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A STUDY TO DETERMINE HOW
TOTAL QUALITY MANAGEMENT WAS BEING
IMPLEMENTED IN THE VIRGINIA BEACH CITY PUBLIC SCHOOLS

A Research Paper
Presented to the Graduate Faculty
of the Department of Occupational and Technical Studies
at Old Dominion University

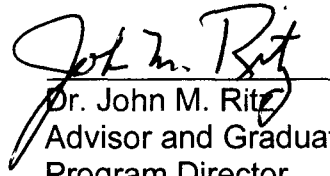
In Partial Fulfillment
of the Requirements for
Master of Science in Education Degree

By
Timothy L. Axley
February 1999

APPROVAL PAGE

This project was prepared by Timothy L. Axley under the direction of Dr. John M. Ritz in OTED 636, Problems in Education. It was submitted to the Graduate Program Director as partial fulfillment of the requirements for the Master of Science in Education degree.

Approved By:


Dr. John M. Ritz
Advisor and Graduate
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2-13-99
Date

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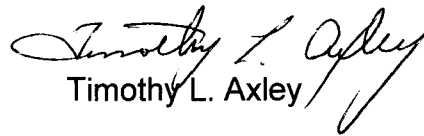

Timothy L. Axley

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CHAPTER I

INTRODUCTION

Total Quality Management came to the forefront on June 24, 1980, in a documentary entitled "If Japan Can...Why Can't We?" This documentary was a wake up call for American business and the American public. Since the end of World War II, Japan has taken an economy that was virtually destroyed and made it into one of the strongest in the world by building quality into every product. How? By using Deming's Management philosophy. Deming taught the Japanese management and engineers quality as a system. On October 10, 1989, Deming stated "Transformation is required in government, industry, and education. Management is in a stable state. Transformation is required to move out of the present state. The transformation will be a change of state, metamorphosis, and not mere patchwork on the present system of management. We must of course solve problems and stamp out fires as they occur, but these activities do not change the system." -W. Edward Deming (Walton, 1991). The transformation Deming spoke of will not be an easy task. School systems historically have been slow to change using the patchwork method. Educators know that each student learns in a variety of ways, yet the traditional methods are still being used in many of the classrooms throughout America.

Another date that is very important to the education system is April 26, 1983, when "A Nation at Risk: The Imperative for Educational Reform" was published. A Nation at Risk elicited a massive reform movement to improve standards (e.g., require more courses in high school, develop national certification standards for teachers, develop national standards for every major job category), apply innovations (e.g., expand the use of computers, interactive learning, distance education, and work-based learning opportunities), revise

structures (e.g., create year-round schools, allocate decision-making to the local level, use Total Quality Management and continuous quality improvement processes), and develop alternatives to the existing system (e.g., create a voucher system, privatize public schools, and create middle schools, cluster schools, and schools managed by universities) (O'Banion, 1995). What are schools planning on doing to meet the challenges that lie ahead? School funds are being reduced as the student to teacher ratio continues to climb, teachers are being asked to do more with less, businesses are wanting better educated graduates, and technology improvements develop faster than the schools can acquire or teach the information of TQM which may be the answer.

The Virginia Beach City Public School system understands the need to improve their processes and is in the process of implementing Deming's 14 points of TQM philosophy. How successful is the school system in implementing TQM? Is this transformation coming from the top down or is this another patch that will only last as long as the current administration is in place? The need to use a quality approach to education is obvious and the reasons are clear. This study will show how the Virginia Beach School System is implementing TQM within the Virginia Beach School System's framework.

STATEMENT OF THE PROBLEM

The problem of this study was to determine how Total Quality Management was being implemented in the Virginia Beach City Public School System.

RESEARCH GOALS

This study will determine:

1. To what extent Virginia Beach City Public Schools are following a system of Total Quality Management.

2. What areas of education have improved due to the use of Total Quality Management.

BACKGROUND AND SIGNIFICANCE

In the newsletter, Apple-a-Day, Dr. Sidney Faucette, former Virginia Beach Superintendent of Schools, discussed quality indicators, specifically quality indicators that pertain to Virginia Beach City Public Schools. He called it "a home grown list." He also stated these quality indicators would be reviewed on December 1, 1992. Afterward, the revised list of Quality Indicators would be sent to all Virginia Beach Schools immediately; and they'll be ready to use (Faucette, 1992).

In a conversation with Debbie Gentry, a total quality advisor, from the Technical and Career Office of the Virginia Beach City Public Schools, she stated that the Quality Indicators were not a term she had ever heard. This is just one example of how TQM is impacted by changes in administration. She also stated that the Virginia Beach City Public Schools are using Site-based Management, which is one of the ways that the school board is using to implement TQM.

In 1996, Governor George Allen accepted Goals 2000 money from the federal government. Goals 2000 consists of eight national education goals that have been adopted by all 50 states plus Puerto Rico and the District of Columbia. States are defining clear academic standards that challenge every student, developing assessments to measure student learning, and strengthening school accountability. In order to meet Goals 2000, school systems must adopt ways of improving quality education. Deming's 14 points of TQM are one way of meeting the challenges of Goals 2000. The need to adopt a Total Quality approach was brought to the forefront during President Bill

Clinton's State of the Union Address on February 4, 1997, when he stated " ... and my number one priority for the next four years is to ensure that all Americans have the best education in the world."

In order for the Virginia Beach City Public School System to meet the expectations of the Governor and the President, new and innovative ways of using resources must be used. Total Quality Management is a way of using the available resources to meet the demanding challenge of doing more with less. The significance of less money, more schools, and many more students are but a few of the problems that the Virginia Beach City Public schools face. In order to meet those challenges, innovative ways must be developed to meet the needs of the school system's students, parents, teachers, Governor, and President.

LIMITATIONS

This research study was limited to the Virginia Beach City Public School System. The research will be limited by the willingness of school personnel to:

1. Create constancy of purpose for improvement of product and service.
2. Adopt the new philosophy.
3. Cease dependency on mass inspection.
4. End the practice of awarding business on the price tag alone.
5. Improve constantly and forever the system of production and service.
6. Institute training.
7. Institute leadership.
8. Drive out fear.
9. Break down barriers between staff areas.
10. Eliminate slogans, exhortations and targets for the work force.
11. Eliminate numerical quotas.
12. Remove barriers to pride of workmanship.

13. Institute a vigorous program of education and retraining.
14. Take action to accomplish the transformation.

ASSUMPTIONS

This researcher believes that the Virginia Beach City Public School System is using statistical processes and the tools of Total Quality. The researcher also assumes the reader has knowledge of the tools used in Total Quality Management.

PROCEDURES

The researcher will survey volunteers in the Virginia Beach City Public School System including Strawbridge Elementary, Corporate Landing Middle, Ocean Lakes High School, and Technical and Career Development Center faculty, staff and administrators using a survey adapted from Total Quality Management and the School, 1993. Using this information, the researcher will determine what impact TQM implementation has had in Virginia Beach City Public School System.

DEFINITION OF TERMS

To assist the reader's comprehension of this research, terms frequently used in this study are listed and defined as follows:

Term	Definition
TQM	Total Quality Management is the application of quantitative methods and the knowledge of people to assess and improve materials and services supplied to the organization; all significant processes within the organization; and meeting the needs of the end-user.

ESC	Executive Steering Committee. The team of guiding members of an organization who comprise the highest-level quality improvement team in the organization.
QMB	Quality Management Board. A cross-functional team composed of managers, usually of the same organizational level, who are jointly responsible for a process, system, product, or service.
PAT	Process Action Team. A team chartered by the ESC or a QMB composed of individuals from within a single command function who work together on a stage of a process.
SBM	Site Based Management. Schools are being empowered to make decisions that directly affect the school.

SUMMARY

The problem and research goals of this research study were identified in Chapter I. The problem of this research study was to determine how Total Quality Management was being implemented in the Virginia Beach City Public Schools. Chapter I also provided an introduction to the research goals, background and significance, limitations, assumptions and definition of terms used in this study.

In Chapter II of this research study, the researcher will review in depth the literature relating to the research problem. Chapter III addresses the methods to be used to undertake this study, while Chapter IV reports the findings of the research. Finally, Chapter V summarizes the research and makes recommendations regarding further studies.

CHAPTER II

REVIEW OF LITERATURE

The goal of this research study is to determine the effects of Total Quality Management implementation efforts on the Virginia Beach City Public School System. In order to do this effectively and accurately, a review of literature was conducted to properly analyze and report the data later in this document.

The Review of Literature in Chapter II has been divided into three categories. The first deals with defining Total Quality Management, a topic that has attracted a lot of attention. The second category introduces the reader to Total Quality implementation efforts of one school district, while the third and final category discusses the application of Total Quality Management in the Virginia Beach City Public Schools.

TOTAL QUALITY MANAGEMENT

The Japanese success story has made Deming's management theory, which is referred to as TQM, a phenomenon that is getting renewed interest in America. With its focus on customer satisfaction, employee empowerment, and product quality, it has stirred interest among American managers, from automobile manufacturers to national defense industries, and most recently, educators.

Although TQM is being implemented throughout corporate America, national defense, and education, no two systems agree entirely on how to implement Total Quality within their systems. Many of the organizations have the desire to earn the Malcom Baldrige Quality Award. The Malcom Baldrige Quality Award has provided some guidelines in order to earn the award.

Considerable effort has gone into translating ideas generated by TQM to education, and adoption of Deming's fourteen points are reported in recent

educational journals (Weaver, 1996). Most of the points, such as breaking down barriers, are essentially the same as in the business world. Some TQM advocates, however, call for some changes in education that may seem radical to educators. These include:

The Role of Students: TQM recognizes students as both customers and employees of the educational system. Administrators need to involve students in their own education by training them to question the learning process, and once the students have questioned it, administrators need to seriously consider student proposals for change (Olson, 1992).

The Role of Teachers: TQM calls for changes in teachers' relationships with both students and administrators; teachers need to view education through students' eyes, and they need to work with administrators as a team. This teamwork is largely the responsibility of administrators, who need to delegate some of their responsibility and power to teachers (Rhodes, 1992).

Testing and Evaluation: Instead of using standardized tests and grades to measure student's progress, schools that embrace TQM often try to assess student progress regularly throughout the school year. By doing so, they avoid bringing problems to students' attention at the end of the year, when it is too late to do anything about them. The same sort of process is used to evaluate faculty, staff, and administrators as well; instead of basing teacher evaluation on one classroom visit, teachers are evaluated throughout the year (Blankstein, 1992).

Defining what Total Quality Management is is not an easy task. If the reader was to ask administrators what TQM is, the answers may range from "Empowerment" to "Site Based Management". TQM is all that and more. In order to implement TQM within school systems, they must first agree on terms, philosophy and have a common goal. A starting place may be ALLIANCE, a

Publication of the National Alliance of High Schools. ALLIANCE states that there are some basic and systemic components for school design statements. Table 1 summarizes these points.

Table 1

**BASIC AND SYSTEMIC COMPONENTS FOR SCHOOL DESIGN
STATEMENTS**

A. Basics Components:

1. Mission and Vision Statements
2. Cultural/Climate Statements
3. Students Goals and Outcomes

B. Systemic Components

1. Curricula and Instructional Programs
2. Instructional Strategies
3. Structure and Organization
4. Leadership, Management, and Budgeting
5. Staffing and Staff Development
6. Communications and Political Structures
7. School Resources, Physical Plant, and Equipment
8. Evaluation Plan

(Murgatroyd and Morgan, 1993)

TOTAL QUALITY IMPLEMENTATION IN SCHOOL SYSTEMS

Schools throughout America are looking to find ways to improve the education process. Schools are being tasked with doing more with less. Virginia Beach's population increased from 393,089 to 416,200 in a little over three years (PilotOnline, 1997). In 1995, Virginia Beach had a 12 million-dollar deficit that was made up by cutting programs and limiting pay raises. Some of the concerns

understandably are from a lack of funding, according to the American Legislative Exchange Council's third annual report card (Table 2).

Table 2

**COST CONTINUE TO RISE
WHILE STUDENT ACHIEVEMENT IS STAGNANT**

Top Performing States (in alphabetical order)	Top Spending States (ranked)	Top 1994 Graduation Rate (ranked)
Iowa	1. Alaska	1. Nebraska
Montana	2. New Jersey	2. Minnesota
Minnesota	3. New York	3. South Dakota
Nebraska	4. Connecticut	4. Vermont
New Hampshire	5. Pennsylvania	5. Iowa
North Dakota	6. Rhode Island	6. Wisconsin
Oregon	7. Vermont	7. Montana
Utah	8. Delaware	8. North Dakota
Wisconsin	9. Massachusetts	9. Utah
Wyoming	10. Illinois	10. Wyoming

Report Card on American Education 1995

American Legislation Exchange Council shows that there is no correlation between spending and student achievement (School House Talk, 1996). School systems must meet the challenges that lie ahead by being innovative and optimizing their resources.

One school system that decided that the time had come for change was Florence School District 1, Florence, South Carolina. When students returned to school in the fall of 1995 they quickly discovered some things had changed. The school district had empowered the schools to rewrite the way things were done. Rather than being limited by a written set of guidelines, the school district

empowered principals to write their own guidelines. One school empowered the cafeteria staff with making changes to the menu, which resulted in the students having more options to choose from. Royall Elementary School started implementing TQM in 1993 and is one of the most advanced in the Florence School District (South Carolina Business Journal, 1995). Royall has implemented many aspects of TQM inside the classroom. An example is how students join in the quality effort by writing class mission statements and setting goals for self-improvement. "Our ultimate goal is to prepare students to compete nationally and internationally," said Julie Smith, Royall's principal (South Carolina Business Journal, 1995). Royall is but one school system in the nation that has taken the first step in implementing Total Quality within its structure.

WHAT VIRGINIA BEACH CITY PUBLIC SCHOOL DISTRICT IS DOING

Virginia Beach City Public Schools has created goal statements. These are listed in Table 3.

Table 3

SEVEN CRITICAL GOAL STATEMENTS OF VIRGINIA BEACH SCHOOL BOARD

Curriculum	In order for all students to achieve their greatest potential, the school division will provide expanded instructional opportunities through a data driven curriculum which addresses core subject matter, alternative programs, technical and career education, and programs for exceptional students, undergirded by principles of American citizenship.
Safe Schools and Discipline	The school division will provide and promote a secure, effective, well-disciplined environment that is free from the disruptions of crime, weapons, and drugs.
Finance	The school division will provide all children with a quality educational opportunity which makes the most effective use of tax dollars.
Technology	The school division will obtain the technology equipment and provide for the specialized personnel, and their training, needed to prepare our students to meet or exceed the technology standards in Virginia's Standards of Learning.

Diversity	The school division will continue to recognize its diversity and to encourage respect for all people.
Employee Development and Accountability	The school division will develop and implement employee standards of accountability which are supported by guidelines for the assessment of employees, recognition for meeting and exceeding standards, training to achieve established standards, and systems to deal with employees who fail to meet standards.
Community and Parent Involvement	The school division will increase communication with all communities about the schools and will expand parental involvement and business and military partnerships with the schools.
Board Efficiency	The School Board will meet and operate effectively and efficiently while making policy decisions that provide a quality education opportunity for all children

The School Board has also developed a mission statement that provides for the direction that the school system will take. The mission is:

MISSION STATEMENT

The mission of Virginia Beach City Public Schools, in partnership with our entire community, is to ensure that each student is empowered with the knowledge and skills necessary to meet the challenges of the future.

How the school system intends to meet these goals and mission statement has been researched in this document. The plan that Virginia Beach City Public Schools is using is outlined in a strategic plan. It reads:

VIRGINIA BEACH CITY PUBLIC SCHOOLS

STRATEGIC PLAN 1997-2002

To help measure our success in the implementation of this five-year strategic plan, Virginia Beach City Public Schools will seek the Malcom Baldrige National Quality Award. This award is widely regarded as a thorough and systematic way to benchmark quality in education and business. Although it is expected that a full and complete application will be the product of several years' work, the school system will submit an initial application. Malcom Baldrige applicants

undergo an extensive analysis and review by visiting panels of quality experts. Such an analysis will undoubtedly help us refine and reshape the strategic plan, together.

Virginia Beach City Public School System has taken the first step in implementing TQM within its structure and has made obtaining the Malcom Baldrige National Quality Award a goal to achieve. The standards to earn the Malcom Baldrige Award are very high and will take a lot of work on the part of the Virginia Beach City Public Schools.

SUMMARY

Total Quality Management can be applied in both the corporate world as well as the education systems of America. The amount of time required to implement TQM will depend on the leaders of the organizations. As Deming once said, "People get rewarded for conforming. No wonder we are on a decline." Total Quality implementation will take a dedicated effort on everyone's part. Quality is the result of a carefully constructed culture; it has to be the fabric of the organization--not part of the fabric, but the actual fabric.

In the following chapter, Chapter III, the methods and procedures used in this research study will be discussed. This will include the population, instrument design, methods of data collection and statistical analysis.

CHAPTER III

METHODS AND PROCEDURES

The goal of this research study is to determine the effects of Total Quality Management implementation efforts on the Virginia Beach City Public School System. Chapter III will discuss the population, instrument design, data collection procedures, and statistical analysis used to measure the efforts of the Virginia Beach City Public School in Total Quality implementation.

POPULATION

The population of this study consisted of volunteers from the Technical and Career Development Office of the Virginia Beach City Public School System, Strawbridge Elementary, Corporate Landing Middle School, and Ocean Lakes High School faculty, staff, and administrators. The population was made up of volunteers from each of the schools. The number of participants in this study was 74.

INSTRUMENT DESIGN

The instrument used to gather data was that of a survey. The survey was adapted from Total Quality Management and the School, 1993, and was distributed by volunteers to faculty, staff, and administrators to collect data on Total Quality implementation efforts. A cover letter explaining what the researcher was looking for was included on the reverse side of the survey. Volunteers will complete the survey by rating each question on a five point scale, 5 being maximum, 1 being minimum. See Appendix A for a copy of the instrument.

DATA COLLECTION

The researcher requested permission to distribute questionnaires to faculty, staff, and administrators at offices in the school system: Technical and

Career Development Center, Strawbridge Elementary, Corporate Landing Middle, and Ocean Lakes High School. The request to distribute the questionnaire was reviewed and denied by the Virginia Beach City Public School System. Since permission was not obtained the researcher sought out volunteers to complete the survey from each of the targeted schools. The procedure for collecting the data consisted of having each person complete the survey and return the form to the researcher. Surveys were anonymous so no personal data was collected. Virginia Beach City Public Schools would not allow teachers to complete the survey during school hours. In order to collect the data, each of the respondents was required to complete the survey, which averaged 10 minutes per person. The survey was distributed by volunteers on 7 September 1998 and collected by the same volunteers on 14 September 1998.

STATISTICAL ANALYSIS

Using the data from the survey the researcher entered the data into Microsoft Access to compile profiles of each individual question and totals for each questionnaire. The statistics were then analyzed to determine the extent to which Virginia Beach City Public School System is following a systematic approach to the implementation of Total Quality Management. The program analyzes the surveys to identify the summary of scores by each category and total for each questionnaire. The program calculated the mean and standard deviation to a 95% confidence level. The 95% interval allows that 95 times out of 100, the true mean lies somewhere between the upper and lower limit.

SUMMARY

The information gathered through this research was obtained from volunteers in Strawbridge Elementary, Corporate Landing Middle, Ocean Lakes High School, and Technical and Career Development Center faculty, staff, and

administrators. A score less than 30 indicates the school needs to make a stronger commitment to TQM implementation or is in the beginning stages of TQM implementation. Respondents can add their total score upon completing the survey and see immediately where improvements need to be made in the school's implementation of Total Quality Management and where they need focus. The next chapter, Chapter IV, will provide the findings of the survey.

CHAPTER IV

FINDINGS

The goal of this research study was to determine the effects of Total Quality Management implementation efforts on the Virginia Beach City Public School system. Chapter IV will discuss the findings presented by the survey. This chapter will also include a review of the information (data) collected.

RESULTS

The numbers of respondents to the questionnaire was 74 and are outlined in Table 4. The number of faculty, staff, and administrators is not indicated since the questionnaire was anonymous.

Table 4
QUESTIONNAIRE RESPONSE

Groups Surveyed	Subjects Responding
Ocean Lakes High School	17
Strawbridge Elementary School	25
Corporate Landing Middle School	27
Technical and Career Development Office	5

When the 74 questionnaires were received, the data was entered into a computer database using Microsoft Excel to assist in the statistical tabulation of the data. The scores were totaled for each school in order to determine the overall average score. Scores lower than 30 are an indication that the school needs to place more emphasis on implementing TQM. Tables 5, 6, 7, and 8 show the number of respondents and the overall average score for each school.

Table 9 summarizes all responses and shows the average of all respondents.

The number of respondents from each school is represented in Tables 5, 6, 7, 8, and 9 with the number of responses indicated under the response number. This total was then averaged to indicate the percentage of respondents agreeing with each question.

Ocean Lakes High School

Of the 17 questionnaires received from Ocean Lakes High School, the results were as follows (see Table 5).

Question 1. *Leadership*. To what extent are you and your senior management colleagues currently creating and building-in quality values in the way the school is run? Five people, 29 percent of respondents, indicated 5 (maximum). Ten people, 58 percent of respondents, indicated 4. Two people, 12 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.18 for question 1.

Question 2. *Information using analysis*. To what extent are you and your senior management colleagues collecting data and information on a systematic basis and analyzing them for quality improvement and planning? Two people, 12 percent of respondents, indicated 5 (maximum). Thirteen people, 76 percent of respondents, indicated 4. Two people, 12 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of

respondents, indicated 1 (minimum). This resulted in an average of 4.0 for question 2.

Question 3. *Strategic quality planning*. To what extent have you and your senior management colleagues integrated your stakeholders' quality requirements into your strategic plans? Three people, 17 percent of respondents, indicated 5 (maximum). Thirteen people, 76 percent of respondents, indicated 4. One person, 5 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.11 for question 3.

Question 4. *Human resource utilization*. To what extent have you and your senior management colleagues created the structures and opportunities to realize the full potential of all members of staff for quality? Seven people, 41 percent of respondents, indicated 5 (maximum). Seven people, 41 percent of respondents, indicated 4. Three people, 17 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.24 for question 4.

Question 5. *Quality control of what the school does*. To what extent have you and your senior management colleagues implemented systems for ensuring quality control of all that the school teaches and provides, and also integrated quality control with continuous quality improvement? One person, 5 percent of respondents, indicated 5 (maximum). Thirteen people, 76 percent of

respondents, indicated 4. Three people, 17 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.88 for question 5.

Question 6. *Quality results.* To what extent can you and your senior management colleagues demonstrate improvements in quality excellence by evidence that includes quantitative measures? One person, 5 percent of respondents, indicated 5 (maximum). Thirteen people, 76 percent of respondents, indicated 4. Two people, 12 percent of respondents, indicated 3. One person, 5 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.82 for question 6.

Question 7. *Customer satisfaction.* To what extent do you and your senior management colleagues implement effective systems to determine customer requirements and demonstrate the success you are achieving in meeting them? Four people, 24 percent of respondents, indicated 5 (maximum). Eleven people, 65 percent of respondents, indicated 4. Two people, 12 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.11 for question 7.

Ocean Lakes High School overall average score was 28 .1 percent.

Table 5

Quest #	Question Title	# Resp.	5	%	4	%	3	%	2	%	1	%	Avg.
1	Leadership	17	5	29	10	58	2	12	0	0	0	0	4.18
2	Information and analysis	17	2	12	13	76	2	12	0	0	0	0	4.0
3	Strategic quality planning	17	3	17	13	76	1	5	0	0	0	0	4.11
4	Human resource utilization	17	7	41	7	41	3	17	0	0	0	0	4.24
5	Quality control of what the school does	17	1	5	13	76	3	17	0	0	0	0	3.88
6	Quality results	17	1	5	13	7	2	12	1	5	0	0	3.82
7	Customer satisfaction	17	4	24	11	65	2	12	0	0	0	0	4.11

Strawbridge Elementary

Of the 25 questionnaires received from Strawbridge Elementary School, the results were as follows (see Table 6).

Question 1. *Leadership*. To what extent are you and your senior management colleagues currently creating and building-in quality values in the way the school is run? Nine people, 36 percent of respondents, indicated 5 (maximum). Eleven people, 44 percent of respondents, indicated 4. Five people, 20 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.16 for question 1.

Question 2. *Information using analysis*. To what extent are you and your senior management colleagues collecting data and information on a systematic

basis and analyzing them for quality improvement and planning? Seven people, 28 percent of respondents, indicated 5 (maximum). Thirteen people, 52 percent of respondents, indicated 4. Five people, 20 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.08 for question 2.

Question 3. *Strategic quality planning.* To what extent have you and your senior management colleagues integrated your stakeholders' quality requirements into your strategic plans? Eight people, 32 percent of respondents, indicated 5 (maximum). Eleven people, 44 percent of respondents, indicated 4. Six people, 24 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.08 for question 3.

Question 4. *Human resource utilization.* To what extent have you and your senior management colleagues created the structures and opportunities to realize the full potential of all members of staff for quality? Six people, 24 percent of respondents, indicated 5 (maximum). Thirteen people, 52 percent of respondents, indicated 4. Six people, 24 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.0 for question 4.

Question 5. *Quality control of what the school does.* To what extent have you and your senior management colleagues implemented systems for ensuring

quality control of all that the school teaches and provides, and also integrated quality control with continuous quality improvement? Seven people, 28 percent of respondents, indicated 5 (maximum). Thirteen people, 52 percent of respondents, indicated 4. Five people, 20 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.08 for question 5.

Question 6. *Quality results.* To what extent can you and your senior management colleagues demonstrate improvements in quality excellence by evidence that includes quantitative measures? Five people, 20 percent of respondents, indicated 5 (maximum). Seventeen people, 68 percent of respondents, indicated 4. Three people, 12 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.08 for question 6.

Question 7. *Customer satisfaction.* To what extent do you and your senior management colleagues implement effective systems to determine customer requirements and demonstrate the success you are achieving in meeting them? Five people, 20 percent of respondents, indicated 5 (maximum). Fifteen people, 60 percent of respondents, indicated 4. Five people, 20 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.0 for question 7.

Strawbridge Elementary overall average score is 28.4 percent.

Table 6

Quest #	Question Title	# Resp.	5	%	4	%	3	%	2	%	1	%	Avg.
1	Leadership	25	9	36	11	44	5	20	0	0	0	0	4.16
2	Information and analysis	25	7	28	13	52	5	20	0	0	0	0	4.08
3	Strategic quality planning	25	8	32	11	44	6	24	0	0	0	0	4.08
4	Human resource utilization	25	6	24	13	52	6	24	0	0	0	0	4.0
5	Quality control of what the school does	25	7	28	13	52	5	20	0	0	0	0	4.08
6	Quality results	25	5	20	17	68	3	12	0	0	0	0	4.08
7	Customer Satisfaction	25	5	20	15	60	5	20	0	0	0	0	4.0

Corporate Landing Middle School

Of the 27 questionnaires received from Corporate Landing Middle School the results were as follows (see Table 7).

Question 1. *Leadership*. To what extent are you and your senior management colleagues currently creating and building-in quality values in the way the school is run? Nine people, 33 percent of respondents, indicated 5 (maximum). Twelve people, 45 percent of respondents, indicated 4. Five people, 18 percent of respondents, indicated 3. One person, 4 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.07 for question 1.

Question 2. *Information using analysis.* To what extent are you and your senior management colleagues collecting data and information on a systematic basis and analyzing them for quality improvement and planning? Three people, 11 percent of respondents, indicated 5 (maximum). Twelve people, 44 percent of respondents, indicated 4. Ten people, 37 percent of respondents, indicated 3. Two people, 7 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.59 for question 2.

Question 3. *Strategic quality planning.* To what extent have you and your senior management colleagues integrated your stakeholders' quality requirements into your strategic plans? Three people, 11 percent of respondents, indicated 5 (maximum). Twelve people, 44 percent of respondents, indicated 4. Nine people, 33 percent of respondents, indicated 3. Three people, 11 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.55 for question 3.

Question 4. *Human resource utilization.* To what extent have you and your senior management colleagues created the structures and opportunities to realize the full potential of all members of staff for quality? Five people, 18 percent of respondents, indicated 5 (maximum). Eleven people, 40 percent of respondents, indicated 4. Seven people, 26 percent of respondents, indicated 3. Four people, 15 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.6 for question 4.

Question 5. *Quality control of what the school does.* To what extent have you and your senior management colleagues implemented systems for ensuring quality control of all that the school teaches and provides, and also integrated quality control with continuous quality improvement? One person, 4 percent of respondents, indicated 5 (maximum). Thirteen people, 48 percent of respondents, indicated 4. Nine people, 33 percent of respondents, indicated 3. Four people, 15 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.6 for question 5.

Question 6. *Quality results.* To what extent can you and your senior management colleagues demonstrate improvements in quality excellence by evidence that includes quantitative measures? Three people, 11 percent of respondents, indicated 5 (maximum). Fourteen people, 51 percent of respondents, indicated 4. Eight people, 30 percent of respondents, indicated 3. Two people, 7 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.6 for question 6.

Question 7. *Customer satisfaction.* To what extent do you and your senior management colleagues implement effective systems to determine customer requirements and demonstrate the success you are achieving in meeting them? Three people, 11 percent of respondents, indicated 5 (maximum). Fourteen people, 51 percent of respondents, indicated 4. Eight people, 30 percent of respondents, indicated 3. Two people, 7 percent of respondents, indicated 2.

Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.6 for question 7.

Corporate Landing Middle School overall average score is 25.5 percent.

Table 7

Quest #	Question Title	# Resp.	5	%	4	%	3	%	2	%	1	%	Avg.
1	Leadership	27	9	33	12	45	5	18	1	4	0	0	4.07
2	Information and analysis	27	3	11	12	44	10	37	2	7	0	0	3.59
3	Strategic quality planning	27	3	11	12	44	9	33	3	11	0	0	3.55
4	Human resource utilization	27	5	18	11	40	7	26	4	15	0	0	3.6
5	Quality control of what the school does	27	1	4	13	48	9	33	4	15	0	0	3.4
6	Quality results	27	3	11	14	51	8	30	2	7	0	0	3.6
7	Customer satisfaction	27	3	11	14	51	8	30	2	7	0	0	3.6

Technical and Career Development Office

Of the 5 questionnaires received from the Technical and Career Development Office results were as follows (see Table 8).

Question 1. *Leadership*. To what extent are you and your senior management colleagues currently creating and building-in quality values in the way the school is run? Three people, 60 percent of respondents, indicated 5 (maximum). Two people, 40 percent of respondents, indicated 4. Zero people, 0 percent of respondents, indicated 3. Zero people, 0 percent of respondents,

indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.6 for question 1.

Question 2. *Information using analysis.* To what extent are you and your senior management colleagues collecting data and information on a systematic basis and analyzing them for quality improvement and planning? Two people, 40 percent of respondents, indicated 5 (maximum). Three people, 60 percent of respondents, indicated 4. Zero people, 0 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.4 for question 2.

Question 3. *Strategic quality planning.* To what extent have you and your senior management colleagues integrated your stakeholders' quality requirements into your strategic plans? Three people, 60 percent of respondents, indicated 5 (maximum). Two people, 40 percent of respondents, indicated 4. Zero people, 0 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.6 for question 3.

Question 4. *Human resource utilization.* To what extent have you and your senior management colleagues created the structures and opportunities to realize the full potential of all members of staff for quality? Three people, 60 percent of respondents, indicated 5 (maximum). Two people, 40 percent of respondents, indicated 4. Zero people, 0 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of

respondents, indicated 1 (minimum). This resulted in an average of 4.6 for question 4.

Question 5. *Quality control of what the school does.* To what extent have you and your senior management colleagues implemented systems for ensuring quality control of all that the school teaches and provides, and also integrated quality control with continuous quality improvement? One person, 20 percent of respondents, indicated 5 (maximum). Four people, 80 percent of respondents, indicated 4. Zero people, 0 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.2 for question 5.

Question 6. *Quality results.* To what extent can you and your senior management colleagues demonstrate improvements in quality excellence by evidence that includes quantitative measures? One person, 20 percent of respondents, indicated 5 (maximum). Four people, 80 percent of respondents, indicated 4. Zero people, 0 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.2 for question 6.

Question 7. *Customer satisfaction.* To what extent do you and your senior management colleagues implement effective systems to determine customer requirements and demonstrate the success you are achieving in meeting them? One person, 20 percent of respondents, indicated 5 (maximum). Four people, 80 percent of respondents, indicated 4. Zero people, 0 percent of respondents, indicated 3. Zero people, 0 percent of respondents, indicated 2. Zero people, 0

percent of respondents, indicated 1 (minimum). This resulted in an average of 4.2 for question 7.

Technical and Career Development Office overall average score is 30.6 percent.

Table 8

Quest #	Question Title	# Resp.	5	%	4	%	3	%	2	%	1	%	Avg.
1	Leadership	5	3	60	2	40	0	0	0	0	0	0	4.6
2	Information and analysis	5	2	40	3	60	0	0	0	0	0	0	4.4
3	Strategic quality planning	5	3	60	2	40	0	0	0	0	0	0	4.6
4	Human resource utilization	5	3	60	2	40	0	0	0	0	0	0	4.6
5	Quality control of what the school does	5	1	20	4	80	0	0	0	0	0	0	4.2
6	Quality results	5	1	20	4	80	0	0	0	0	0	0	4.0
7	Customer satisfaction	5	1	20	4	80	0	0	0	0	0	0	4.2

Overall Response

The combined results of the 74 questionnaires are as follows (see Table 9).

Question 1. *Leadership*. To what extent are you and your senior management colleagues currently creating and building-in quality values in the way the school is run? Twenty-six people, 35 percent of respondents, indicated 5 (maximum). Thirty-five people, 47 percent of respondents, indicated 4. Twelve people, 16 percent of respondents, indicated 3. One person, 1 percent

of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 4.2 for question 1.

Question 2. *Information using analysis.* To what extent are you and your senior management colleagues collecting data and information on a systematic basis and analyzing them for quality improvement and planning? Fourteen people, 18 percent of respondents, indicated 5 (maximum). Forty-one people, 51 percent of respondents, indicated 4. Seventeen people, 22 percent of respondents, indicated 3. Two people, 2 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.9 for question 2.

Question 3. *Strategic quality planning.* To what extent have you and your senior management colleagues integrated your stakeholders' quality requirements into your strategic plans? Seventeen people, 22 percent of respondents, indicated 5 (maximum). Thirty-eight people, 51 percent of respondents, indicated 4. Sixteen people, 21 percent of respondents, indicated 3. Three people, 4 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.9 for question 3.

Question 4. *Human resource utilization.* To what extent have you and your senior management colleagues created the structures and opportunities to realize the full potential of all members of staff for quality? Twenty-one people, 28 percent of respondents, indicated 5 (maximum). Thirty-three people, 44 percent of respondents, indicated 4. Sixteen people, 21 percent of respondents,

indicated 3. Four people, 5 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.9 for question 4.

Question 5. *Quality control of what the school does.* To what extent have you and your senior management colleagues implemented systems for ensuring quality control of all that the school teaches and provides, and also integrated quality control with continuous quality improvement? Eleven people, 14 percent of respondents, indicated 5 (maximum). Forty-three people, 58 percent of respondents, indicated 4. Sixteen people, 21 percent of respondents, indicated 3. Four people, 5 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.8 for question 5.

Question 6. *Quality results.* To what extent can you and your senior management colleagues demonstrate improvements in quality excellence by evidence that includes quantitative measures? Ten people, 13 percent of respondents, indicated 5 (maximum). Forty-seven people, 63 percent of respondents, indicated 4. Fourteen people, 18 percent of respondents, indicated 3. Three people, 4 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.8 for question 6.

Question 7. *Customer satisfaction.* To what extent do you and your senior management colleagues implement effective systems to determine customer requirements and demonstrate the success you are achieving in meeting them? Thirteen people, 17 percent of respondents, indicated 5 (maximum). Forty-four

people, 59 percent of respondents, indicated 4. Fifteen people, 20 percent of respondents, indicated 3. Two people, 2 percent of respondents, indicated 2. Zero people, 0 percent of respondents, indicated 1 (minimum). This resulted in an average of 3.9 for question 7.

Table 9

Quest #	Question Title	# Resp	5	%	4	%	3	%	2	%	1	%	Avg.
1	Leadership	74	26	35	35	47	12	16	1	01	0	0	4.2
2	Information and analysis	74	14	18	41	51	17	22	2	02	0	0	3.9
3	Strategic quality planning	74	17	22	38	51	16	21	3	04	0	0	3.9
4	Human resource utilization	74	21	28	33	44	16	21	4	05	0	0	3.9
5	Quality control of what the school does	74	11	14	43	58	16	21	4	05	0	0	3.8
6	Quality results	74	10	13	47	63	14	18	3	04	0	0	3.8
7	Customer satisfaction	74	13	17	44	59	15	20	2	02	0	0	3.9

SUMMARY

Chapter IV discussed the data gathered and the significance of the information. The goal of this research study was to determine the effects of Total Quality Management implementation efforts on the Virginia Beach City Public School system. In order to assess the extent Virginia Beach City Public Schools are following a system of Total Quality Management respondents were asked to respond to the questions (Appendix A) by rating themselves on a five point scale,

five being the highest and 1 being the lowest. Questionnaires were distributed to volunteers from each of the targeted schools consisting of seventy-four respondents. Organizations scoring an average of 30 or more are considered to be making a strong commitment to implementing TQM. An organization scoring an average in the range of 25 - 30 indicates the organization is in the early stages of implementing TQM or needs to make a stronger commitment to implementing TQM. The findings did find that Ocean Lakes High School's average score was 28.1, Strawbridge Elementary School's average score was 28.4, Corporate Landing Middle School's average score was 25.5, and the Technical and Career Development Office's average score was 30.6. Chapter V provides a summary of this study. Conclusions and recommendations that resulted from the interpretation of the collected data will also be included in Chapter V.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter includes a summary, conclusions, and recommendations. The summary will contain an overview of the first four chapters. Conclusions will be drawn by answering the research goals using the data collected during the study. Recommendations for future research will be made based upon the results of the study.

SUMMARY

The goal of this research study was to determine the effects of Total Quality Management implementation efforts on the Virginia Beach City Public School system. In order to assess the extent Virginia Beach City Public Schools are following a system of Total Quality Management respondents were asked to respond to seven questions by rating themselves on a five point scale, five being the highest and 1 being the lowest. Permission to distribute the questionnaire in the targeted schools was denied so volunteers were sought out in the following schools: Ocean Lakes High School, Corporate Landing Middle School, Strawbridge Elementary school, and Technical and Career Development Office. Respondents answered the questionnaires and returned them to volunteers in each of the schools.

Total Quality Management implementation takes a great deal of commitment from everyone involved and will require a long-term investment. The returns on their efforts will not be measurable until everyone understands the Mission Statement of the Virginia Beach City Public School and has been

trained in the principles of Total Quality Management. This study involved gathering data from a sample population of the Virginia Beach City Public School system using questionnaires that were anonymous so as to not hinder the respondent's answers.

CONCLUSIONS

The first research goal for this study —To what extent Virginia Beach City Public Schools are following a system of Total Quality Management has been answered by surveying personnel in the targeted schools. The data gathered indicate that Ocean Lakes High School, Strawbridge Elementary, Corporate Landing Middle School and the Technical and Career Development Office are following a system of Total Quality Management. The findings do indicate that the Virginia Beach City Public School system is in the infancy stages of implementing Total Quality Management and still have areas that need improvement. However, if the Virginia Beach City Public Schools continue with their plan to implement Total Quality Management in the schools they may completely succeed in implementing TQM in the school system.

The second research goal—What areas of education have improved due to the use of Total Quality Management. Teachers and staff feel that they are empowered to make changes in their area of responsibility and are more likely to suggest changes in how students are taught. To answer the question, what areas of education have improved will take more research and will require a longer implantation cycle. Given another two years, a follow-up study should be conducted to better assess the affect TQM has on education. Teachers and

staff do feel that using TQM will enhance learning and will encourage parents to become more involved. Other organizations that have taken the bold step to use the TQM model and have discovered that using the model takes a long-term commitment and a dedicated effort by upper management. The Virginia Beach City Public School system must stay the course for a long period of time in order to obtain the quality education that so many are seeking. The success stories will increase as more and more schools make the move to TQM.

The Virginia Beach City Public School system must stay focused on the goal of implementing Total Quality Management within the school system and understand that it is a long-term commitment.

RECOMMENDATIONS

Based on the information collected and the conclusions drawn, the researcher offers the following recommendations.

- Ensure that everyone involved in the TQM implementation effort is trained in the tools used to measure the effectiveness of the program.
- Provide a work environment that is free of fear. In order for the TQM model to work, faculty, staff, and administrators will have to feel comfortable making suggestions for change.
- Encourage creative thinking in the Virginia Beach City Public School system to stimulate ideas for improvement.
- Review the Seven Critical Goal Statements of the Virginia Beach School Board and revise them as necessary.

- Operationally define the goals outlined in Seven Critical Goal Statements so that all employees are able to achieve the goals and understand what is to be achieved.
- Be receptive to unbiased evaluation from other school districts and businesses.

Virginia Beach City Public Schools can learn to incorporate TQM and earn the Malcom Baldrige award by sticking to its mission statement as outlined below.

MISSION STATEMENT

The mission of Virginia Beach City Public Schools, in partnership with our entire community, is to ensure that each student is empowered with the knowledge and skills necessary to meet the challenges of the future.

It will take a long-term commitment by everyone involved and an understanding that Quality Education is the goal of Total Quality Management.

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APPENDICES

APPENDIX A – Sample of Research Survey

APPENDIX B – Cover Letter

APPENDIX A – Sample of Research Survey

TOTAL QUALITY MANAGEMENT AND THE SCHOOL

School _____.

Position _____.

(i.e., teacher, principal)

Purpose: To determine the extent Virginia Beach City Public schools are following a system of Total Quality Management.

Directions: Is your school making a positive commitment to the implementation of the Total Quality Management (TQM) model? To answer this question, please respond to the following questions by rating yourself on a five point scale.

5 maximum – 1 minimum circle your response to each question below.

1. *Leadership.* To what extent are you and your senior management colleagues currently creating and building in "quality values" in the way the school is run? 5 4 3 2 1

2. *Information using analysis.* To what extent are you and your senior management colleagues collecting data and information on a systematic basis and analyzing them for quality improvement and planning? 5 4 3 2 1

3. *Strategic quality planning.* To what extent have you and your senior management colleagues integrated your stakeholders' quality requirements into your strategic plans? 5 4 3 2 1

4. *Human resource utilization.* To what extent have you and your senior management colleagues created the structures and opportunities to realize the full potential of all members of staff for quality? 5 4 3 2 1

5. *Quality control of what the school does.* To what extent have you and your senior management colleagues implemented systems for ensuring quality control of all that the school teaches and provides, and also integrated quality control with continuous quality improvement? 5 4 3 2 1

6. *Quality results.* To what extent can you and your senior management colleagues demonstrate improvements in quality excellence by evidence that includes quantitative measures? 5 4 3 2 1

7. *Customer satisfaction.* To what extent do you and your senior management colleagues implement effective systems to determine customer requirements and demonstrate the success you are achieving in meeting them? 5 4 3 2 1

Questions taken from Total Quality Management and the School by Stephen Murgatroyd and Colin Morgan (1993).

If you would like a copy of the results please provide the following information

Name _____ School _____

APPENDIX B - Sample of cover letter

August 29, 1998

Timothy L. Axley
1208 Aztec Ct.
Virginia Beach VA 23454

Ocean Lakes High School
885 Schumann Dr.
Virginia Beach VA 23454

Dear Ocean Lakes Staff,

Recently the Malcom Baldrige Award was approved for schools and school districts that meet certain standards as they relate to Total Quality Management (TQM). The award is in recognition of outstanding achievement as it relates to TQM. The Malcom Baldrige Award should be a natural by-product of TQM implementation efforts in the school; it should not be the goal. Quality education, better use of resources, budgeting, use of technology and quality in the classroom, should be the goal. I am conducting research to determine how the Virginia Beach City Public School System is making a positive commitment to Total Quality Management implementation.

Please complete the questionnaire (see reverse) and return it to the box in the office marked "TQM Questionnaire" by the end of the school day on September 2. If you would like the results, please provide your name and return address on the bottom of the questionnaire. I sincerely thank you for your time and effort in assisting with my research.

Sincerely,

Timothy L. Axley

