyone in the district

knew about our classes and what we are teaching these students.

We talked about how ICT II fits into the Redesign process. She told me that she thought

STEM was a continuation of ICT II, but she wasn't completely sure what STEM was. As

we discussed ICT II, Lucinda said the following:

To me, ICT II is an advanced ICT I, but they don't cover Excel. They cover Word

and presentation PowerPoint. We go into Excel; we don't have to teach

PowerPoint or Word. We use it, but they aren't getting advanced if they aren't

using it. At first, Excel was supposed to be in ICT I, and we were just going to be

more advanced Excel. They took it out last year. It's crazy. I think they need the

basics in ICT I and then we teach advanced in ICT II. The charts they can use in

science projects. We're teaching design, networking, Photoshop…. It's hard to get

into Excel and Access Advanced.

Even with the problems Lucinda says she has encountered, she said that she is

excited to see the change from Tech Prep to ICT II. She said she is enjoying it because

she is able to teach something she likes.

Within Case Analysis for Lucinda

Lucinda is a 31-year-old White female with 8 years of teaching experience.

Holding a degree in Information Technology, Lucinda is excited about the redesign

initiative but did not think that everyone involved with Redesign in the district was in

sync with what it was about. She thinks that students will be learning new technology that

will prepare them for the future, but she does not understand how other parts of Redesign

fit in with what she is teaching.

Lucinda was knowledgeable of the technology component to Redesign. The fact

that the computer servers were not installed at the beginning of the school year was a

concern to her. She had spoken to technology personnel and had been told the vendor had

them but had yet to begin installation. Lucinda even talked to the vendor herself, and the

vendor told her they were waiting on the technology people for the software. She does

not understand why no one seemed to know what was going on. Students were able to

connect to the Internet through the school server, and Lucinda said she was "killing

herself" trying to find enough for students to do until she can start the curriculum with the

new software.

Lucinda was upset that the grant for ICT II had been cut $25,000. Because of the cut, furniture and books were not ordered. The labs also did not get the tables and chairs that ICT I labs got. The workstations that were used in Tech Prep were being used in her lab and are too small to accommodate students and their accessories. One cut that was made that Lucinda did not understand was only ordering five writing tablets. She commented that having 24 students and only five writing tablets was a waste of money.

The cheaper version of the Promethean board was not the board she was trained on during the summer. She had to teach herself how to use the board. She also mentioned that the technology coordinator had substituted software and that it was not what they were trained on, nor was it comparable to the software on the specifications.

Redesign to Lucinda means updating technology. Her thoughts on ICT I and STEM were that they are a continuation of each other. She is excited to be a part of the new technology because she is able to teach what she knows. Lucinda is concerned that the administration does not seem to understand how important the ICT classes are.

Skyler

Skyler is a 32-year-old White female who taught Tech Prep for 4 years before Redesign was implemented. She holds a bachelors degree in Business Education and a bachelor's degree in Accounting. Skyler has taken numerous computer classes and told me she stays up to date on the newest computer technology.

Skyler's classroom was on the eighth-grade hall at Alcoville Middle School, which makes it one of the newer classrooms at the school. There was a storage room between Skyler's and Lucinda's rooms that shared the new servers for ICT II. Student

workstations were arranged around the north and south walls in the classroom with a few on the east wall. In the middle of the room was Skyler's teacher workstation. The Promethean board was located on the east wall above the heads of a few student computers. Skyler said that she was asked a few questions about where things should be installed, so she said she had "some" say in how the lab was set up.

Skyler said that the ICT II labs were not ready until October. She said the labs should have been completed before school started. "They should have started working on it during the summer and had a deadline for completion before schools starts," she stated. Further she said, "I spent way too many hours after school and at night trying to find activities for my students to do while we were waiting on the servers to be installed."

We discussed summer training. Skyler said she had received inadequate training on new programs. Spending one day on new programs such as Dreamweaver, Photoshop, and Flash is not enough to know the program. It is certainly not enough to know how to teach the program. Skyler told me that the ICT II teacher had asked another teacher in the district who was proficient in Photoshop to hold a workshop for them. "I learned more in that one day with her than in all of my training. I suggest that we should have had one week of training for each unit that we have to teach," Skyler commented.

Skyler also told me that she had received no training on their smart board: "We got the cheaper version of the Promethean board they showed us at summer training. The district was going to provide training for us, but that never happened. I just use it as a projector." She discussed the typing program that had been ordered and said that it was the exact same program that ICT I was using. She said that ICT II was supposed to get an advanced version. The technology coordinator told her there was not one on the market

yet, but she knew that was not true because she had talked to other districts that have the newer program. "We were trained on Micro Pace," she said. "We are teaching Micro Type."

Skyler had been excited about the ICT II program. She said when she found out that the budget had been cut $25,000 she was worried about what would actually be cut. She explained to me that Handwriting Recognition is one of the units that ICT II teaches. "The state only paid for five writing tablets for each lab," she said. She also stated, "It is impossible to teach a unit when not every student will be able to participate." She commented that the district had to buy the books that went along with the curriculum because they were cut from the ICT II specifications.

As we discussed her understanding of School Redesign, Skyler told me she thought it was "the wave of the future." She went further by saying the following:

> I am excited that students will have 3 years in a row of computer classes. Also, the programs and units that we are having to cover is a lot more advanced and it will help them prepare for college level…but they should have something for the 10th, 11th, and 12th grades as well.

Within Case Analysis for Skyler

A 32-year-old White female, Skyler has four years of teaching experience. She was not involved in the planning of Redesign but had some input into the set up of her classroom. Her understanding of Redesign was that students would have three years in a row of computer classes, and she thought Redesign was the "wave of the future."

Skyler's concerns include the fact that the labs were not ready until October. This caused her to spend numerous hours after school and at night to find activities for her students. In her opinion, there should have been a plan in place so that the labs would be ready when school started in August.

According to Skyler, the training she received during the summer was inadequate. She said that spending one day each on the Dreamweaver, Photoshop, and Flash software was not enough. Skyler thinks that they need at least one week of training for each software application in order to feel prepared to teach. She also has not been trained on her smart board even though the district told the ICT I teachers they would have training. She only used the board as a projector.

The budget cuts concerned Skyler also. The fact that the handwriting recognition tablets had been cut from 25 per lab to five made it impossible to teach that unit to the class as a whole. Therefore, according to Skyler, the unit will not be taught. Also, the books for ICT II had to be purchased by the district.

Skyler believes that it is important that students will have three years of computer classes. She thinks Redesign is the "wave of the future" but wishes students would have classes in grades 10 through 12 also.

Science, Technology, Engineering, and Mathematics Teachers

The STEM labs in the Alcoville School District are located in the high school building. Built in 1974, this building houses grades 10 through 12. This building is designed as a square with hallways forming a square within the building. Entering the building, the office is directly in front with hallways branching north and south from the

office entrance. There were two Tech Prep labs in place in the high school, and when the Redesign grant was awarded; those two labs were converted into STEM labs. Both labs are large in comparison to the labs in the middle school. The other STEM lab is located in a smaller classroom just off the main entrance of the building.

Maria

Maria is a 42-year-old White female with 13 years of educational experience. She received a business education degree and then obtained her master's in education with both a gifted and grades 8–12 certification. Her master's was obtained through the alternate route program. Maria and I have discussed the STEM curriculum, training, and lab setup since the district was awarded the grant two years ago. She has been very vocal from the beginning of the process, and this has allowed me to be knowledgeable of many areas of the STEM labs.

Maria's STEM classroom was located in the high school building, which was built in 1975. Her classroom was converted from one of the Technology Discovery labs. Approximately 40 feet long and 26 feet wide, her lab was quite large compared to the labs in ICT I and II. There were 24 computers that sat atop the same type Formica countertop as the labs at the middle school. Each computer station was accompanied by a rolling chair for the student. Maria's teacher workstation and Promethean board was on the west side of the room, with the majority of the student computers on the east side. There were four computers on the north wall and three on the south making the workstations form a u-shape. The student tables were in the middle of the room, and each time I was in the lab, the tables were used for storing student books, coats, backpacks, and so forth.

Maria had three storage closets, one of which housed the server for her lab. The other closets were used to store cameras, books, the voting system, and other valuable components of the program.

My first encounter with Maria was during the lab setup process for STEM. She was concerned at that time that the STEM teachers had little input into the design of the lab:

> I am the one who will be teaching these students every day. I knew where I wanted items to be placed. I have tried to express my concern with both the technology people and the administration. One tells me one thing, and one tells me something else. I should have been included in the decisions on how and where the computers would be, where my Promethean board would be, etc.

On one particular day when I was in her lab, the maintenance personnel were there discussing how they would hang the Promethean board. Maria was trying to tell them she needed it hung behind her desk and to the right. This would have placed it over a window of one of the storage closets, and maintenance did not want to have to brace the window to hang the board. The board was eventually hung farther to the right onto the wall itself. To Maria, everyone involved wanted the easy way out whether it was to hang the Promethean board or how to set up the computers. This included administrators, technology personnel, and maintenance personnel.

As we continued to talk, Maria noted that the computers had yet to come in. Maria said once again that she wished they had asked her opinion of the computers. "The technology coordinator ordered the all-in-one computers, which meant that the CPU and monitor were made together," said Maria. She thinks this was done so that the CPUs

would not have to be hung below the counter. She said there had been talk about the summer cleaning and that having everything sitting on the countertop would help the janitors when items had to be moved out of the rooms. Maria said that she had used the all-in-one computers before and she did not think they held up as well as others.

Because of a glitch with the vendor, Maria told me that the all-in-one computers were not going to be accessible for the labs. Not knowing this until late in the summer of that first year of implementation threw the ordering of CPU computers behind. This meant that it would be at least 6 weeks into the school year before the computers would arrive, and then they would all have to be installed. When I sat down to talk to Maria after school had started, she had plenty to say about the entire Redesign process starting with the training and curriculum:

We are faced with a tremendous curriculum on which we were not trained thoroughly enough. It is overwhelming to see how many hours are to be spent on each unit. Let me give you an example. The CARS curriculum. This is our math curriculum. I am not a math teacher and do not have math certification. I am a business major. Just look at this CARS thing. It made me so mad at training. I have to spend 30 hours on it with less than 8 hours of training. When we went to training, the woman that taught us would tell us to look at this particular lesson and then say, "Oh wait, we can't do that one because your answer sheets are wrong." Then she would go to another one and say, "Oh, we can't do that one either because your answer sheets are wrong." She ended up giving us a notebook full of worksheets and Web sites to go to. All in all, the curriculum had wrong answers to problems and wrong instructions. We were told that the curriculum

69

was going to be rewritten and that they would call us back to training. I have e-mailed the RCU and asked and cannot get an answer as to when we would get either. We are supposed to teach 30 hours of mathematics to these students. The math curriculum is too complex for us much less for the students and the grade level they are on in our classes.

As we discussed the curriculum, Maria pulled a copy of the course outline for STEM. The course description described this class as an introductory course with the primary focus being on applied math and science that leads to pre-engineering skills. It stated that the course was designed for all levels of students who have a technology base. It states that students will learn problem-solving skills and self-awareness skills and utilize data collection, statistical analysis, and research skills. The hours involved in each unit of study are listed in Figure 1. Knowing how many hours are to be taught in each unit helps one understand the complexity of the curriculum, and according to Maria, it is not geared to all levels of students as the curriculum description depicts.

Unit 1	Stem Orientation	5 Hours
Unit 2	Financial, Economic, and Business Technology	35 Hours
Unit 3	Math for Engineers	30 Hours
Unit 4	Engineering Design	30 Hours
Unit 5	Robotics	30 Hours
Unit 6	Directed Individual Project	10 Hours
Total		140 Hours

Figure 1: STEM Curriculum Units and Hours, RCU (2008)

We continued to discuss the training the STEM teachers had received during the fall of the first year of implementation through casual conversations held almost daily. Maria told me of the numerous hours she had to spend after school and at night to locate activities to go with the units she was required to teach. For example, we talked about the Go Venture software that was to be used with the Financial Planning Unit. According to Maria, the curriculum calls for the use of this software, and they were only told about the software at training:

> We were never taught how to use the software. It was discussed at training as a software we would use when teaching the financial unit. All of the STEM teachers have gotten together and talked about it here. We do not have time to teach ourselves how to use this software and also get activities together for our class every day. Like I said before, I spend so many hours trying to come up with activities for these kids to do. If this software is to be used, we should have spent time on it at training. The same thing goes for the Robotics. It was mentioned at training, but I have a box of Legos in the store room and do not know what I am supposed to do with it. How can anyone expect us to walk into such a broad curriculum without giving us the training we need on each aspect of this curriculum?

The following fall I revisited Maria's classroom, and she and I sat and talked again. Asking her if I could revisit the notes I had made during the last school year, she replied, "Yes, and I have lots I'd like to add to what I said then." Maria started out by saying the following:

I've thought a lot about what training should be like, how it would help teachers the most. I wish someone, anyone, would ask our opinions about when, how, and where follow-up training should be. There is so much content to learn. The person who teaches training should have taught STEM for at least a year before they are allowed to train other teachers. We can't just be given a book and be told to teach it. Even the ICT I teachers got more training than the STEM teachers did. We actually got nothing. We spent way too much time on those UBD lesson plans. We needed hands-on training, not a week hands-on and a week online. If I am taking something online, I am virtually teaching myself. I wish training had been this way: Cover everything that is going to be taught first semester in the summer training. Then have a second training toward the end of the first semester. Teach us everything that is going to be taught during the second semester. So much is technical. For example, Solid Works, we got no materials with it, so we did not teach it. We went to one day of training. The trainer gave us a worksheet and then took it back. I ended up finding a training that the district decided to pay for so I could go to and figure out what I was supposed to teach and how. And look at this. This is the engineering textbook. It is dull as crap. It is expensive; look at this. I only use it when I have a substitute. Give the kids something to read and let them answer the questions. I have special ed inclusion students in this room. This book is above most of these kids' reading level. We got a teacher's guide with this book, no other materials. It is way over our kids' heads. We have fabulous stuff but nothing to use. We need supplements to the textbooks, we need workbooks,

and we need tests and worksheets. This is what I've spent so much time trying to find.

The Go Venture educational software mentioned in Maria's quote above is a compilation of games and simulations that was recommended for purchase for the STEM labs in the specifications for the labs. This software includes entrepreneur, financial literacy, personal finance, and stock market simulations. Each STEM lab received a site license for this software, but according to Maria, during summer training, this software was only mentioned. There was no hands-on training using the software.

Solid Works was software that was required for the STEM labs and was mentioned by Maria. This software is designed to give students tools for designing products of all kinds from robots to solar-powered vehicles. Using this software, students develop real life skills needed as professional engineers. According to Maria, this software was mentioned at training, but there was no hands-on training involved. LEGO Mind Storms Education Robotics Kits were purchased to be used along with Solid Works. These kits were also mentioned during training, but again, no hands-on training occurred according to Maria.

During conversations, Maria was frustrated with the lack of knowledge her students seemed to have with technology:

Hopefully next year will be better because of ICT II. These students were supposed to be taught PowerPoint in Technology Discovery, along with Excel and Access. They have told me they saw it but didn't use it. I hate to tattle, but those teachers skipped lots of the curriculum. Some of my students are reading on

second-grade level. It was bad last year, but it's even more frustrating this year because of student ability.

Another concern that Maria voiced was the software not being installed on the T1-Nspire graphing calculators. According to Maria, the technology coordinator would not install the software because when it was purchased, each calculator only got two access codes and a 30-day trial period. The teachers did not even use the calculators last year and have already used up the 30-day trial period this year. Maria said the following:

What are we going to do? I even put students in groups so they wouldn't use up the codes as fast. The technology people are going to have to install the software, or I can't teach the curriculum. If we use up the access codes, that's their problem. Another problem is that the math teachers here do not want us teaching math or using calculators. They say we won't teach like they do and we could be counterproductive. They tell us we are non-certified math people trying to teach math. They just don't want us messing things up.

During our conversations, Maria and I discussed her use of the Blackboard system. She told me that she used the system more than most teachers. She graded in Blackboard and then moved to the district grading program, System Technology Information (STI). Maria said the following

It is a nightmare. I worked till 9:00 last night. It is a battle with my fifth-grade child to have to spend all these extra hours a day on school work. We have an amazing curriculum, but it is over my ninth-graders' heads. I have to find things they can understand and do, and it just takes time—time I don't have.

In discussing the STEM curriculum in general, Maria told me she is just "plain frustrated". She said the following:

I think the RCU got some graduate student to do the curriculum as a project. That student leaves and someone else comes in and nothing gets finished. There is no one to fix it. I can't ask the math teachers here for help because they don't want me teaching math in the first place. We were given such little training, and then we were told to look for new curriculums. We were promised follow-up training. We never got either. I think the whole point of Redesign is to keep kids in school. I'm going to try even without supplies and materials. I have to spend my time finding a way to figure all of it out. Just today I got an e-mail about Bridges training. It came from the RCU. I have no idea what Bridges training is. I'm doing the best I can with the limited amount of stuff they gave me to work with. Sixty percent of my students are in Transition to Algebra. I have a business degree. You tell me how they are supposed to accomplish engineering and calculus. If I'm supposed to want to keep them in school, I intend to show them career fields this year and then try to figure out what parts of the curriculum I can use with it. But, these kids don't even know what a personality trait is. Holland's Codes is the best personality detector I know. It's not even in the curriculum. I had to search and find it on my own. All of this is so broad and so over their heads. If I was teaching 10th-graders, it might work. I'm going to push graduation trying to get them to see science and math are cool things. Without an updated math curriculum to teach, how can I do what STEM is supposed to be doing? To be blunt, I have had no follow-up training, no one has contacted me, and no one shares ideas

professionally. This year we have even experienced poor performance of the RCU Web site during critical times, like during semester exams. Like I said, I'm doing the best I can.

Within Case Analysis for Maria

Maria is a 42-year-old White female with 13 years of teaching experience. Her understanding of the redesign initiative is to keep kids in school.

A major issue with Maria was that she did not have much input into the design of the lab. She said that she was the one that would be spending her days in the lab teaching the students and should have been asked her opinion more often. Communication among technology, maintenance, and Maria was an issue, also.

Another major concern Maria had was with the training the STEM teachers received in the summer before implementation. One trainer found numerous flaws in the CARS curriculum and promised the teachers would be brought back for another training and that the curriculum would be rewritten. Neither of those things had happened according to Maria. She also had to spend numerous hours after school and at night to find activities to go along with the units of study. She emphasized that she has contacted the RCU and had not gotten any response.

The software was overwhelming to Maria, and very little time was spent on teaching the software during training. The math and engineering software seemed to pose the biggest problems to Maria. The calculator software had never been loaded. Math teachers did not want STEM teachers teaching math. The engineering books and software were "above the heads" of the majority of her students.

Maria was also concerned with the lack of knowledge the ninth-grade students came to her with. Not only did she say some were reading on second-grade level, but she also said that 60% of those students were in Transition to Algebra and cannot grasp the calculus that is a part of the curriculum. She also said that the students have not learned basic technology they should have learned in Computer Discovery and is hopeful that taking ICT II will show changes with her students next year.

Maria had definite ideas as to how to improve the different aspects of implementation. One was to ask teachers what they need. She thought that more hands-on training was needed. She says that if they were trained in the summer on what they would be teaching in the fall and then trained again in the fall on what they would be teaching in the spring, teachers would feel more prepared to begin the STEM classes.

George

George is a 30-year-old White male with 2 years of educational experience. Choosing the alternate route to become a teacher, George has a bachelor's degree in business and a master's degree in business and accounting. His certifications include business education and STEM. Before acquiring his certification, George worked as an accountant for a major company in the Delta. George's first teaching experience was in the STEM lab.

George's classroom was located in the high school building and was converted from a Technology Discovery lab. His room was large, measuring approximately 25 feet wide and 40 feet long. Formica countertops were in an L-shape along the north 40-foot-long wall and hold 16 student computers. Along the east 25-foot wall, Formica

countertops held eight student computers. There were two storage rooms in George's lab. One of these housed the server for his lab, and the other was for storage. His teacher workstation was just inside the classroom door to the left, and four student tables were across from his workstation in a U-shape. The Promethean board hung on the wall opposite George's workstation. Because of its location, students were only able to see the board when they are seated at the tables.

During the first year of implementation, my first encounter with George was just after school started in August. Overwhelmed by the curriculum, George was eager to talk about the lack of training he had received that summer. Although his math skills were relatively high because of all the math courses he had to take to receive a business and accounting degree, teaching math was "a whole new ballgame" according to George. In his own words, George said the following:

> I am very technology literate. I have had calculus and other higher level math courses. But, that did not prepare me to teach this STEM curriculum. I assumed that when we went to summer training, we would be given activities and plans to help me understand exactly what I was to teach. I have been in many workshops and professional developments since college, and I can say that was the worst excuse at training someone I have ever attended. The people doing the training seemed to know less than me about technology and even less about the curriculum. I understand that I am a first-year teacher, but for this to be such an innovative program it amazes me that the training wasn't better thought out ahead of time.

As we discussed the Blackboard training teachers had received, George told me that he had worked through that training on his own before the three-week summer training began. "I had used the Blackboard system in college and was somewhat familiar with it," he said. However, as far as using it in the classroom, George said that was totally different. He assumed that aspect would be offered during the summer training but said that the training they received only showed them how to do the basics. We also had to become C.O.O.L. certified on our own. C.O.O.L. is an acronym for Certificate of Online Learning and is a requirement for all ICT and STEM teachers prior to their actually teaching the curriculum. C.O.O.L. is a 40-hour online course that is taken after Blackboard and Advanced Blackboard are completed.

George was most upset with the training he had received on the CARS curriculum. CARS is the mathematical portion of the curriculum, and George said the training they received was absurd:

> The woman who taught, if you want to use the word *taught*, us in that training supposedly had taught the curriculum the previous year. She would go to a unit, tell us to look at a particular activity, then say, "The answers are wrong on this one. Let's look at another one." This continued through most of the units. Finally, she told us she would have to get with the RCU and tell them about all the mistakes. She told us she would see that we got trained again. We have waited on a new curriculum and have yet to see that or to be called back for training. In the end, she gave us a worksheet or two, then took those back up, and gave us a few Web sites to go to for information. That is what has been the hardest—trying to find information on our own. It has taken me hours and hours of my own time to

try to find activities to go with any of the units. I am not even going to try the CARS units this year.

I visited with George several times the first year. Not one time did I go into his classroom that he did not mention the training they had received. George told me numerous times that as a first-year teacher it was hard enough to grasp just being in the classroom, but the extra amount of planning time was more than he bargained for. He believes in Redesign and the curriculum of STEM as a whole but does not feel adequately prepared to teach:

> I will do the best I can this year. From what I can tell, most of this is above the heads of the kids in my classes. But, I will do the best I can. The three STEM teachers are trying to stay together so we can help each other with unit information, but students are so below grade level in my room, that it is hard for us to stay together. I am spending a lot of time helping one of the other teachers who is still not very computer literate, and I spend too much time after school grading.

Another major area of concern for George was that the equipment was not ready until almost 9 weeks into the school year. He was very critical of the technology personnel and the Redesign team as a whole. Several times during conversations, George made sure I was aware that lack of communication among teachers, the team, and the technology department had caused problems for him in his lab. George said he had specific ideas about how to set up the lab but was always argued down by either the administrative assistant or the technology coordinator.

George wanted stadium seating in his classroom. He told me he had even drawn to scale the way the room would have looked and how easy it would have been to set it up:

> Janitors took precedence over me. Technology kept using the excuse that it would be easier for janitors to clean the rooms in the summer if we used the around-the-wall setup. Look at this. Around the wall alright. When the students are sitting around the wall at the computers, not one single one of them can see the white board from where they are sitting. I have to move them to the tables for them to be able to see. Now you tell me how smart was that. Maybe it was because I am new to the system, I don't know. What they don't seem to understand is that I have experience with the technology part of this. I wasn't trying to "get in their way." I just wanted it to be good for me and the students.

As the second year of implementation got under way, I again visited with George several times. One particular observation found the class seated around the tables and George teaching from the Promethean board. Go Venture was being used to teach a financial lesson. Go Venture is software that was identified by the MDE to be used in the STEM curriculum. It includes lessons on entrepreneurship, financial literacy, personal finance, and the stock market.

George was explaining how students could put in how much money they made, what their house payments were, the amount of bills they had, and so forth and from that see how their money flowed each month. A student at one end of a table raised his hand. George asked what he needed. The student said, "Wouldn't it be easier if we were sitting at the computers while you were teaching this? I'd rather be able to go to the page you

are on than to try to remember all of this when we get back to the computer." George

answered the student by saying that if he allowed them to sit at the computers; they

would not be able to see what he was showing them on the white board. "You will be too

far away from the white board to be able to follow along," he said. He added, "You will

have to go back through the tutorial when you are at your stations."

As the bell rang that day and students left the room, George and I talked about the

Go Venture software. He told me it was a great software program that taught students

how to be literate of their finances. But, he said that they got no training on the software

at all:

I did not even try to use this last year. Everything I learned, I learned on my own.

I even used my Educational Enhancement Fund money to order a few workbooks.

This type program needs supplements, and we got no supplements. We only got

the program. It was mentioned at training as one of the software (programs) we

would be using, but that was it. I still get upset when I think about how much

money was spent on these labs and how little training teachers got. We are

supposed to be getting these students ready to live in the real world. We are

teaching them how to handle their money, pay their bills, invest, etc. We are given

a software; we are given no training on it. Once again, I am spending hours of my

own time to learn what is involved. Money that I needed to use on ink and paper,

I spent to have resources for this unit.

On another day as I visited George, he wanted to talk about the CARS curriculum.

CARS is an acronym for Career Awareness: Roadway to Success and is a unit in the

STEM curriculum. He said that he and the other STEM teachers had gotten together to

see how much of the curriculum they could pull out to use with their students. When I asked him why they had to pick and choose, he said the following:

This is Pre-Calculus. Do you hear me? Most of the kids are in Pre-Algebra or Transition to Algebra. One of the units is on converting how to figure out how to land a plane. That means converting knots to miles per hour and then runway feet. I know this says STEM, (Science, Technology, Engineering, and Math), but my math background is in business. So I can do the entrepreneurial stuff, the finance stuff, the accounting, but it's been a long time since I took Calculus. These kids can't do it. This is the unit we were told we would receive a second training on, and we haven't. This is the one where the trainer never explained anything because the curriculum was wrong. How can they keep a curriculum like that wrong for two years? Then this past week, we get an e-mail from the RCU with the new curriculum attached. It comes in a PDF file. You have to open each individual file to print the whole curriculum. It must be close to 500 pages. Now you tell me how and when I'm supposed to do that on top of trying to learn it.

George told me later that week that he wanted me to understand that he does love what he is teaching. He just gets very frustrated when the RCU does not seem to care if they get what they need to survive teaching such a huge curriculum. George said that he believes the concept behind STEM is great and that it could very well keep students interested in staying in school. But, he said to keep good teachers, there was going to have to be better communication between the RCU and the teachers. He looked at me and said the following:

You and the vocational director seem to be the only people in the world who are

even concerned with what we are doing or how we are doing it. I understand it is

a research project on your part, but just to have someone to talk to who will listen

makes it better for us. I know there isn't a lot you can do about the problems, but

you do care and that makes us care. I don't think anyone else in this building

understands how awesome this class is. If they only knew what all we are doing in

here and how hard we are working to keep these kids interested and in school, I

think the kids would pick up on that. Everyone wants to be patted on the back. All

we've had with this class is problems. We spend way too much time on finding

things to teach with and not enough time showcasing what we have to offer.

Within Case Analysis for George

George is a 30-year-old White male with 2 years of teaching experience. He has

had several major issues with the STEM lab, curriculum, and training. Having a business

background and having worked for a major company, George said he knew what

professional development was meant to be like. He said that the training received through

the RCU was not professional development. He even stated that the people doing the

training seemed to know less than he did about technology. He was amazed that the

training was not better thought out ahead of time. The fact that he was given no activities

or plans to help him teach made it hard on him as a first-year teacher.

Several of the units of study in the curriculum concerned George. The math

curriculum that utilized CARS was too advanced for the caliber of students he had in

STEM. He stated that students were not on grade level, much less ready to do Pre-

Calculus. The other unit of concern was Go Venture. George had to use money given to teachers by the state to purchase supplements for the software. He thought the entire curriculum was not thought through very well from a teaching standpoint.

George also said that he had been left out of the setup for his classroom. He stated that even though he expressed ideas and concerns, his ideas were overridden by the administration and/or the technology coordinator. He was frustrated that he had to have the students seated at tables in order for them to see the white board. George thinks that students need to be able to work at their stations while he is teaching the units from the white board.

Another issue to George was that no one in the high school seemed to be knowledgeable of the new lab or the curriculum involved in STEM. He thought the vocational director and I were the only people that cared about problems and concerns the teachers had. He also said that others should understand what STEM is and how it is supposed to help students.

George believed in the concept behind Redesign, which to him was to keep kids in school, but he also believed that the lack of communication among administration, teachers, and technology personnel, along with the RCU, were a major downfall of the process.

Annette

Annette is a 52-year-old White female with a bachelor's degree in Finance and a master's degree in Business and Accounting. She is certified in five areas that include computer applications, keyboarding, social studies, geometry, algebra, and STEM. Before being employed in Alcoville School District four years ago, Annette taught

accounting and advanced accounting at a private school for eleven and one-half years. Before becoming a part of the STEM team, she taught Keyboarding and Computer Applications along with Pre-Algebra at Alcoville.

The room Annette was assigned to for her STEM lab was much smaller than George's and Maria's. Measuring 21 feet long and 21 feet wide, every square inch of space seemed engulfed in equipment of some form or the other. As you opened the door to Annette's room, the door opened back to the left and bumped into two four-drawer filing cabinets. The Formica countertops began after that and continued down and around the length and width of the north, east, and south walls forming a U-shape. Twenty-four student computers were atop the countertops and were accompanied by a rolling chair for each student. In the middle of the room were four tables with six chairs each. There was approximately 2 feet of walk space between the tables and the countertops. At the front of the room by the door was Annette's teacher workstation. Her Promethean board hung to the left of her station with printer stands underneath the board.

One of my first visits with Annette was to help tag the new STEM lab equipment for the career and technical center. We spoke briefly during that visit on the congestion in her classroom. She said she had not had any input into how the lab would be laid out, but she thought that in order for her small room to hold the required tables, the U-shape of the computer stations was best for all concerned.

Annette said it had been a nightmare the first nine weeks of school because students had no access to the computers and all she had to work with was the *7 Habits of Highly Effective People* book. She said they used that book until the computers were set up. Annette also mentioned the book *Making Ethical Decisions* and said she was not

going to use it because she did not have time to read it or find activities to go along with the book.

According to Annette, the curriculum for STEM gives goals and objectives and a few teaching strategies. She does not understand the lack of textbooks to go with the curriculum. She said she thinks she is going to like teaching the class, but not having resources or textbooks to go along with the curriculum has caused her hours of extra work. She said that during training no one mentioned the fact that they would have to come up with their own resources.

Annette stated that as far as the technology went, she did not think she would have much trouble with that unless it involved software that she was not trained on. Because of her background teaching keyboarding and computer applications, she thought she would be able to handle the word processing part.

One part of the curriculum that Annette also felt comfortable with the first year was the math. She said she held a math certification and she thought she would be able to teach parts of the curriculum and possibly help the other STEM teachers, too. She said the training they received was far from adequate and that the trainer did not seem to know or understand the curriculum:

> We left training with absolutely no resources. I felt like I had just wasted 3 weeks
> of my summer. The majority of our time was spent teaching us how to do the
> UBD lesson plans. There is no possible way for me to do lesson plans for the
> RCU and lesson plans for my school too. Our new lesson plan model is by
> Madelyn Hunter. Those are very time consuming in themselves, and since this

school is who pays my salary, I am more concerned with getting my plans in to my principal than to the RCU.

Each time during the first year that I visited Annette's classroom, she was not sitting at her desk. She would always ask me to pull up a chair and sit down and talk. The majority of the time she wanted to talk about the curriculum of STEM and how much harder it was than she had thought. She continuously talked of the lack of training and said she had given up trying to spend so much time after school to find activities to go along with the lessons. She stated that sometimes she borrowed activities from the other teachers, but she hated to bother them all the time. Annette said she would let the students work on projects that she felt comfortable with and just skipped others.

During the second year of implementation, I visited Annette's classroom again several times. Training was always the topic of conversation. Blackboard training was a major concern for Annette. She said that the teachers only got a partial day of training on the Blackboard system. "There are so many options in Blackboard that I don't know how to use," Annette said. She said that she does all her grading in Blackboard, but she knows there has to be so much more she could use it for.

We discussed the software that had been ordered for the labs. Annette said she had yet to try some of it. We had no training on Go Venture. She told me she did not even try to use it during the first year of implementation. She commented as follows:

I am getting ready to go through the tutorials myself. I know that the other two teachers have already started the unit. I hate to bother them all the time about things I don't understand. I have heard them say they have tried to contact the RCU and have not gotten any responses. That's why I haven't even tried to see if

there is any online help for all of this. I don't even check my e-mail anymore

because after they told us we would have follow-up training and we would be

hearing from them and we never did, I just don't even check anymore. If you have

time, I'll check it now just to see if I have gotten anything from the RCU.

Interestingly enough, Annette had an e-mail dated a few months back from the

RCU telling the teachers of a Webinar on Performance Dashboard. She said, "What in the

world is Performance Dashboard? A Webinar at 3:15? Students don't even leave here

until 3:20." Annette asked me if I thought they could add any more hours to the day. She

said that she could not teach all day and then be expected to sit through a Webinar after

school. She told me she already spends hours and hours just trying to stay ahead with

finding resources and activities along with grading.

We talked about the engineering textbook, and Annette said the book was too

hard for her students. She said what she had decided to do was let students look at the

book and try to find five fields of interest and then research them on the computers. She

said she could not teach out of that textbook without any resources other than the book.

We also discussed the fact that the software had not been installed on the

calculators. She told me that she was using the calculators to help students practice for

subject area tests. She said that she went to the MDE and found the Algebra practice test

and then changed it around and worked with students on that. "If the RCU cannot help

me with activities for the units they want me to teach, then I'm not going to waste my

students' time by just playing with this curriculum," she said. "I am going to spend my

day being productive as a teacher in some way."

Annette said the new technology was the main reason for the redesign initiative. She believed students should be involved as much as possible with technology and more classes than IC[3] should be offered especially beyond the ninth grade.

Within Case Analysis Annette

Annette is a 52-year-old White female with 15 years of teaching experience. She had no input in the design of her lab, nor was she involved in the planning of Redesign. Her concept of Redesign was that the new technology would aide students but that more computer classes should be offered beyond ninth grade.

Annette's lab was small in comparison to the other STEM labs. She acknowledged that she had no input into the design of the lab but thought it was set up wisely because of the limited space.

Having no computer equipment installed for the first 9 weeks was an issue for Annette. She was also concerned about the lack of textbooks and resources she had for the class. She borrowed activities from the other teachers from time to time. The first year she spent hours trying to find resources to use with the curriculum.

Annette thought the curriculum was too hard for her students. According to her, the math and engineering were too advanced for ninth-graders. She believed the curriculum looked good on paper, but the actual teaching strategies and suggestions were inadequate.

Training was a big issue for Annette. The training she received on the math part of the curriculum was not enough to help her in the classroom. She said she brought nothing back from training she could use on a daily basis. She also said that too much

time was spent teaching teachers how to use the UBD lesson plans. Because Alcoville requires teachers to use the Madelyn Hunter Lesson Plan Model, Annette says there was no way to do that and the UBD plans. According to her, there were not enough hours in the day.

Other training issues Annette had were on the use of options available to teachers on Blackboard, software training, and the RCU offering a Webinar while students are still at school. Annette said that having certification in math surely did not prepare her to teach engineering software. She said that the only way to understand most of the software was to be trained on it and that had not happened.

Career Pathway Teacher

The career and technical center was on the same campus as the middle and high school. The center was built in 1970. In 1988, a wing was added to the center. Four new classrooms were built at that time. The center housed eight vocational courses that include Building Trades, Automotive, Horticulture, Co-Op, Metal Trades, Allied Health, Computer Applications, and Marketing and Economics/Business Communication Technology. Marketing and Economics was taught on the new wing of the center.

Martha

Martha was the only vocational teacher who had her curriculum converted to a Career Pathway class in year 2 of Phase II Redesign. She taught second-year vocational students Business and Communication Technology and first-year vocational students Marketing and Economics. The Business and Communication Technology program would no longer be offered. Her program was housed in the career and technical center.

Career Pathway classes were to begin in year 2 of Phase II. Because of state budget cuts during the 2008–2009 school year, only one program was converted into a Career Pathway program at Alcoville.

A 30-year-old White female, Martha has a bachelor's degree in Marketing and 8 years of educational experience. Martha's classroom measured 27 feet long and 22 feet wide. Light blue in color with 24 fluorescent light fixtures, the room gave me a calming affect when I entered it for the first time. Student workstations formed two rows on the south side of the room, one after the other with 10 computer stations on each row. There were four student tables in the middle of the room. The teacher workstation was at the front of the room in the middle with the Promethean board hanging on the wall beside the door entrance.

On my first visit with Martha, there were nine students present. She asked me to grab a chair and sit by her at her teacher workstation. She told me that the students were working on their typing skills. Martha was eager to talk about the program's conversion. She told me she loved working at the "Vo Tech" center. She said she was very excited to convert the program to Marketing and Economics because her degree was in marketing. She believed that the new technology would benefit these students and said she thought it would benefit the kids in the future.

We discussed the furniture and fixtures in her room, and Martha said the design of the room was her idea. She said she worked closely with the technology coordinator and his assistant who had helped her in the past with any problems she might have had. Her conversion allowed her to get new computer workstations and have the students facing

away from her but allowed her to be able to see what each student was working on when she was standing behind the student.

Martha told me that the kids coming to the "Vo Tech" did not know how to use all of the new technology. She said that she was not sure what part of the curriculum to teach first:

These are 10th- and 11th-graders, and they do not know how to do Excel or PowerPoint. Do I teach them that first? If I sat down and really taught, we would not cover our curriculum. It would take a whole 9 weeks to learn the basics. It will take several years for everything to eventually kick in and for the kids who come to me to have the technology basics they need. The curriculum should build on previous years, and it won't for several more years.

As we spoke of the curriculum, Martha said that she had no training on some of the software that went with the curriculum. She said she was trying to learn the new curriculum and had no time to learn it. She also said that the curriculum jumped from ethics to mail merge. "How does that fall under the same competencies?" she asked. She said that ethics is in the curriculum at least three times.

Another source of contention in the curriculum for Martha was that economics is only taught the first year. Marketing is not included in the first year. She explained that first-year students will only experience a business core class. What she did not understand about that was that students would only be given an economics credit if they complete 2 years, even though it is only taught in the first year. However, she also said that she had received an e-mail from the RCU stating that the State Board of Education

had not passed whether or not it will even allow a credit to be given through her class. "Does anyone know what's going on?" she asked.

I sat down one afternoon to talk with Martha about the training she received before school began. She told me she trained for 3 weeks during the summer and would train 1 week again the next summer. She said that the person who taught her training was still teaching Business and Computer Technology:

> The trainer I had had no idea about our new curriculum and how it was to be used. She went over free Web sites for a week. The Disc Management training could have been good if the man who wrote it had done the training on it. But, our trainer? Oh my gosh, it was awful. Three weeks of being given Web sites. I think we wasted thousands of dollars ordering some of the software because I have no idea how to use it. We have software called Go Venture, the same thing that STEM got. There are no directions to it at all. The only thing I got out of training was good contacts. I have people that I can e-mail and ask what they are doing. Other than that, I got nothing.

Later on during the semester, I talked with Martha again. She told me she was having time management problems. She said there was so much information in the curriculum that she did not think she had enough time to teach it all. She said she still was not trained on some of the equipment so she was not able to use it. "I'm just still trying to figure the new program out and what is the most important to teach and how long I need to teach it," she said.

Martha said she had heard from other teachers that some of the software training was to be done by vendors, but she did not find anyone who could tell her anything. She asked the technology people in the district, but they were not able to give her an answer.

According to the RCU, Martha said, the second summer training may take place online or it could be changed to a regional training. She said that she thought the RCU was being restructured from what other teachers were telling her, and no one seemed to have an answer.

Martha said that she was one of a few of the teachers who converted her program that had functional labs before school began. She said she knew the reason was that they were given the money to spend before the end of June. She said that gave technology staff plenty of time to get things ordered for her. When we discussed why Alcoville Career and Technical was given the money earlier, she said she had been told that they were contacted by the State Department that there was money available if it could be used before July 1. Knowing they wanted to convert, Martha said she and the vocational director got busy quickly in order to fulfill the request.

The conversion to Marketing and Economics was a plus for the Alcoville Career and Technical Center according to Martha. She was proud that she was the first and only program to convert so far. She said that once she got through the first year, she would be hopeful she would be more familiar with the curriculum and able to better server her students.

Within Case Analysis for Martha

Martha is a 30-year-old White female with eight years of teaching experience. She teaches the only Career Pathway class at Alcoville Career and Technical Center.

Because of budget cuts at the State Department level, her class was the only one to convert to a Pathway class. Martha was very involved with the setup of her lab and had a good working relationship with the technology department. Martha was also involved in the planning of what program would be converted to a Pathway. She believes in the concept behind Redesign and thought students would benefit from the new technology to which they will be exposed.

One of Martha's main concerns was with students she was teaching who had no prior technology experience. She said it would take several years for the experience to kick in. Because she taught 10th- and 11th-graders, those students were not able to have the advantage of having ICT or STEM classes. Martha said that she was having time management problems with the curriculum—not only because she was not familiar enough with it but also because of the lack of knowledge the students had with technology.

Another issue with Martha was the lack of training on the software and curriculum. She said the trainer she had for summer training had not taught Marketing and Economics and gave them Web sites to go to for information. According to Martha, the trainer was not familiar with any of the new equipment that would be in the labs, knew nothing about the software, and knew very little about the curriculum. She said she did not know about summer training for the current year because the RCU did not seem to know.

Another concern was that students may not get a credit for Economics because it is only taught to first-year students and credit can only be given if they are two-year

completers. Thus, if a student decides to only take Marketing and Economics for one year, he or she will not receive the credit for Economics.

Between Case Analysis

This section includes between case analysis of the ICT I, ICT II, STEM, and Career Pathway teachers. ICT I, ICT II, and STEM all have three labs that were implemented in the Alcoville School District. The Alcoville Career and Technical Center has one Career Pathway teacher who during year 2 of Phase II converted her program to Marketing and Economics. The purpose of the between case analysis is to find common themes that emerged from my interviews, casual conversations, and observations of the teachers of the different courses.

ICT I Teachers

The three ICT I teachers involved in this study ranged in age from 41–62. All are White females whose teaching experiences ranged from 2–12 years. Their understanding of the redesign initiative was limited to the new equipment that was purchased and teaching students to better learn technology.

None of these teachers were involved in the grant writing process, nor were they involved in visiting any of the labs of other school districts. They had no input into how their labs would be arranged. One of the three teachers was not hired until August to teach ICT I and, therefore, was not trained until the fall of the first year of implementation. The other two teachers attended the three weeks of training offered by the RCU in the summer before implementation of ICT I.

97

All three teachers did not think the training they received made them feel confident to teach the curriculum of ICT I. Each stated that too much time in training was spent on teaching them how to do UBD lesson plans. Another concern was that they were trained using Microsoft Office 2003 and then expected to teach Office 2007 in the classroom. Training on the use of Blackboard was another issue. The teachers said they had to teach themselves how to use the Blackboard system, and when questions arose, they did not think that the RCU offered answers they needed. A final concern of training included not being trained on specific software or equipment that was installed in the ICT I labs.

Other issues faced by these teachers included not having the equipment installed in their labs until 9 weeks into the school year during the first year of implementation. Once installed, the computers were crashing or not saving information for the students. The technology personnel told the teachers there was too much software installed on the computers.

Another issue with the teachers was the magnitude of the ICT I curriculum. None of the teachers said they had been trained enough on the curriculum and did not see any way to cover all of the units involved. One teacher said that teaching the Challenge Track students and not knowing the curriculum made it very hard on her. They also said that they had been promised by the RCU a network of teachers from Phase I to contact and that had not taken place.

Students moving into the district who had not had Tech Prep or been part of Phase I ICT were an issue also. The teachers did not know how they would be able to catch these children up should they move into the district unprepared. Also a concern, one of

the teachers was given a lower level of children who were already struggling academically. She was concerned with the fact that the curriculum was overwhelming to her and with students who were already having problems; she did not know how they could excel. This particular teacher was also teaching ICT II.

All teachers said the administration was lacking in their understanding of the curriculum or purpose of ICT I. One teacher said that the only recognition they had received was my observations and interviews.

ICT II Teachers

The three ICT II teachers involved in this study ranged in age from 31 to 62. All are White females with 4 to 9 years of teaching experience. Their understanding of the redesign initiative ranged from having 3 years of computer classes to not knowing what other parts of the redesign initiative incorporate other than ICT II.

Of the three ICT II teachers, only one was somewhat involved in the Redesign process in Alcoville. This teacher was allowed to travel with the Redesign team to a Phase I site, but when she returned to the district, her ideas about her room setup were rejected by the technology department. The other two teachers gave their opinions of their labs setup. Both wanted stadium seating, but both said the technology personnel were against such.

All three of these teachers were involved in summer training for ICT II. Each one of these teachers was very specific when giving opinions on training. All three thought too much time was spent teaching them Excel. They said they were not trained by people who actually knew the ICT II curriculum. There were areas in the curriculum they

received no training on at all. The consensus of this group was that the training did not help them at all. All of them said they needed more than a few hours on each specific part of the curriculum. Because one of the teachers taught both ICT I and ICT II, she was required to attend summer training two summers in a row and still said she did not understand the curriculum.

Other issues that surfaced with the ICT II teachers were that the labs were not completed until after school started. Because of budget cuts, the ICT II labs did not get new furniture, got a cheaper version of the white board, did not get some of the software they needed for units, and were only given five of the handwriting tablets so they were not able to complete specific units. An issue between the vendor and the technology personnel was discussed by one teacher. All teachers said that their computers froze throughout the day and some students lost work because of that glitch.

One of the teachers suggested needing a week of training on each of the ICT II units. All of the teachers were not pleased that the typing software ordered for their classes was the same software that ICT I was using.

STEM Teachers

The STEM teachers in this study were all White and ranged in age from 30–52. One teacher is a male, the other two are female, and their years of experience ranged from 2–15 years. Each of these teachers believed the concept behind the redesign initiative was to keep kids in school. None of these teachers was involved in the Redesign process at Alcoville.

Each of the teachers had specific ideas as to how their classrooms should be set up, but each was argued down by the administration and technology personnel. All teachers said their ideas were not taken into consideration and their opinions were not noted. Two of the three teachers said everyone wanted an easy way out when it came to setting up the labs.

All three of the teachers attended summer training for STEM. Each of the teachers said they were faced with a huge curriculum they had not been trained on enough. They each complained of the amount of time spent in training on UBD lesson plans. There was a specific training on the CARS curriculum that the teachers said was taught by someone who had never used the curriculum. During that particular training, wrong answers surfaced in the curriculum itself. The teachers were told there would be a new curriculum sent. They did not receive that curriculum, nor could they get answers from the RCU during that first year of implementation.

The teachers all said that they knew more about technology than most of the trainers did. One teacher said he expected to come back into his classrooms with lesson plans and activities to use for the units and that did not happen. All of these teachers expressed how much after-school time they had spent trying to find activities to use with their units.

All of the teachers said that most of the software purchased for STEM was never mentioned in training. They had to teach themselves to use the software and did not use some of the software during the first year of implementation. One teacher said that follow-up training had been promised by the RCU but had not taken place. Each time one

of the teachers called the RCU, she felt she got the runaround because no one seemed to know answers to her questions.

Other issues that surfaced included the curriculum being too complex for both teachers and students. The curriculum, according to two teachers, was not geared to all levels of students. There was not a networking of teachers from Phase I as the RCU had promised them there would be. During the second year, a Webinar was offered for training but was offered at a time that school was still in session.

Career Pathway Teacher

Even though there was only one Career Pathway teacher, several issues surfaced during the course of the study. The major issues with this teacher were the lack of training and the overwhelming curriculum that she did not feel confident teaching. The experience she had with summer training left her with not thinking that she had any resources or knowledge to bring back to the classroom. There was much of the curriculum that was not taught during training, and the trainer had not taught Marketing and Economics.

This teacher was also concerned with the lack of prior technology knowledge of the students coming to her. Her concept of Redesign focused on the students benefiting from the new technology.

Cross-Case Analysis

The cross-case analysis compares all of the participants' interviews and observations. The most prevalent themes that emerged within each case analysis are presented here.

The participants for this study included all ICT I, ICT II, STEM, and Career Pathway teachers who had been a part of the redesign initiative in the Alcoville School District. Of the 10 teachers involved in this study, there were 9 females and 1 male. All teachers were White and ranged in age from 30 to 62 with their experience teaching ranging from 2 to 15 years. Their understanding of Redesign ranged from installing new computers to incorporating new technology to an underlying concept of keeping the students in school.

Eight themes emerged that were raised by all 10 participants: (a) their lack of involvement in the planning of Redesign, (b) their lack of training, (c) the lack of knowledge of their trainers, (d) the difficulty of the curriculum, (e) no follow-up training offered, (f) not being able to find answers to their questions, (g) not having a network of Phase I teachers to talk to, and (h) the administration not understanding their curriculum or being concerned with what they were teaching. These themes are discussed in the following paragraphs.

Of all of the teachers in the study, only one was involved in the actual plan of Redesign in Alcoville. There was one teacher who was involved in the actual lab setup. Three teachers said that their opinions should have been asked when the labs were being designed. These teachers did not think their opinions mattered when it came to setting up their labs. The one teacher who was involved in the planning said that even though she expressed ideas, not many of her ideas were used.

The lack of training during the summer sessions of training on specific areas of their curriculum was a major issue that emerged. All but one of the teachers attended the summer training sessions for Redesign. Teachers stated that they left training with no

resources to use in the classroom. Teachers all thought they have had to spend too much time after school and at night to find activities and lesson plans to go with all of the units in ICT I, ICT II, STEM, and Career Pathways. The teachers also thought that there was too much time spent on teaching them how to use UBD lesson plans.

Looking at the experience level of teachers, one of the ICT I teachers had taught Career Discovery before training for ICT I. Another of the ICT I teachers had not taught any technology classes and was not familiar with the new technology before training for ICT I. Both of these teachers were not only learning the curriculum but also learning technology in and of itself. It is possible that there was just too much information (curriculum, hardware, software) to learn too quickly for these teachers.

As for ICT II teachers, all three of these teachers had technology experience because they had all taught Computer Discovery. Because of their previous technology experience and because ICT II teachers from other districts might not have had a Computer Discovery background, the experience factor could possibly have slowed the training process for those who were technology literate. STEM teachers can also be categorized by those knowledgeable of technology and those who were not. The three STEM teachers and the one Career Pathway teacher all had technology experience. The background experiences of the teachers when they attended training were important factors to consider.

Another main issue was the lack of knowledge with the curriculum that some of the trainers had. Several teachers said that the trainers provided them with particular components of the curriculum but were not familiar with the entire curriculum. Given Web sites to look up for activities to use in the classroom and not actually being trained

on specific areas of the curriculum resulted in the teachers returning with a lack of knowledge of the curriculum. The training they received on software in each program was an issue also. Teachers said that much of the software was never covered in their training sessions. There are numerous software programs that correlate with the units in each of the labs. The training the teachers did not receive on the equipment in their labs was another issue of concern. Therefore, the teachers said they left the training not understanding the curriculum as a whole entity.

The curriculum itself was an issue for some teachers. The three STEM teachers said that the curriculum was too difficult for the age group they teach. The lack of textbooks in ICT II and STEM was an issue within the curriculum. Many of the students in these classes have limited technology experience, and this is a major concern for teachers. With limited technology experience, students were not able to use Excel, PowerPoint, and so forth and had to be taught these skills before going on to a specific unit. Teachers expressed that everything looked good on paper, but in actuality, it was too difficult for students. It is important to remember that the first year STEM was taught, it was taught to students who had not taken ICT I or ICT II.

There were issues with the RCU and who at RCU had answers to teacher questions. Several teachers said the RCU did not get back with them on questions they asked. The teachers also stated that follow-up training had not occurred as the RCU had stated it would. They had also not received a network of Phase I teachers they could contact with questions. As the experience level of teachers was considered, it was found the more experienced teachers would have made the networking connections at training,

while the less experienced teachers would not. Also, follow-up training may not have been necessary for teachers who were technology literate.

Several teachers thought the administration did not know the content or requirements of their curriculum, and one teacher did not think the administration cared. The majority of the teachers said that if the administration and technology department had given them the opportunity to be involved in the preparation and design of their labs, not only would they have had ideas that would enhance learning, but they also would have felt like someone cared about their thoughts. Many of the teachers thought that because the administration does not understand what their classes are about, they do not think they are important.

The consensus among teachers was that the redesign initiative looks good on paper, but in actuality, the curricula are extensive and the levels of the curricula are above the grade level they are teaching. Additionally, training was inadequate for teachers, and questions teachers needed answered went unanswered.

<div align="center">Discussion of Related Literature</div>

The research topics for this case study dealt with redesign from teachers' perspectives. Eight themes emerged that were raised by all 10 participants. These were as follows: (a) their lack of involvement in the planning of Redesign, (b) their lack of training, (c) the lack of knowledge of their trainers, (d) the difficulty of the curriculum, (e) no follow-up training offered from the RCU, (f) the RCU not being able to answer their questions, (g) not having a network of Phase I teachers to talk to, and (h) the

administration not understanding their curriculum or being concerned with what they were teaching.

The sense of not being involved in the planning of Redesign was discussed by all of the participants in this study. Rooney (2004) found that administrators would be wise to involve teachers in every way possible in decision making. He stated that teachers have for a long time been seen as cooperative and acting as "good team players." He suggested that involving teachers in decision making makes new ideas "ours" and not just "mine." Some of the teachers involved in this study stated that they would have felt more involved in Redesign had their opinions been asked.

Training that was offered to teachers on their curricula and the software involved in teaching a specific curriculum were issues that emerged with all of the teachers. Darling and Richardson (2009) found that "drive-by" workshops models are ineffective ways of training teachers. The content, context, and design of high-quality professional development training should focus not only on teacher learning but also on student learning as well.

The teachers in this study stated they had to return to the district and begin teaching a curriculum with which they were not familiar. They spent numerous hours finding activities and lessons to incorporate into their daily activities. Desimone, Porter, Garet, Birman, and Yoon (2002) found in a national survey that teachers reported that their knowledge and skills grew when they received professional development that was coherent, focused on content knowledge, and also involved active learning. A hands-on approach enhanced the teachers' knowledge of the curriculum and how to teach it. At the

same time, it produced a sense of efficacy that when aligned with content gave them the tools needed to return to the classroom.

The STEM and ICT I teachers all said they were told by the RCU in their summer training that there would be a network of teachers from Phase I they could turn to for help if they needed it. None of these teachers were ever given a list of teachers. All said that if they had someone they could talk to about questions and problems they were encountering, they would have felt more at ease with the new curriculum they were implementing. Berry, Byrd, and Norton (2007) found that "at the dawn of the 21st century, good teaching and good schools were concepts defined not by our best teachers, but by school boards, administrators, think tanks, textbook companies, for-profit curriculum developers, and the testing industry" (p. 48). They stated that teachers have to learn third-hand about actions and curriculums that directly affect their classrooms.

Berry, Byrd, and Norton (2007) also found that creating online professional collaboration often fails because the creators all assume that "if they build it, they will come." They stated that busy teachers will only come to an online professional network of other professionals if it has a significant value for the time they are going to invest. When teachers see results, not only for themselves but also for their students, they are far more likely to remain engaged in that network. This article supports the teachers' frustrations in the present study that they did not get the desired results from their training.

The knowledge teachers had of Redesign ranged from bringing new technology to students to keeping students in school. It was evident throughout the interviews and observations that the majority of the teachers had not been told the entire Redesign

108

concept. One teacher was glad that there would be computer classes for 3 years. Research shows that giving the teachers the knowledge they need of a new curriculum being implemented is imperative.

Kochler and Mishra (2006) stated, "The question of what teachers need to know in order to appropriately incorporate technology into their teaching has received a great deal of attention" (p. 1018). This research believes that teaching is a highly complex activity that draws on many kinds of knowledge. Not only must teachers have content knowledge, but they also must have pedagogical knowledge in order to be able to provide methods of teaching and learning. This author also suggested that teachers must have technology knowledge in order to be effective teachers. He stated that most standard technology workshops and tutorials only focus on acquiring the skills needed. Teachers need to know not just the subject matter they will be required to teach but also the technology that will be required to enhance the teaching methods.

In his article "Listening and Learning from the Field: Tales of Policy Implementation and Situated Practice," McLaughlin (2005) asked, "Why are policies not implemented as planned?" (p. 58). According to this author, when projects are given a title of helping to improve school practices, the projects trickle down from the "higher ups" in education who believe in an idea. However, he stated that the adoption of a plan or policy does not ensure its success. Local factors become an issue. He suggested that how or whether to implement a plan or policy at the local level has more to do with the outcome or how it is interpreted and transformed at that point. He further stated that teachers at the local level may be eager to embrace change, but if their institutional setting is not supportive, the outcome may be the teachers electing not to be supportive.

In conclusion, he stated that until someone goes to the teachers and asks questions, you are not able to fully see "school teaching" from their view. This article supported the thoughts of the teachers in this case study on how the administration views the redesign initiative and how the teachers did not believe they have been supported in implementing the redesign initiative.

<center>Summary</center>

The results of interviews and observations of the participants answered the two research questions. The following narrative begins with the response to the first research question and follows with the response to the second research question.

1. What does the high school redesign initiative mean to the teachers in the Alcoville School District participating in Redesigning High Schools for the 21st Century?

The knowledge of Redesign the participants in this study had varied, but the majority saw Redesign as a means of new technology in the classroom. Although all were glad to see the new technology, they had not been trained in the whole concept of Redesign and most only saw Redesign as what their particular curriculum encompassed. Related literature supported that when new policies and practices are brought into a school setting, teachers need to be involved in the planning and decision-making processes and understand the concepts behind the policies and practices that are being implemented.

The participating teachers also said that the administration was not knowledgeable of the new curricula they were not implementing nor were they concerned with the new labs in general. A sense of wanting others to know what their labs encompassed came to

light. When teachers thought they were not getting answers they needed from the RCU on problems they were having and not having a network of teachers from Phase I with whom to share ideas; frustration with the implementation of Redesign became evident. Research also backs these ideas by showing that until teachers are thought of as part of the process, they may not buy into what the process can and will do for students and the district alike.

2. What issues do teachers who are implementing the redesign initiative in the Alcoville School District face?

The 10 teachers interviewed and observed in this study said they needed additional training in order to be competent to teach the curriculum in each of the new labs in Redesign. The lack of training they received during the summer training caused them extensive hours outside their regular day in order to find activities and lesson plans to incorporate into their curriculums. At the same time, their lack of knowledge of the curriculum was another issue of training. All teachers said the trainers spent too much time trying to teach them how to do the extensive UBD lesson plans and not enough time on the actual curriculum they would be teaching. Being trained by trainers who had not taught the curriculum or who were not familiar enough with the curriculum posed problems for the training the teachers received also. Research supports professional development and training that enables teachers to transfer what has been learned back to the classroom.

CHAPTER IV

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary of the literature review, the research methods used, and the case study results. Conclusions drawn from the findings of the case study are presented. The chapter concludes with recommendations for further study and for the continued implementation of Redesign in Mississippi.

Summary

This study examined the issues that teachers faced as they implemented school Redesign in Alcoville. In this study, ICT I, ICT II, STEM, and Career Pathways teachers' perceptions of their knowledge of Redesign in their district and the issues they faced were examined through qualitative research methods in the form of interview data, casual conversations, classroom observations, and relevant artifacts. The study provided answers to two questions.

The first research question was, What does the high school redesign initiative mean to the teachers in the Alcoville School District participating in Redesigning High Schools for the 21st Century?? Teachers' concepts of Redesign posed an issue in this study. Their knowledge level ranged from installing more technology to giving students 3 years of computer classes to keeping students in school.

This study sought to gain an understanding of affected teachers' knowledge level of Redesign as they implemented a redesign initiative in Alcoville School District. Findings of this study indicated that teachers do not understand the concept behind the Redesign initiative and although they support their subject matter, they lack knowledge of the entire Redesign concept.

The second question for this study was, What issues do teachers who are implementing the redesign initiative in the Alcoville School District face? The Alcoville School District implemented Redesign through the awarding of the 21st Century High School Redesign grant. In year 1 of Phase II of the Redesign initiative, 6 teachers were involved in attending summer training by the RCU to prepare them to teach the curricula of ICT I and STEM. In year 2 of Redesign, ICT II teachers attended summer training as well as a Career Pathways teacher.

All of the teachers involved in this study believed the training they received during the summer was inadequate. None of the teachers said they were prepared to return to their classrooms in August ready to implement the new curriculum. The main issues teachers faced with training included lack of trainers who knew or had taught the curricula involved, too much time during the training sessions spent on areas that were not directly related to the curriculum, and not enough time spent on software and/or equipment that would be installed in their classrooms.

Other findings indicated issues teachers had with the complexity of the curriculum itself. One teacher taught a lower level class and in interviews said that not understanding the curriculum herself and then having challenge track students made it

extremely hard on her. STEM teachers also voiced their concerns over the advanced level of their curriculum for ninth-grade students.

All of the teachers interviewed and observed in this study had issues with the responses they had or had not received to questions they have had during the implementation process of Redesign. They said the questions they had about their curricula and follow-up training were not answered. The teachers only had contact with the RCU, not MDE, as they began and ended the training process. After their summer training, they had questions as the school year began and progressed and did not think they received answers they needed to their questions. The teachers relying solely on the RCU for answers reiterated the lack of knowledge teachers and others involved in the redesign initiative had of the total redesign picture. Teachers also had issues with being told they would have a network of Phase I teachers with whom to shared ideas, and the networking never materialized.

Teachers also had issues with not being involved in the planning of redesign or the setup of their classrooms. They believed their voices were not heard nor their ideas appreciated or accepted. The teachers also believed that the administration was not knowledgeable of their new curricula and had no interest in their classrooms.

Conclusions

One conclusion drawn from this study is that the training of teachers as they implemented the redesign initiative was an issue that affected all of the participants of this study. Because the training did affect all participants, questions concerning the types of training, length of training, and by whom the training was conducted need to be dealt

with in order for future training of teachers to be of maximum effectiveness. Also, knowing the extent of technology knowledge a teacher brings to training could possibly affect the training sessions themselves. The teachers who are not technology literate might put a restraint on the trainer and on other participants in the training who have technology knowledge. Research has shown that unless teachers can transfer the knowledge they gain from a professional development training session, neither they nor their students benefit from the training.

Another conclusion drawn from this study was the lack of knowledge teachers had of the entire school Redesign concept. The lack of knowledge was present with all of the teachers in this study. Each participant had some knowledge of the curriculum of their particular grade level. The ICT II, STEM, and Career Pathways teachers had some knowledge of the grade levels before and after them. However, when looking at what MDE suggested Redesigning High Schools for the 21st Century encompasses, all of the participants lacked knowledge of the concept as a whole. Perhaps had teachers been informed of the entire Redesign concept when the grant was being written in Alcoville and what the district administration hoped to accomplish through Redesign, the teachers would have had a better understanding of how the awarding of this grant would benefit the entire district as they redesigned the school experience for students. Previous research stated that involving teachers in decision making, especially of new ideas, allows the teachers to not only become good team players but also to know that the implementation of a new program is as much theirs as it is other members of their school family.

All teachers in the study also said that the administration was not knowledgeable of their curricula nor were they concerned with the new labs. A conclusion drawn from

this is that during the grant writing process and then with the awarding of the grant, one of the only parts of Redesign that came to light to building administrators was that the Tech Prep labs would be converted into ICT and STEM classrooms. Perhaps if these administrators had participated in the entire Redesign process, they would have understood the curriculum, the intensity of the technology involved, and the overall concept of moving students toward the 21st century workforce.

Recommendations and Implications for Future Study

The following recommendations are based on the conclusions drawn from this study:

1. In the future, the training of teachers should be conducted by trainers who have been directly involved with the Redesign process. These trainers should be knowledgeable of the entire curriculum they are training, not just particular components of the curriculum. Resources should be made available to teachers during training that allow them to enter their classroom with strategies and lesson plans that enable them to be effective as they begin teaching the new curriculum. Training should be broken into several different sessions to allow teachers to absorb the knowledge received and begin to transfer that knowledge to the classroom as they face the new curricula.

2. The entity responsible for training the teachers must be responsible not only for the initial training but also for follow-up training of teachers, as necessary. Whether by e-mail or phone, there should be a particular person

assigned to each individual curriculum involved in the redesign initiative. Teachers should have access to this person whenever necessary. A network of teachers from each phase should be developed and made available to new phase teachers as their training begins. This access is to be continued through classroom implementation. Problems that are encountered with new curricula should be addressed in a timely manner.

3. The knowledge level of all participants in a school in the redesign initiative should be addressed by MDE. Since teachers had an issue with whom to go to with problems, it would benefit Redesign districts to know exactly who is responsible for each separate component of Redesign.

4. It is recommended that a procedures manual that includes Frequently Asked Questions should be written for teachers that would include any and all issues that school districts might face as they implement School Redesign in their districts. This manual would be available to all phase schools as they begin the implementation process and could ward off the issues the teachers faced in Alcoville.

5. Administrators need to understand the curricula that ICT I, ICT II, STEM, and Career Pathway teachers are responsible to teach. Knowing what will be required of teachers in training and in the classroom would enable the administrator to choose technology-literate personnel.

6. This study was limited to one school district. It is recommended that future studies be conducted to include all Phase I and Phase II schools. This would allow findings in this study to be compared to findings in other

studies. Such continued research would benefit districts as they enter the Redesign process.

7. Future research should be conducted that presents both the perspectives of Redesign for both MDE and RCU. Since this case study involved teachers from one Phase II district, future studies would allow comparisons among the multiple participants in the redesign initiative.

REFERENCES

Berry, B., Norton, J., & Byrd, A. (2007). Lessons from networking. *Association for Supervision and Curriculum Development*, 9, 1-5.

Chadd, J., & Drage, K. (2006). No Child Left Behind: Implications for career and technical education. *Career and Technical Education Research, 31*(2), 79–99.

Darling-Hammond, L., & Richardson, N. (2009). Research review/teacher learning: What matters? *Educational Leadership, 66*(5), 46–53.

Desimone, L., Porter, A., Garet, M., Birman, B., & Yoon, K., (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation and Policy Analysis, 24*(2), 81–112.

Gentry, M., Rizza, M. G., Peters, S., & Hu, S. (2005). Professionalism, sense of community and reason to learn: Lessons from an exemplary career and technical education center. *Career and Technical Education Research, 30*(1), 47–85.

Glesne, C. (2006). *Becoming qualitative researchers*. Boston: Pearson Education, Inc.

Harnish, D., & Lynch, R. L. (2005). Secondary to postsecondary technical education transitions: An exploratory study of dual enrollment in Georgia. *Career and Technical Education Research, 30*(3), 169–188.

Hull, D. (2005). *Career pathways: Education with a purpose*. Waco, TX: CORD.

Kochler, M., & Mishra, P. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017–1054.

Lynch, R. L. (2000). High school career and technical education for the first decade of the 21st century. *Journal of Vocational Education Research, 25*(2), 1–25.

McLaughlin, M. W. (2005). *Listening and learning from the field: Tales of policy implementation and situated practice.* Netherlands: Springer.

Merriam, S. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.

Mississippi Department of Education (MDE). (2006). *Redesigning education for the 21st century workforce*. Retrieved June 19, 2009, from http://www.mde.k12.ms.us/

Redmann, D. H., & Kotrlik, J. W. (2004). Analysis of technology integration in the teaching–learning process in selected career and technical education programs. *Journal of Vocational Education Research, 29*(1), 3–25.

Research and Curriculum Unit (RCU). (n. d.). *Curriculum, Instruction, and Assessment*. Retrieved June 19, 2009, from http://redesign.rcu.msstate.edu/

Rooney, J. (2004). Sharing the decisions. *Educational Leadership, 62*(3), 84–85.

Ryken, A. E. (2006). Goin' somewhere: How career technical education programs support and constrain urban youths' career decision-making. *Career and Technical Education Research, 31*(1), 49–71.

Sporte, S. E., Kahne, J., & Correa, M. (2004, September). Notes from the ground: Teachers', principals', and students' perspectives on the Chicago High School Redesign Chicago, IL: Consortium on Chicago School Redesign.

Stone, J. R. I. (2004, Fall). Math course taking for CTE concentrators: Evidence from three studies of the impact of a decade of education reform. *Journal of Career and Technical Education, 21*(1), 1–24.

Vrasidas, C. & McIsacc, M. (2001). *Integrating technology in teaching and teacher education: Implications for policy and curriculum reform*. International Council for Education Media. http://vrasidas.com/wp-content/uploads/2007/07/integrateemi.pdf

Walter, R. A. (1995, Winter). Is vocational education still necessary? Investigating the educational effectiveness of the college prep curriculum. *Journal of Industrial Teacher Education, 32*(2), 1–23.

Yan, W., Goubeaud, K., & Fry, C. (2004, Fall). Does school-to-work matter? Teachers' implementation of school-based and work-based activities. *Journal of Career and Technical Education, 21*(1), 9–23.

APPENDIX A

IRB APPROVAL LETTER

MISSISSIPPI STATE
UNIVERSITY™

August 24, 2009

Rebekah Terry
746 Hickory Drive
Grenada, MS 38901

RE: IRB Study #09-185: High School Redesign - Teacher Perspectives

Dear Ms. Terry:

The above referenced project was reviewed and approved via administrative review on 8/24/2009 in accordance with 45 CFR 46.101(b)(1). Continuing review is not necessary for this project. However, any modification to the project must be reviewed and approved by the IRB prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project. The IRB reserves the right, at anytime during the project period, to observe you and the additional researchers on this project.

Please note that the MSU IRB is in the process of seeking accreditation for our human subjects protection program. As a result of these efforts, you will likely notice many changes in the IRB's policies and procedures in the coming months. These changes will be posted online at http://www.orc.msstate.edu/human/aahrpp.php. The first of these changes is the implementation of an approval stamp for consent forms. The approval stamp will assist in ensuring the IRB approved version of the consent form is used in the actual conduct of research. You must use copies of the stamped consent form for obtaining consent from participants.

Please refer to your IRB number (#09-185) when contacting our office regarding this application.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at cwilliams@research.msstate.edu or call 662-325-5220.

Sincerely,

Christine Will

Christine Williams
IRB Administrator

cc: Dwight Hare