5-4-1999

An internship in school business administration in the Camden City Public Schools, Camden, New Jersey, 1998-1999

Donna M. Houston
Rowan University

An Internship in School Business Administration

in the Camden City Public Schools

Camden, New Jersey

1998 - 1999

By Donna M. Houston

A Master's Thesis

Submitted in partial fulfillment of the requirement of the
Master of Arts Degree in The The Graduate School of
Rowan University
May, 1999

Approved by _____
Professor

Date Approved May 4, 1999

Abstract

Donna M. Houston

An Internship experience served in the
Camden City Public Schools, Camden, N.J.
1998-99
University Mentor: Dr. Theodore B. Johnson
Master of Arts in School Business Administration

The purpose of this study was to determine whether the implementation of a computerized food service system would improve the present financial and management conditions of the district's food service department, by eliminating costly mistakes that repeatedly requires the district to repay monies to the government.

During the initial stage of the project, food service directors from various school districts in New Jersey, were instructed to complete a survey to determine the effectiveness of using a computerized system. Data gathered from these districts indicated that the use of computers in school food service departments, can greatly enhance the management and operation of the department and ultimately provide the consumer (students) with excellent service and food while simultaneously satisfying state and federal guidelines.

Thirty-three high school students responded to a questionnaire regarding their lunch time experiences associated with lunch tickets and the lunch lines. It was their opinion that the school cafeteria would be used more often if the embarrassing ticket system were eliminated. Since the ticket system that is currently used identifies the student as one who receives a free or reduced cost meal, students are reluctant to use the cafeteria services. A computerized system would eliminate this demeaning practice.

Next, to ascertain the feasibility of computer usage in the schools' food service department, food service managers and high school students were surveyed. The food service manager survey was designed to make an assessment of their attitudes towards a plan to computerized the food service system. The responses of the the food service managers who were surveyed indicated that the majority felt that computer technology usage would significantly aid in enhancing their job performance and also improve their

general attitude in the workplace.

Upon completion of the study, the intern made following recommendations: (1) that the administration of the food service department make provisions to begin the implementation process of piloting a computerized food service department at one of the district's high schools during the 1999-2000 school year; and (2) extend the computerized program to all middle and high school food service programs during the following school term.

Mini Abstract

Donna M. Houston

An Internship experience served in the
Camden City Public Schools, Camden, N.J.
1998-99
University Mentor: Dr Theodore B. Johnson
Master of Arts in School Business Administration

The purpose of this study was to determine whether the implementation of a computerized food service system would improve the present financial and management conditions of the district's food service department, by eliminating costly mistakes that repeatedly requires the district to repay monies to the government. The conclusion of this study revealed that a computerized food service system is a feasible solution to replace the presently used manual-based system.

Acknowledgments

Throughout my life, the intern has always been surrounded by loving people — those that show support during the most trying times. The intern is deeply indebted to everyone who offered a helping hand and would like to take this opportunity to give thanks to those individuals.

First and foremost, thank you God, for placing a hedge of protection around me in mind, body and spirit.

The intern would like to give special thanks to:

Mom and Dad, for supporting this initiative by "sitting" with Mark when I was inundated with writing my thesis. I'm so grateful to have parents like you.

My wonderful brother, Ernest, for transporting Mom and Dad at last minute requests. You are the best!

Debbie and Sergil Black, because without you, I could never have finished this task. You are truly special.

Judy Paquet, for opening your door with a smile and cheerful heart during a time of need.

Dr.Fred Reiss, you are a remarkable and compassionate man . God placed you in my path at the right time.

Mrs. Scott-Williams for showing your support when needed.

Mr. Freeman for assisting in this mentorship.

Dr. Ted Johnson, because you are a dynamic educator with the patience of Job. I will never forget you.

Brenda Brown, there is no way to express the gratitude for all that you have done for me. You stood by my side as an angel does when commanded.You encouraged me even when I gave up. It was you that picked me up when I fell. You are God sent and I love you for everything you have done.

TABLE OF CONTENTS

Chapter 1

Focus of the Study

Introduction

Educators always associated inadequate nutrition with poor physical and mental development . After many pleas from educators, the National School Lunch Act was passed by Congress in 1946 in support of school lunches. In 1966, the Child Nutrition Act followed. The government began to nearly match the cost of providing free lunches to needy school children. Early on, many districts (mostly affluent) did not take advantage of this service. However, today the need for free lunch, as well as breakfast, has been forced upon districts due to inflation, downsizing, child pregnancies, increased welfare complicity, and rapid increase of migration into the United States from other countries. In the mid 1980s, more than 90% of public schools took advantage of the School Nutrition Lunch Programs. Dr. Ridgely M. Bogg (1987), the President of the Association of School Business Officials, stated in a speech to the annual American School Food Service Association in 1970, "Today, school food services is a vital and basic aspect of school operations. It must be viewed as an integral part of the educational process carried on within the school district". It is a given that a hungry child cannot learn, and serving nutritious school meals is synonymous to learning, but, that is not where the "big picture" ends. Under laws that were set in place by the federal government for subsidized monies, critical operational program standards must be in place. If not, monies must be reimbursed to the government when inaccuracies of requirements and regulations are cited after a state review and/or federal audit.

In mid 1980s, there were 89,200 participants in the National School Lunch Program. That number has grown to 1,080,254 for lunch participants and 147,850 for breakfast. Implementing hardware and software programs, to assist and maintain accurate records for the nation's food service programs, will enhance overall manageability and productivity. In spite of today's technology, it still has not been embraced by many

businesses, including district school food service departments which are supposed to operate independently of the school district's budget.

The Food Service Department of the Camden City School District in Camden, New Jersey is in serious need of updating systems of inventory, record keeping, communications and other supplier and provider data. Federal and State reimbursement procedures require that periodic reports be supplied for documentation prior to being granted reimbursement monies. The present system used in the food service department is not a technology-based system. Manual procedures have created numerous problems with Federal and State agencies that create costly over and underclaims. There are constant monetary cites of the department for non-compliance in every phase of the food service process. Several members of the Superintendent's office believes that privatization of the program is the best solution for solving its problems. Contrary to their belief, the intern contends that gradual but highly effective steps can bring cost effective changes that will benefit the food service department as well as the district in a dramatic way. Studies reveal that privatization is not always the "pretty picture" that it often paints. Serious consideration should be given to other cost effective measures before making decisions that will not only effect the district, but ultimately further complicate the City's employment situation.

Product Outcome Statement

As a result of implementing a computerized food service system, management of the school food service department will be greatly enhanced by the elimination of inaccuracies caused by the presently used manual-based system.

Purpose of the Study

The purpose of the internship is to (1) improve the food service operations through a user friendly technological comprehensive management system designed specifically for the food service industry; (2) to gain expertise in leadership skills in a field that has proven to possess unlimited applications; and (3) to ultimately provide better service to students while simultaneously complying with state and federal regulations for documentation and reimbursement.

Definitions

The following definitions and terms are an integral part of this study:

Claims refer to federal reimbursement funds donated to school food service participants.

Free and Reduced Meals refer to the eligibility of children based on the most recent salary scale of parents. If a child's meal is free, the cost is totally subsidized by the government. If a child's meal is reduced, the cost is partially subsidized by the government.

Overclaims refers to repayment of reimbursement cash funds due to misused appropriations of food, money or participation and revenue records.

Overt Identification refers to student confidentiality of meal status.

Personal Identification Number (PIN) refers to the number a student receives in order to eat a reimbursable meal.

Point-of-sale refers to the time at which the child exchanges a ticket for a complete nutritional meal based on the standards of the United States Department of Agriculture (USDA).

Privatization refers to management contractors that take over self-operated school food service departments that are not being run in a sufficient manner.

Underclaims refer to repayment of reimbursement cash funds due to misused appropriations of food, money or participation and revenue records.

United States Department of Agriculture (USDA) refers to the agency that offers available foods to each state for the use of Child Nutrition Programs. This food is acquired through donated foods and commodities.

Limitations

Several factors may have an impact on this study. First, a limitation of this study may involve the inability of some food service managers to comprehend all questions on the survey. A number of the managers have had limited educational opportunities and are deficient in reading skills. The job of a food service manager does not attract the well-

educated individual due to the low paying salary scale. Since surveys will be distributed to the students in a random manner, it is anticipated that the recipients will be those students who are able to read and comprehend well. Many of the district's high school students read well below grade level. This factor is yet another limitation of this study.

Setting of the Study

When the intern's father describes Camden as it was when he was a young man, he recalls the city to have been the best place for employment and one of the most comfortable and affordable places to live a decent life and raise a family. As one of the first African American families in the City of Camden, the intern's grandparents were the founders of the still thriving Saint Johns Baptist Church. The City has taken a startling and sepulchral twist from the memories of the intern's father.

The City of Camden, is inhabited by 12.3% more children than the State of New Jersey and 9.1% more than Camden County. More than 17% of the children, who reside with single-mothered heads of household, live below the national poverty level. The 1990 census statistics reported the population of Camden to be 87,492, with 81% being non-white. Approximately 22% or almost 20,000 of Camden's population attend its public schools. Statistics tabulated in October of 1993, revealed that 58.3% of the school population was African American, 35.5% was Latino, 3.9% was White, and the remaining 2.3% were Asian. An estimated 7,800 students or 40% of the secondary student population drop out of school. Eighty percent of the "at-risk" student population or 15,600 live below the poverty level.

Encompassing 10.38 square miles, and located directly across the Delaware River from center city Philadelphia, Camden was once described as an industrious and resourceful town. Families comprised of many ethnic backgrounds, including Italian, Polish, Jewish, and African American descent, lived in cozy neighborhoods and were employed throughout the city in businesses such as the Campbell Soup Company, RCA and the Camden shipyard. Successful, family owned businesses flourished in the city.

The sparse signs of survival and growth now present within the city is designated for the city's waterfront alone. The New Jersey State Aquarium was seen as a sign of

rebirth for the business area of Camden. It was also greatly anticipated the that the Sony/Pace Amphitheater, which opened in 1994, would bring additional revenue to the city. Martin Marietta, a major defense contractor, has brought most of its work force to Camden. The large medical/health care campus located in the Lanning Square section of the city is comprised of the Cooper Hospital University Medical Center; The Corriel Institute; a branch of the Medicine and Dentistry College of New Jersey; A Ronald McDonald House; and a 40,000 square foot medical building office. An estimated number of 4,000 people are employed within these facilities.

Today, Camden is known as being one of the poorest cities in the United States, as well as being the poorest in the state of New Jersey. City residents live daily with the reality of homicides that occur on a frequent basis. Horrendous statistics indicate that the city leads the state in child abuse and neglect - 42.4%, teen deaths - 20.9%, births to teen parents ages 15 through 19 - 173 per 1000, and is second, in infant mortality and child death rates.

Camden City, plagued by many of the ills that contribute to the decay of most urban cities, is now a dependent on the State of New Jersey. Poverty, alcohol and substance abuse, violence, teen pregnancy, decaying physical facilities and infrastructures, and a disproportionately large number of high-risk youth have all contributed to its decline. Businesses have moved out of the city contributing to a shrinking tax base. From 1979 to 1989, the medium household income rose from $9,285 to $17,386. This 53% increase is still 60% lower than the $40,250 medium for the State of New Jersey and is 40% lower than the national medium income of $27,225.

The greatest portion of the 1998-99 school budget of $205 million is state aid. Per pupil expenditure for the 1998-99 school year is $9,565.

Camden City's public school system is operated by a nine member elected school board. A superintendent, appointed by the school board, is designated as the "chief" authority figure and is charged with the responsibility of administering all aspects of the school system.

The school system's enrollment, as of October 1994, was 19,677 including prekindergarten students and handicapped preschoolers. The regular instructional

program, organized from grades K-12 are grouped into school buildings at three levels: three high schools, five middle schools and twenty-two elementary schools. Four of the elementary schools are designated as Family Schools with grade levels K-7 or K-8. Five others are designated as Comer Schools servicing grades K-5. Of the five middle schools, one houses grades 4-8, two, grades 5-8 and two, grades 6-8.

Four other buildings house students with special needs, and one school building services the Adult High School Program.

At the middle school level, the self-contained nature of the classroom changes to that of a departmentalized organization in grades seven and eight. In addition to the core subject areas, other courses such as health education, home economics, art, music, physical education, typing, business, technology, library and foreign language are offered.

High school students are not tracked as college preparatory, general, or vocational students. They are able to select from the Program of Studies for which s/he is eligible. The curriculum incorporates many subjects within the categories of English, foreign language, mathematics, science, social studies, business, home economics, health and physical education, fine arts, industrial arts, vocational education, and cooperative education. Honors, Duel Credit, and Advanced Placement courses are also offered. Many students also take advantage of extracurricular activities, interscholastic sports competition, and intramural activities.

Of the approximate 20,000 student population, the school district has a lunch participation of approximately 15,000 students. The participation is mainly from the elementary and middle school age children. The high school's lunch participation is rather dismal with an average of 125-250 students participating per day. This number does not sound too significant until one mentions the enrollment of 1,500 per high school, and a biweekly food service payroll of $70,000. Since the district is an Abbott District, it is obvious that greater lunch participation is needed.

Each lunch application represents thousands of dollars. If a lunch application is incorrectly determined, the resulting penalties affect all district programs. Thus, a problem is created that is costly, ongoing and opens the door to banishing a self-operated food service program, and inviting corporate management services in. Whenever a state,

federal, or district audit occurs, there are numerous and costly underclaims and overclaims that must be returned due to errors. These errors are predominately caused by human mistakes which can be avoided by computerizing the food service program. This will correct simple mathematical mistakes as well as control exorbitant inventory expenditures.

Importance of the Study

Camden's food service program is costing the district more money than it can afford. There has not been a change in the program since its inception, and yet, the program continues to remain in a time capsule that is ineffective and constantly being threatened by privatization. The general attitude is that the program is a failure in many aspects with a variance that is unsettling. Some of the obstacles that hinder growth of the Camden districts food service department are as follows:

- decreasing middle and high school lunch participation due to a menu that is not age appropriate
- lack of nutrition education that should be provided by on site staff
- inadequate cooking facilities due to lack of funds
- incorrect monthly paperwork which must be turned into the state for meal reimbursement.
- exorbitant fees that must be returned to the state and federal government after food service audits (due to mistakes)
- costly employment salaries and benefits that constantly rise
- low staff moral

The intern has visions of making a difference in the program and believes that computerization of the entire program is a positive, and profitable beginning.

Organization of the Study

The four remaining chapters, two through five, will provide details of the methods utilized in conducting this study. Chapter 2 provides the reader with the review of literature that was used to justify the intern's intent for incorporating the use of hardware and software in the food service department in order to enhance the manageability of the program, as well as increasing student participation. Chapter 3 consists of the research and

design, development and design, sampling technique, description of the data collection, data analysis plan, and describes the impact of the study on the intern's present practice. Chapter 4 focuses on the research findings and what information was found. It will also answer the question of what the information means. Chapter 5 will focus on conclusions, implications and further studies that were derived from the intern's reflective journal. Leadership development changes, brought about as a result of the research, will be encompassed in the major conclusion.

Chapter 2

Literature Review

Today's business society in general, is reluctant to use technology to facilitate the enormous demands confronting daily operations. The vital necessity for using technology has yet to be embraced by many in the business world today. Although the use of technology has proven over and over again, the ability to facilitate accurate records and retrieval, its value is not respected or utilized by many organizations that need it most. School food service is no exception in recognizing the benefits of technology, which requires so much more than culinary expertise. Increasing rules, expenses, complications, cumbersome tracking, and decreasing reimbursements can make food itself the least of ones worries (Alpha Microsystems, 1995).

In an impressive article, Dove and Fisher (1998) quoted Peter Drucker, author of "Managing in a Time of Great Change", by saying, "...in the next 50 years, schools and universities will change more and more drastically than they have since they assumed their present form more than 300 years ago when they reorganized themselves around the printed book." Food service stands second to no other school department that can experience the innovative technological developments that will infiltrate the new millennium. So... why is a school district that is constantly haunted by privatization and state take-over, due to administrative inadequacies (that is costing the district roughly 3.8 million dollars to date) resistant to computerizing the department? If there was ever a good time to try something new, the time is now! Naturally with a deficit in the millions, computerization will not be the almighty solution to the problem, but, it is certainly a start. Dorothy Pannel (1992), school food service director for the Fairfax County, Virginia.., stated, " in the old days, you'd do it all by hand and, occasionally, you'd make a mistake." With computers, Pannel suggests that the error rate is much lower and there is better monitoring of inventory, production, and daily food consumption . Management is simplified and quicker and accountability is credible.

The Camden Board of Education has operated in the red for many years and is

"carried" by the school board through borrowing from other funds, which can't ever be recovered. M. Begalle (1997) reported such a problem with her food service operations in a Minnesota school district. The department needed a dramatic change in order to maintain operation, increase student participation, satisfy state and federal guidelines and make a profit.

In Begalle's school district, each of the following areas was significantly improved after the implementation of a computerized food service system:

- Increased employee labor management and expenses
- quick and accurate point of sale for students using PIN numbers
- palm prints or eye scans
- creative menu planning based on federal and state regulatory dietary guidelines
- precise inventory
- nutrient analysis
- identifying student free and reduced priced eligible students
- tracking of student transfers
- food sales tracking
- accuracy in doing state and federal monthly reimbursement and edit check worksheets
- downloading information on a daily basis to the United States Department of Agriculture (USDA)
- statistical and school based reports
- employee labor-related entries, such as change in work schedules
- lunch applications
- correspondence to parents
- link to manufacturers for purchases
- bidding and troubleshooting

The success story of Begalle is just what is needed in the Camden School District.

In 1994, an audit was performed by the State Department of Child Nutrition (CN) in the Camden Food Service Department. Although no demand was made, the consultant suggested that the written corrective action plan include an immediate need of

computerization that would be beneficial in bringing the operation of the cafeteria program in compliance with the critical and general regulatory areas of :

- student eligibility (direct certification)
- student eligibility (application approval)
- secondary meal counting (point of service (p.o.s.) systems)
- accurate master eligibility lists
- meal count consolidation

Long term areas of computerization should be:

- inventory control
- analysis of financial information

Since 1994, there have been two CN audits that have made the same recommendations to no avail.

There have been numerous times that the subject of computerization has been the topic of conversation in meetings with the Superintendent's top level staff and school board members. The general opinion is that computers are too expensive to purchase. No doubt that such an investment is expensive, however, each time the district is audited, a large monetary fine must be reimbursed to the state, due to repeated violations. Payment of these fines depletes a large portion of the school district budget. Therefore, the idea of computerizing the food service department becomes less of a reality. Training for the food service staff is also a big concern. However, the companies that sell equipment also train. The lack of confidence in the employees is evident district-wide and the criticism over the years has taken its toll. Employees do not carry the self-esteem and pride that they are capable of having. It is not their fault. As Ellen Moore (1998) asserts, "training can be the solution to many of the complex issues operators face in running their businesses. It can help you find motivated, quality employees and it can help prevent them from leaving. Training can improve morale, profitability and customer service." Ellen Moore is vice-president of operations at the National Restaurant Association Educational Foundation and finds technology to be the tool of today to train employees in every phase of the food service business of corporations, as well as "mom and pop" businesses. Since school food service is (or should be) an independent entity of the school district, a "corporate

mentality" approach could prove to be a start to a successful and professional school food service department.

Technology can even assist in the challenge of training the staff. From relieving the fear of technology and it's applications to providing new opportunities for added job enrichment and satisfaction, computers offer the flexibility and convenience needed to move into the 21st century for institutionalized as well as commercial food service institution.

Rebecca Gould, PhD., RD and Betsy Barrett, PhD., RD (1996) did extensive research on post, then pre-evaluation of computer classes for 139 school food service personnel and states that "federal legislation and industry dynamics are prompting computer use in all aspects of managing child nutrition programs." The research continually documents the need for computer education. They found that seventy percent of the food service participants studied were computer illiterate, but after introductory computer classes, participants post ratings were significantly higher in knowledge and ability ratings. Needless to say, training at any capacity cannot take place if the Superintendent's top level officials and school board members have limited technological focus. All past fundamental knowledge in school food service is useful but of little application in the ever changing technological catalytic transition in a society that deals with the generation, storage, or transmission of information. As Eric Hoffer explains, " *In times of change learners inherit the earth, while the learned find themselves beautifully equipped to deal with a world that no longer exists.*"

Mark Hamstra (1997), interviewed David Smail, the senior vice president and chief information officer of the Marriott Management Services' (MMS) 3,500 North American locations. He views computer technology as an intellectual, fascinating business, and is committed to the use of computers in food services in the areas of accounting, human resources, production, sales and most importantly, communications. "Communication is the key driver of information systems." The other obvious area for which computers play a useful role is in food production, says Smails. "There are about 20 percent of the company's units using some form of automation in the production process, primarily in menu explosion." "If somebody says, 'My mom's apple pie is better than the standard

recipe,' then the next thing you know, you've got 120 different recipes for apple pie and you lose your procurement leverage." This is one of the major problems seen throughout the Camden school district. One school's recipe for fried chicken is outstanding while another school makes the best spaghetti. The McDonald's Corporation could never survive with such inconsistencies. Not taste nor cost would permit them to be the giant success that they are today. Every school must make a tuna fish sandwich, for example, by starting with two slices of bread, then two leaves of lettuce and one slice of tomato, one ounce of tuna fish, and topped with a pickle. If this recipe is not followed by every school, district-wide, then there is lost procurement leverage. Technology can aid in standardizing recipes so the staff of each school makes the "best" of everything!

Smails explains that computers do things really well... that man cannot. He states that , "One, they handle large amounts of data. Two, they communicate at the speed of light, and three, they follow rules. It's that last one that's a bugaboo in the food service business."

Liddle (1994) reported that, "when properly utilized, technology is helping operators lower labor costs, improve efficiencies, occupy less space and accomplish missions quicker." Some see computers as a simply means of survival. Survival is the key word in school food service. The demands of the United States Department of Agriculture (USDA) is putting pressure on school districts that requires a tight and mistake-proof shift. The USDA is pushing food service departments, nationwide, to utilize modern technology; and to ignore their recommendation is self destructive. Mike Pappas, an upscale restaurateur in Raton, N.M., who founded and edits "Food service, Computers and You," an industry newsletter dedicated exclusively to the subject, says, "Just with the most rudimentary systems for inventory control, payroll and point of sales, we are talking about a 2-percent to 3-percent drop in operating costs immediately." This is mainly because most information is simply plugged into a formula and the computer does the rest, which eliminates human error.

From the kitchen to the store room to the dining area to the board room, technology is the key to a profitable and well-maintained business.

Mary Begalle (1997) speaks specifically to school food service when she maintains

that on the job, directors and managers increasingly rely on computers for every facet of the business from point-of-sale (POS) to menu-planning to streamlining cumbersome state and federal compliance to information systems that lead to higher quality decision making. She further states that the effort placed on inputting technology is a process that takes a commitment from all of the team players involved in the school food service operation. She asserts that the process can take years to accomplish when considering integration of the front as well as the back-of-the-house multi-network systems. Begalle began computerizing production and nutrition analysis for standardized recipes. She then moved to electronically generating order guides to minimize paperwork. Next, inventory modules were put in place to track food cost and automate inventory, bidding and order system which led to better food cost management.

The most common concern administratively was the free and reduced-price applications which Begalle intercepted by electronically downloading student enrollment information and updating student files between the point of sale, the manager's office and the district office. This information included the student's personal identification number (PIN) as well as a prepay category for parents interested in doing so. The cash register is itemized with each food item on the POS terminal which includes a la carte as well as school lunch component selections.

Other data that Begalle input into the system included bank deposits, sales reports, total revenue analysis and reporting for the entire district and monthly edit check worksheets. Food tracking and sales information assisted in inventory, ordering and production management. She even planned cycle menus, in which the computer provided suggested order quantities, based on the sales information in the history files.

Begalle implemented a labor management module at each school in order to provide the managers with a cost-effective system. This process led to efficient decision making in payroll and real-time labor activity and expenses which in essence is a profit and loss statement with productivity ratios. Through this wealth of information, Begalle "extracted fields, and manipulated them in a spreadsheet program that generates school-based performance and statistical reports."

Communication between schools as well as other districts was a most important

concern of Begalles. Needless to say, this was solved by adding the Internet and e-mail on the system for nutrition and food service education information.

Software is in abundance when it comes to school food service, and the pickings are of great quality. From software browsers which provides online service, to free and reduced-price application processing, fully integrated school food and nutrition systems for technical excellence and continuing customer service and support are available. If a self-operated food service department is being threatened by privatization, consider what the "big guys" will bring into the district that is not already there. Computerized point-of-sale to computerized heavy cooking equipment will streamline cooking and save enormous amounts of money, as well as provide the customer with a nutritious and palatable meal.

Neighboring school districts have already jumped on the bandwagon leading food service departments into the 21st century. Vineland, New Jersey, Pleasantville, New Jersey, Newark, New Jersey, Philadelphia, Pennsylvania, and the list goes on and on. An article by Shafer and Einhorn (1998) appeared in the Philadelphia Inquirer demonstrated how parents showed satisfaction in the ease to prepay for student meals instead of paying on a daily basis. Students were pleased because it eliminated the "lunch room trauma" encountered in lunch lines. The point-of-sale debit system is similar to the grocery store system. The student PIN is used instead of a swipe card. The incorporation of this process results in faster moving lunch lines and streamlined paperwork.

Given the fact that Camden's school district food service department has incurred tremendous debt, it would seem only too obvious that updating an antiquated system is greatly needed. The answer is obvious but the top administrators and school board members must agree to begin an implementation planning process. With funding being a constant factor, perhaps some thought should be given to the amounts of monies returned when the district is audited by the state and federal agencies. Peter Drucker (1998) suggests that school boards must be creative when looking for funding for new equipment. Important factors to include in making large purchases are to create an upgrade policy, budget for support and training, consider technology when designing or renovating and lastly budget for supplies.

To summarize information retrieved from this research, the intern will strongly

recommend that the Superintendent and board members reconsider computerizing the food service department based on the tremendous success in other New Jersey school food service departments. Gradual but highly effective steps can bring dramatic cost effective changes that will benefit the district as well as the students.

Chapter 3

Design of Study

Description of theResearch Design:

The district's present manual-based system, used for the financial and administrative management of the food service department, is in need of a substantial change. By modifying the manner in which the food service department is presently managed, costly mistakes will be eliminated that repeatedly require the district to repay monies to the government. Therefore, the implementation of a computerized food service system will greatly aid in preventing inaccuracies caused by the presently used system.

The research design's description encompassed the use of surveys and questionnaires for gathering data related to the implementation of a computerized food service system. The design included involvement of food service managers and high school students. In addition, food service directors from various school districts in New Jersey, were instructed to complete a survey to determine the effectiveness of using a computerized system. The surveys were administered by telephone or sent via electronic facsimile to the recipients.

Food service managers were asked to respond to questions that expressed their feelings on the use of a computerized food service system. These surveys were also sent via electronic facsimile.

Questionnaires were given to students to gather information pertaining to their lunch time experiences associated with lunch tickets and the lunch lines.

The results of the compiled data were shared with the Director of Food Services, and the intern's field mentor. After reviewing this information, the intern made recommendations to the administration about instituting a computerized food service system.

Description of the Development and Design of the Research Instruments

The first survey the intern designed was sent to twenty school districts in New

Jersey. It contained both quantitative and qualitative questions. Each of their food service directors completed the survey that was designed to assess the frequency and outcomes of computer and software use in food services. Eighteen Schools were members of the South Jersey Cooperative Program of New Jersey and, the remaining two were large North Jersey schools. All of the selected schools were comparable in size to the Camden School District .

In an effort to measure the attitudes and beliefs of food service directors toward computerized systems and students impressions on the manual-based ticket system for point-of-sale at the lunch line, the intern developed two specific instruments. The survey completed by the food service managers contained twenty questions which required Yes or No responses or choosing a specific answer from a list of choices. The questions were designed to assess the food service managers feelings about the present use of the manual-based operation system verses a computerized system. The survey completed by the students consisted of 10 questions that also required Yes or No responses.

Description of the Sample and Sampling Technique

The subjects in this study were food service managers and high school students. The managers were workers in both middle and high schools. These individuals represent approximately 3% of the school district's food service managers. The high school students in this study were in grades ten, eleven and twelve with ages ranging from fifteen to eighteen. They were representatives from the two traditional high schools and the Medical Arts High School. The students surveyed, who were eligible for free meals, consistently eat lunch in the cafeteria and use lunch tickets. All of the surveys distributed to the food service managers and the students were returned and all responses were used.

Description of the Data Collection Approach

The intern developed several instruments to determine the feasibility of implementing a computerized system in the district's food service program.

The first instrument was a survey in which food service directors, from various school districts in New Jersey, responded to twenty questions. This data was necessary to compile in order to ascertain if and how the use of technology has impacted on their food

service program.

The method that the intern chose to have the surveys distributed was via electronic facsimile and telephone. It was sometimes necessary for the intern to follow up on receiving responses for the faxed surveys. The intern felt that the questions should be brief and simply stated. The majority of the questions were factual and requiring a simple yes or no response.

The second instrument was the student questionnaire. The intern's intent in developing this instrument was to gather data in order to help determine the students' reactions to several aspects of the lunch program in their school. The intern determined that each school's food service manager would distribute the questionnaires to the students. They were randomly given to every second student in the lunch line. Thirty three students completed the questionnaires. Upon completion, the food service managers faxed the surveys to the intern.

Description of the Data Analysis Plan

The student and manager's surveys were analyzed item by items using the Pearson Product-Moment Correlation. Items that correlated at least at the .05 level were considered significant. The surveys were analyzed using the percent of responses represented in the pie charts to get a general feel of how other school districts are using food service software and systems and to determine what the general overall attitudes were regarding the implementation of a computerized food service system. The intern shared this information with her mentor and the district's food service director, then made recommendations to the administration and school board members with regards to implementing a computerized food service system.

Chapter 4

Presentation of the Research Findings

What Information was Found

In analyzing the information received from the food service directors from various New Jersey school districts, the first pie chart, entitled, "Enrollment by District", shows that half the respondents' school districts have enrollments below 15,000 students. Another 44% have enrollments between 16,000 and 24,999 and 6% have enrollments between 25,000 and 34,999. None of these school districts have student enrollments at 35,000 and above.

The second pie chart, entitled, "Use of Computers", indicates that all of these respondents are presently using a computer system for food services. The third pie chart, "How Computers are Used", shows that they are being used by the members in fourteen different ways. Fifteen percent each are using the system for point-of-sale and student eligibility, 11% for inventory, 8% for tracking sales and consumption, 7% for production, 6% for both calculating inventory and correspondence. Other uses below 6% are manufacturer bidding,purchasing, troubleshooting, and schedules.

The fourth pie chart, "Saved Production Time?" shows that 87% of the respondents said yes and only 13% said no. The next pie chart, "Percent of Time Saved" indicates that of those members who said yes to the previous question, all felt that they saved time. Sixty-two percent revealed that between 5% and 19% time was saved and 35% saved between 20% and 49%.

In response to questions relating to the sixth pie chart, "Saved the District Money?", all respondents said yes. The next pie chart, "How Much Was Saved?" shows that 29% saved under $5,000. Half the members said that $5,000 to $9,999 was saved, 7% said that they saved between $10,000 and $20,000, and the remaining 14% saved more than $20,000.

The eighth pie chart , "District Auditing Savings?", shows that 69% of the respondents said yes to saving money during an audit, while 6% said no 25% said that it

did not apply.

The ninth pie chart "State Auditing Savings?", indicates that 62% of those audited saved money, while the other 38% said that it did not apply to the district.

There was a unanimous response to the tenth pie chart entitled "Improved Work Flow?". All had 100% work flow satisfaction.

The eleventh pie chart entitled "Percent of Work Flow Improvement" 63% of the respondents increased work flow by 10% to 25% while 31% had under 10%. The remaining 6% experienced 75% to 100%.

The twelfth pie chart entitled "Improved Task Facilitation?", reveals that 94% of the respondents said yes to improvement and 6% said no.

The thirteenth pie chart entitled "Satisfaction of Staff Systems?" demonstrates that 81% said yes to staff satisfaction while 19% said no. The next pie chart, called, "Staff Retention", shows that more than half of the respondents had staff cuts as a result of purchasing a system for food services. This is verified in the pie chart "Staff Downsizing?" where 2/3 the members responded yes.

In the sixteenth pie chart "Overall Rating", we find more than half the members (58%) rated their system "excellent", while 24% said it was "good" and 18% described it as "fair". The pie chart called "Total Cost" finds about one-third (29%) of the systems costing under $26,000, half costing between $26,000 and $50,000 and the remaining 21% said that their system cost more than $75,000.

The eighteenth pie chart, "Software Used" shows that the respondents use a wide variety of products. The most prevalent software package (32%) was LunchByte Systems. The "Types of Hardware" Pie chart shows 50% used of PCs.

Analysis of the student questionnaire produced 55 unique Pearson product-moment correlations. It was discovered that Item 1 correlated with Item 2, ($r = .70$, $p < .01$). Item 1 says "Do you eat school lunch?" and Item 2 says, "Do you consider the meals to be tasty?"

Item 1 also correlated with Item 11 ($r = .46$, $p < .05$). Item 1 asked, "Do you eat school lunch?" and Item 11 says, "If you presently avoid the lunch line because of the ticket system, would you reconsider eating meals under a computerized system?"

Item 6 correlated with Item 8 ($r = .30$, $p < .05$). Item 6 said, "Do you consider the

lunch ticket to be an embarrassment and therefore avoid using it?" and Item 8 states, "Would you feel comfortable with a different system of attaining a meal on the lunch line?"

Item 6 also correlated with Item 10 ($r = .65$, $p < .01$). Item 6 said, "Do you consider the lunch ticket to be an embarrassment and therefore avoid using it?" and Item 10 said, "Would punching your student identification number on a computer be preferred to a swipe card?"

Item 8 correlated with Item 9 ($r = .44$, $p < .05$). Item 8 asked, "Would you feel comfortable with a different system of attaining a meal on the lunch line?" and Item 9 asked, "Would a swipe card (similar to a credit card) provide more comfort to use?"

Item 8 also correlated with item 11 ($r = .88$, $p < .01$). Item 8 said, "Would you feel comfortable with a different system of attaining a meal on the lunch line?" and Item 11 states, "If you presently avoid the lunch line because of the ticket system, would you reconsider eating meals under a computerized system?"

Finally, Item 9 correlated with item 11 ($r = .52$, $p < .01$). Item 9 asked, "Would a swipe card (similar to a credit card) provide more comfort of use?" and Item 11 asked, "If you presently avoid the lunch line because of the ticket system, would you reconsider eating meals under a computerized system?"

The results of the managers survey showed that 25% of the managers felt that a point-of-sale system using student tickets effective, but 75% believed it to be ineffective. Yet three-quarters of the managers felt that the present ticket system was cumbersome and 88% believed that students were embarrassed to use the ticket. All managers felt that a point-of-sale system would increase student lunch participation, that they would accept a computer system in place of the ticket system, and a computer system would increase accuracy in record keeping. They also felt that keeping inventory and tracking of student eligibility would be easier.

What Did the Information Mean?

Data collected revealed that an overall a move to a computer system would be a positive step forward, and that a computerized system would increase employee productivity and enhance the management process of the food service department.

Chapter 5

Conclusions

Conclusions, Implications, and Further Study

In analyzing the responses of the food service directors from various New Jersey schools, the intern has concluded that for districts the size of Camden (about 20,000 student), using a computer system can improve record keeping and limit fines and penalties to a minimum. Production time can also be saved, as can district money when audited by the state or federal government. Work flow is improved, task facilitation is improved, and there is even increased satisfaction from the staff.

From the managers' surveys I have concluded that while there is reluctance on the part of many mangers, they believe there are positive aspects related to a computerized system and are willing to try one. They believe that students would make more use of food services, if a computer system were available.

This is confirmed by the student surveys. Both students who presently use food services and those who don't, expressed the opinion that that they would make more use of the school cafeteria if the embarrassing ticket system were eliminated.

Conclusion

With all of the evidence collected, it is difficult not to conclude that the acquisition and use of a computer system for the Camden School District is both desired and needed. A computerized food service system will help alleviate many of the administrative problems related to productivity, and management. In addition, the assumption is that student involvement in the high school lunch program will also increase, with computers discreetly identifying one's eligibility status.

Implications

The district's food service managers see the need for a computerized system. Those who responded to the survey gave definite indications that service to students and management would be greatly enhance with computer use in the department.

Computerization of the food service department will also generate more student participation in the high school lunch program. Students will be more inclined to eat a cafeteria lunch if they are not "signaled out" as free lunch recipients.

Intern Leadership Development

The intern was able to strengthen her leadership skills by communicating with a diverse population of individuals. Interaction with food service directors, managers and students gave the intern an opportunity to "listen to" and "hear" many viewpoints. A leader must be able to listen and then act.

The intern's knowledge base of research methods was also refined. The skills gained in evaluating and interpreting the data has helped the intern to understand and appreciate the relationship between research and decisionmaking.

The intern's computer skills were strengthened throughout the entire implementation of this project. Leaders facing the challenges of the 21st century, must have substantial knowledge on the various uses of computer applications.

Finally, the leadership skills developed by the intern will aid in the professional growth and development of the district's food service department.

The Change Brought About in the Organization

This project has challenged the top school administration, school board members and the Director of Food Services to consider implementing a computerized system in a department that has been plagued with financial and management problems. In addition, the food service managers now feel that their opinions and suggestions are valued by their supervisor. Too often, workers feel that their opinions mean little or nothing. By participating in this study, the managers realize that they are important entity of the food service and district organization

Recommendations for Further Study

The intern will pursue further study so that she will be able to recommend the best software and hardware packages for the food service department's needs. It is imperative that choices be made that will provide cost effective and managerial changes that will

benefit the food service department as well as the district.

References

Association of School Business Officials International (1987). The School Food Service Handbook (A Guide fpr School Administrators) viii.

Begalle, M. (1997, January). Technology for Today & Tomorrow. School Food Service and Nutrition, 51 (1), 26-32.

Dervarics, C. (1992, January). Cafeteria Computers. Feeding America's Future, A9-A-13.

DeBurgh, R. (January, 1998). Hop on the information superhighway-and get into the fast lane. Speeding into the future with today's technology leaders. School Food service & Nutrition, 52(1), 30-38.

Dove, M., & Fisher, S. (1998, Spring). Eight Technology Issues For School Boards. School Planning & Management.

Gould, R., and Barrett, B. (1998, July). Post-, then Pre-Evaluation of Computer Classes for School Food service Personnel. The Journal of Child Nutrition & Management, 2.

Hamstra, M. (1997, March). Marriott Finds no Cookie Cutter for Technology. Nations Restaurant News, 31 (10), 110.

Jordan, W.R. (1993, January). Using Technology to Improve Teaching And Learning. Florida: Office of Science Education Improvement.

Liddle, A. (1994, September). Harnessing technology for a 21st century competitive edge. Nation's Restaurant News, 28 (37), 80.

Savino, A. (1997, February). Lunch Online. The American School Board Journal 184 (2), 46-48.

Shafer, L. and Einhorn, E. (Eds.) (1998). School lunches made cashless but not free. Philadelphia Inquirer Newspaper.

APPENDICES

A

Survey

Computer Use in Food Service Departments in New Jersey School Districts

1. What is the total enrollment of your district ?
   a. below 15,000
   b. 15,000-24,999
   c. 25,000-34,999
   d. 35,000-45,000

2. Does your food service department use computers ?
   a. yes
   b. no

3. If the answer to question number 2 is yes, for what function(s) are computers used in your food service department ?
   a. point-of-sale recordings
   b. student eligibility (free and reduced price accountability)
   c. filing monthly state and federal reimbursement claims
   d. calculator inventory
   e. tracking of food sales/consumption
   f. manufacturer bidding
   g. purchasing
   h. troubleshooting
   i. inventory
   j. production
   k. staff work schedules
   l. correspondence to parents
   m. district-to-kitchen communication
   n. other

4. Has your computer system saved production time ?
   a. yes
   b. no

5. If the answer to number 6 is yes, what is the percentage of saved staff time ?
   a. 5-19 %
   b. 20-49 %
   c. 50-74 %
   d. 75-100 %

6. Has your computer system saved your district money ?
   a. yes b. no

7. If the answer to question number 6 is yes, how much money was saved ?
   a. under $5,000
   b. $5,000-$9,999
   c. $10,000-$20,000
   d. more than $20,000

8. Has the use of your computer system saved your district money during district auditing of food services ?

a. yes
b. no
c. does not apply

9. Has the use of your computer system saved your district money during state auditing of food services ?

a. yes
b. no
c. does not apply

10. Has the use of your computer system improved the work flow of the food service staff ?

a. yes
b. no

11. If the answer to question number 10 is yes, what is the estimated percentage of work flow improvement ?

a. under 10%
b. 10%-25%
c. 26%-50%
d. 51%-75%
e. 76%-100%

12. Is the food service staff satisfied with the computer system ?

a. yes
b. no
c. indifferent

13. Has there been improved task facilitation ?

a. yes
b. no

14. Was there staff retention after computerization of the food service department ?

a. yes
b. no

15. Was there downsizing of the staff of the food service department after computerization of the food service department ?

a. yes
b. no

16. What hardware was purchased for the food service department ?

a. Personal Computers
b. Macintosh
c. desktop
d. laptop
e. hand-held
f. other (please specify type)_____

17. What software was purchased for the food service department ?
    a. ACCU-SCAN
    b. Alpha-Microsystems
    c. Bon Appetit Software Systems
    d. CAFS
    e. CompuHELP
    f. HORIZON SOFTWARE
    g. LunchByte Systems
    h. SNAP Systems, Inc.
    i. other_____

18. What was the total cost of your computer system ?
    a. $25,000
    b. $26,000-$50,000
    c. $51,000-$75,000
    d. $76,000-$100,000
    e. $101,000-$200,000
    f. $201,000-$300,000
    g. $301,000-$400,000
    h. over $400,000

19. What is the total cost of your software package ?
    a. under $5,000
    b. $5,999-$6,000
    c. $6,999-$7,000
    d. $7,999-$8,000
    e. over $8,000

20. On a scale of 1-4, how would you rate your computer system ?
    a. 1- poor
    b. 2- fair
    c. 3- good
    d. 4- excellent

Food Service Department Manager's Survey

Please read the questions below and tell us how you feel by circling YES or NO.

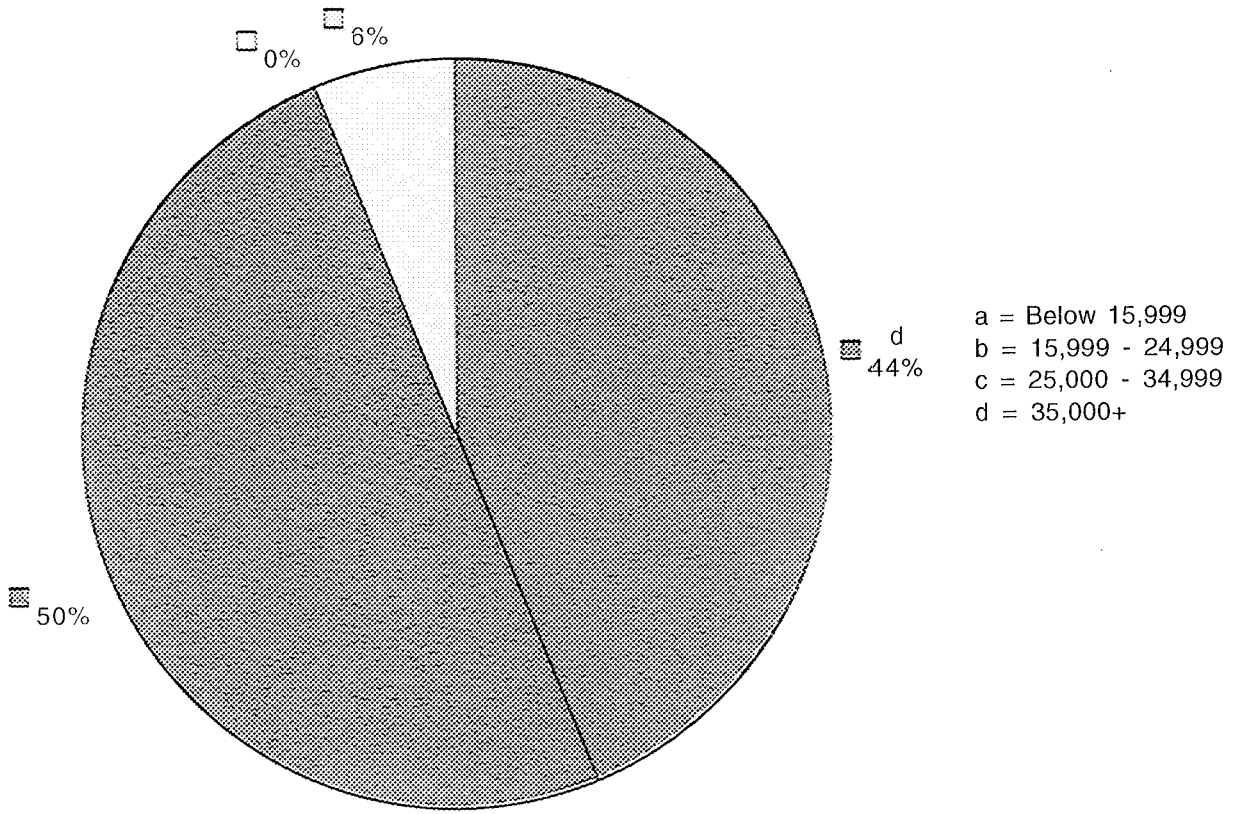
1.	Do you consider point-of-sale using student tickets effective ?	YES	NO
2.	Do you consider the ticket system cumbersome ?	YES	NO
3.	Do you feel the students are embarrased to use tickets because of negative connotations associated with them ?	YES	NO
4.	Do you feel a point-of-sale computer system would help to increase lunch participation ?	YES	NO
5.	Do you feel that the students will readily accept a computerized system ?	YES	NO
6.	Do you feel that computers would increase accurate monthly state paperwork and eliminate over/underclaims ?	YES	NO
7.	Do you feel that Inventory would be easier with computer use ?	YES	NO
8.	Do you feel that tracking student eligibilty (free and reduced pricerd students) would be simplified with the use of a computer system ?	YES	NO
9.	Do you feel that computerization of all phases of the entire foodservice department would be a positive move ?	YES	NO
10.	Do you feel that computerization will increase production ?	YES	NO
11.	Would you be willing to try this project in September ?	YES	NO

Food Service Department Student's Survey

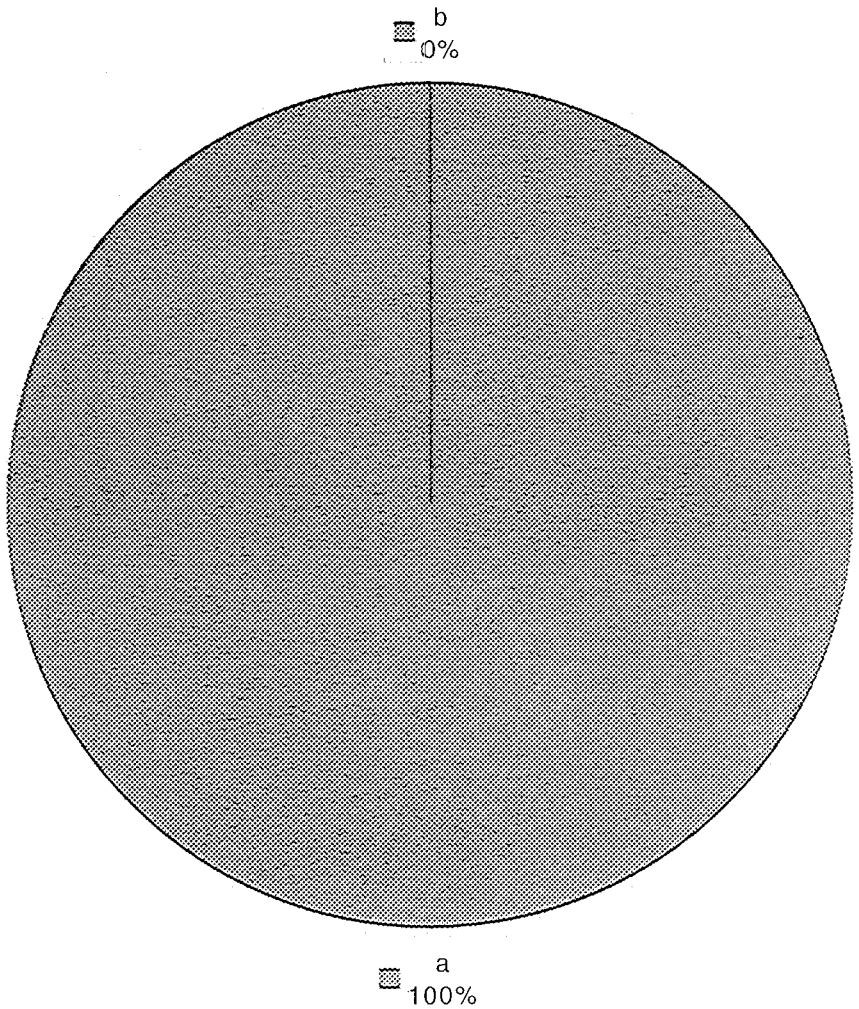
Directions: For each of the items below, please circle the response that best describes your opinion by answering YES or NO

1.	Do you eat school lunches ?	YES	NO
2.	Do you consider the meals to be tasty ?	YES	NO
3.	Are most of your meals purchased on the a la carte line ?	YES	NO
4.	Are most of your meals attained through the lunch line using meal tickets ?	YES	NO
5.	Do you pay for meals on the a la carte line when the same items can be received with a lunch ticket ?	YES	NO
6.	Do you consider a lunch ticket to be an embarrassment and therefore avoid using it ?	YES	NO
7.	If you have no money to purchase a la carte items, do you still avoid eating with a lunch ticket ?	YES	NO
8.	Would you feel comfortable with a different system of attaining a meal through the the lunch line ?	YES	NO
9.	Would a swipe card, similar to a credit card, provide more comfort of use ?	YES	NO
10.	Would punching your student identification number on a computer be preferred over the swipe card ?	YES	NO
11.	If you presently avoid the the lunch line because of the ticket system, would you reconsider eating meals under a computerized system ?	YES	NO

Enrollment by District

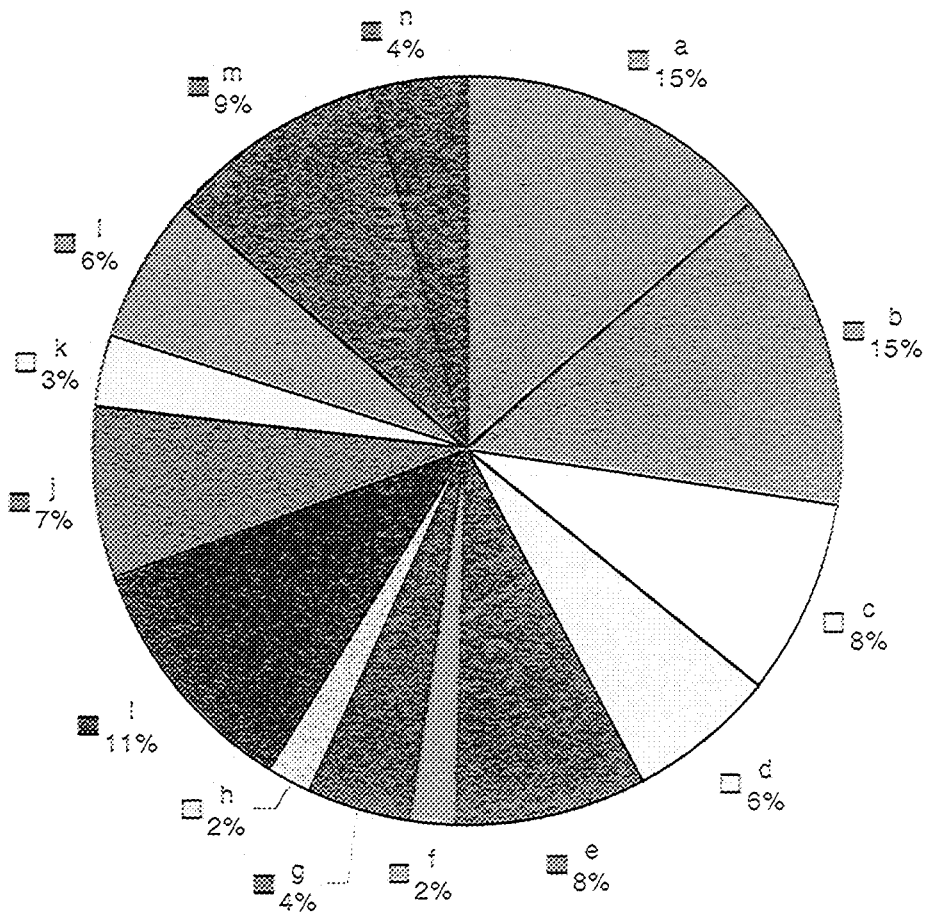


Use of Computers



a = Yes
b = No

How Computers are Used



a = Point of sale

b = Student eligibility

c = Reimbursement claims

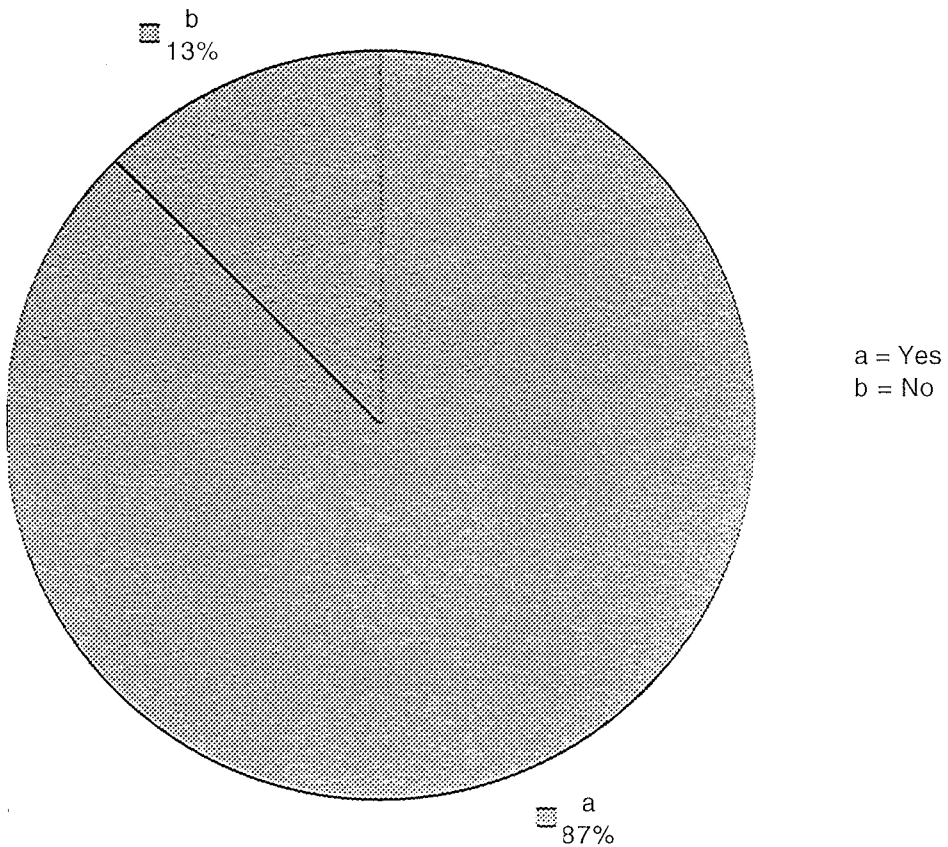
d = Calculatory inventory

e = Tracking of sales & consumption

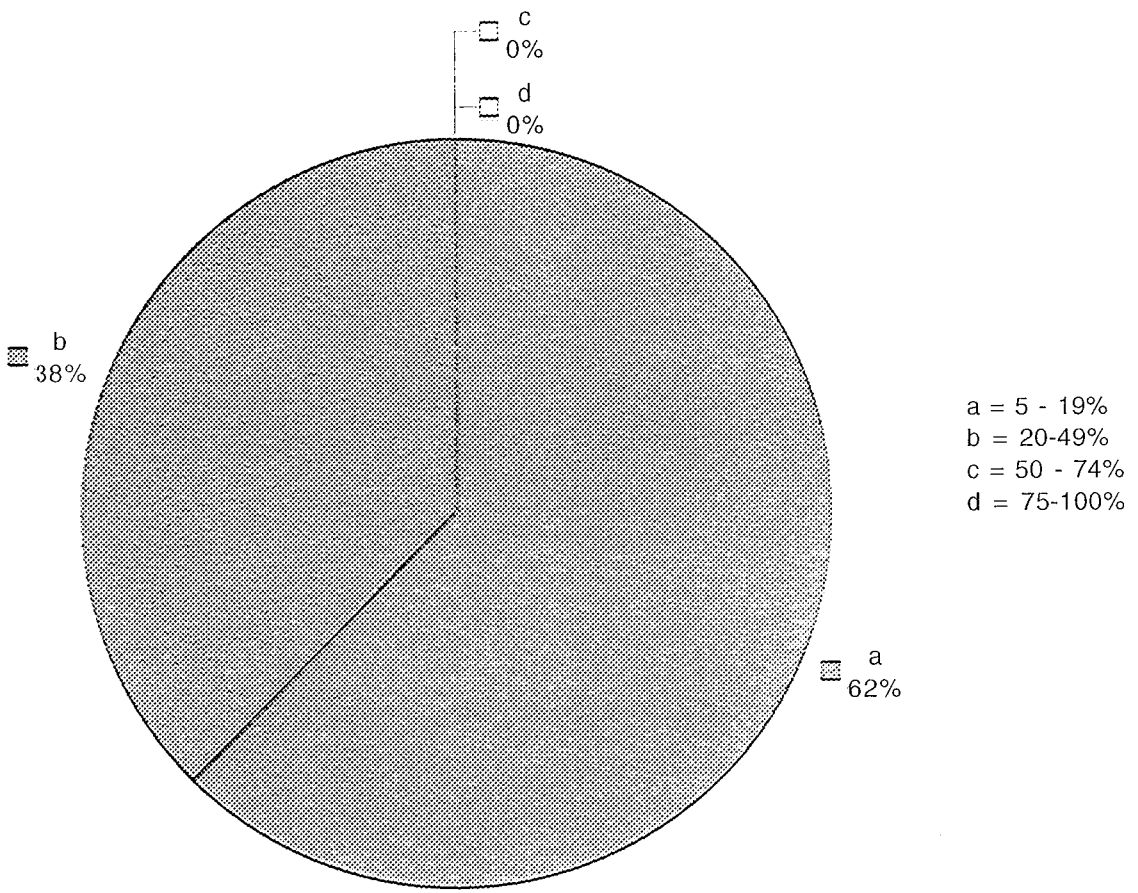
f = Manufacturer bidding

g = Purchasing
h = Troubeshooting
I = Inventory
j = Production
k = schedules
l = correspondance
m = communications
n = other

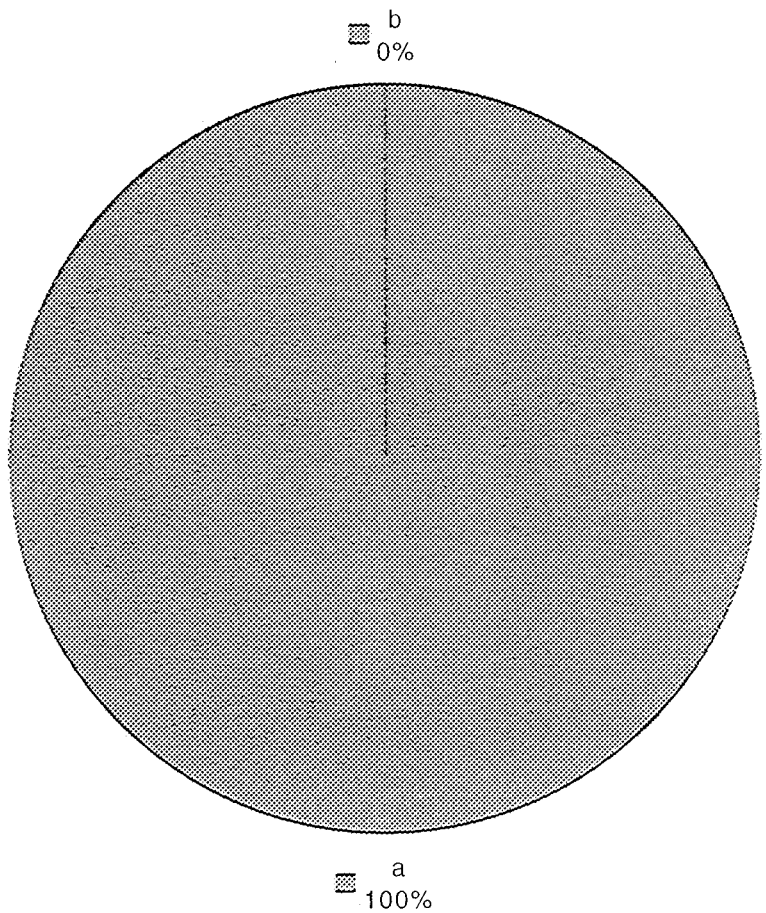
Saved Production Time?



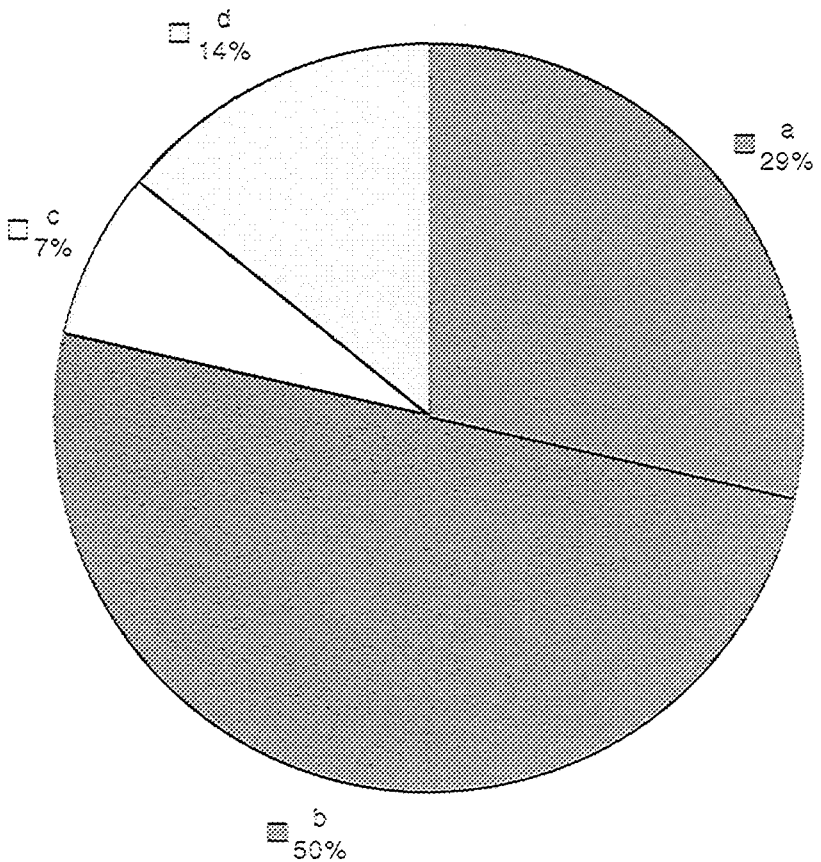
Percent of Time Saved



Saved the District Money?

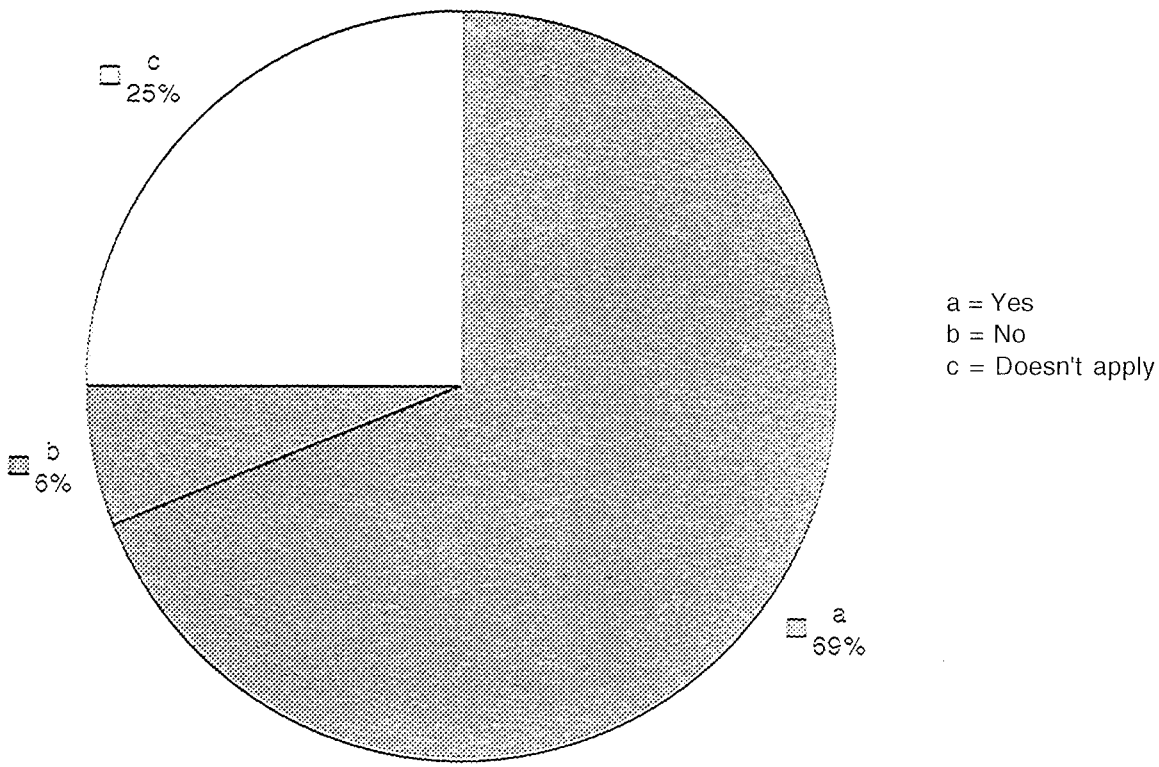


How Much was Saved?

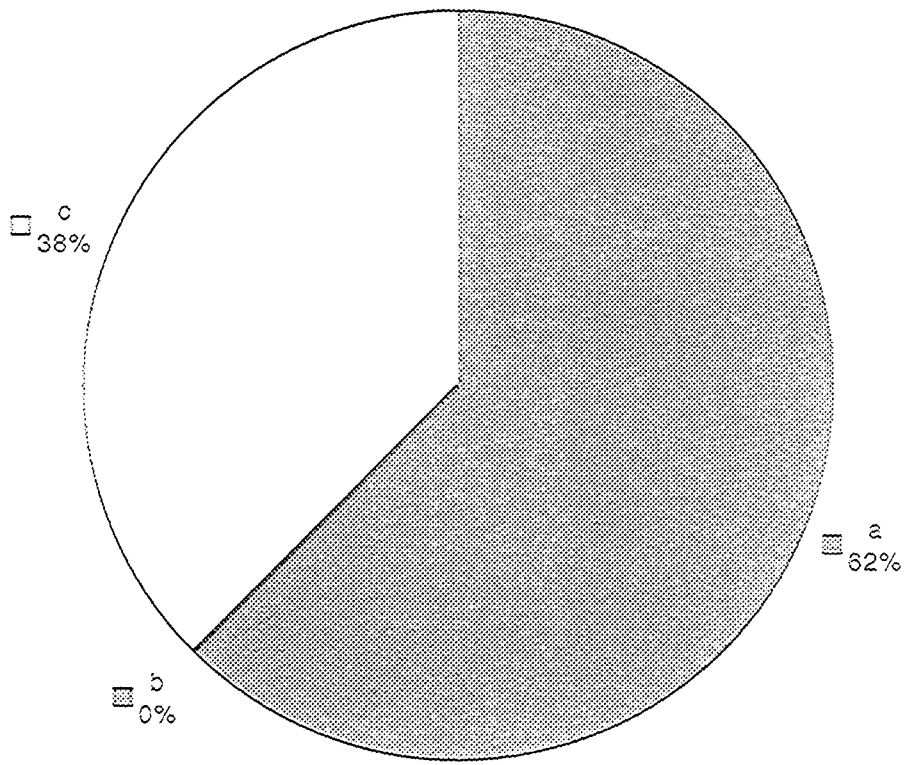


a = Under $5,000
b = $5,000 - $9,999
c = $10,000 - $20,000
d = More than $20,000

District Auditing Savings?

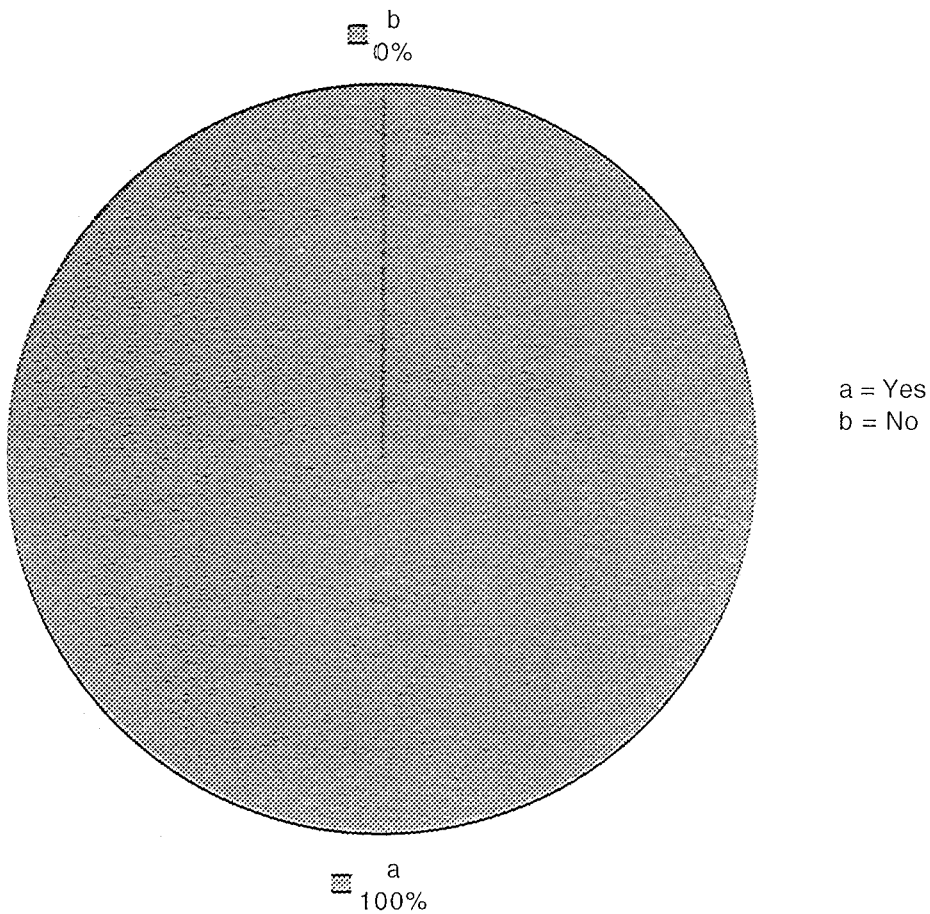


State Auditing Savings?

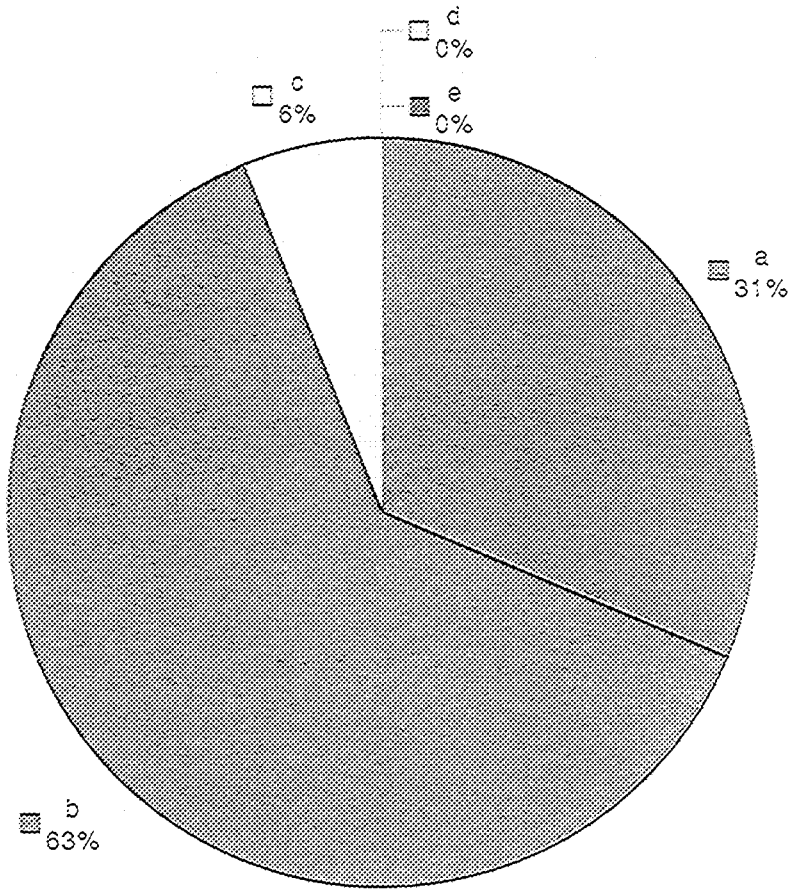


a = Yes
b = No
c = Doesn't apply

Improved Work Flow?

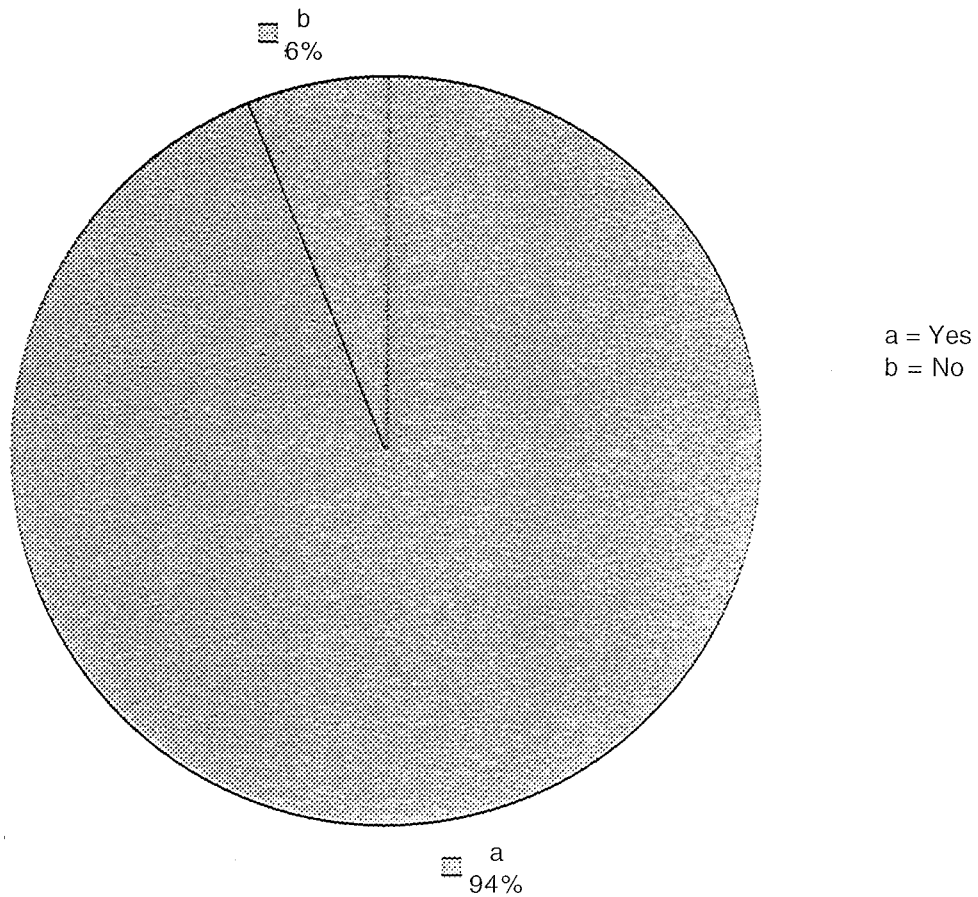


Percent of Workflow Impovement

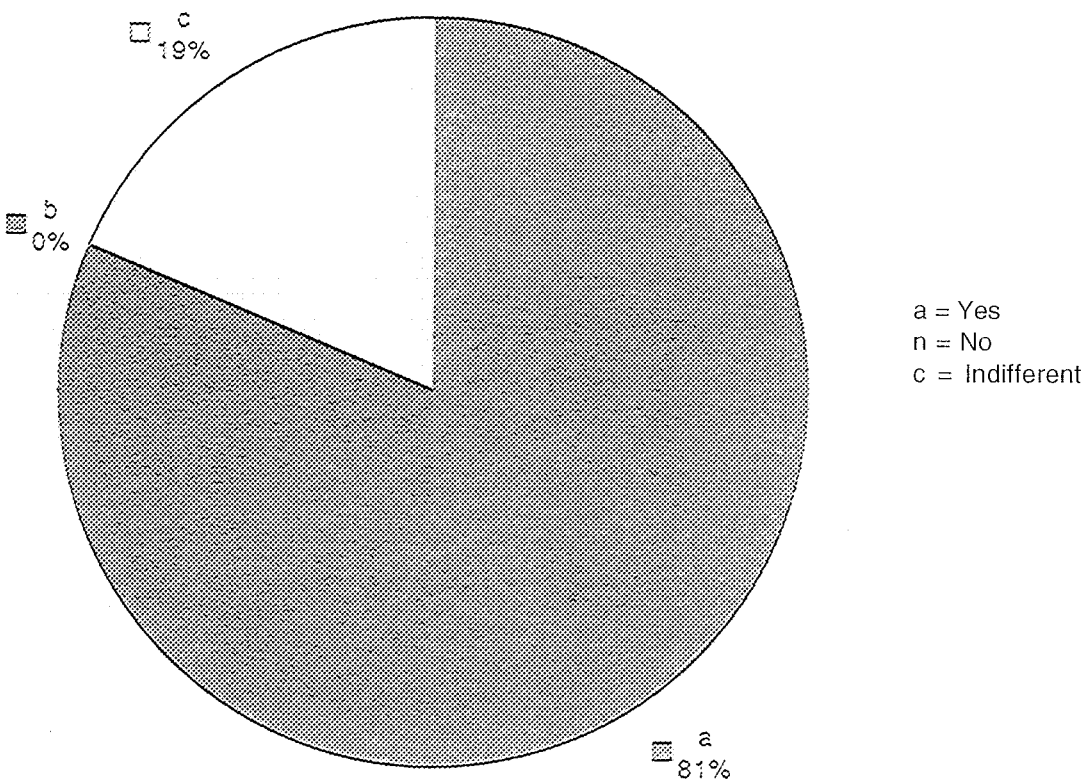


a = Under 10%
b = 10% - 25%
c = 26% - 50%
d = 51% - 75%
e = 76% - 100%

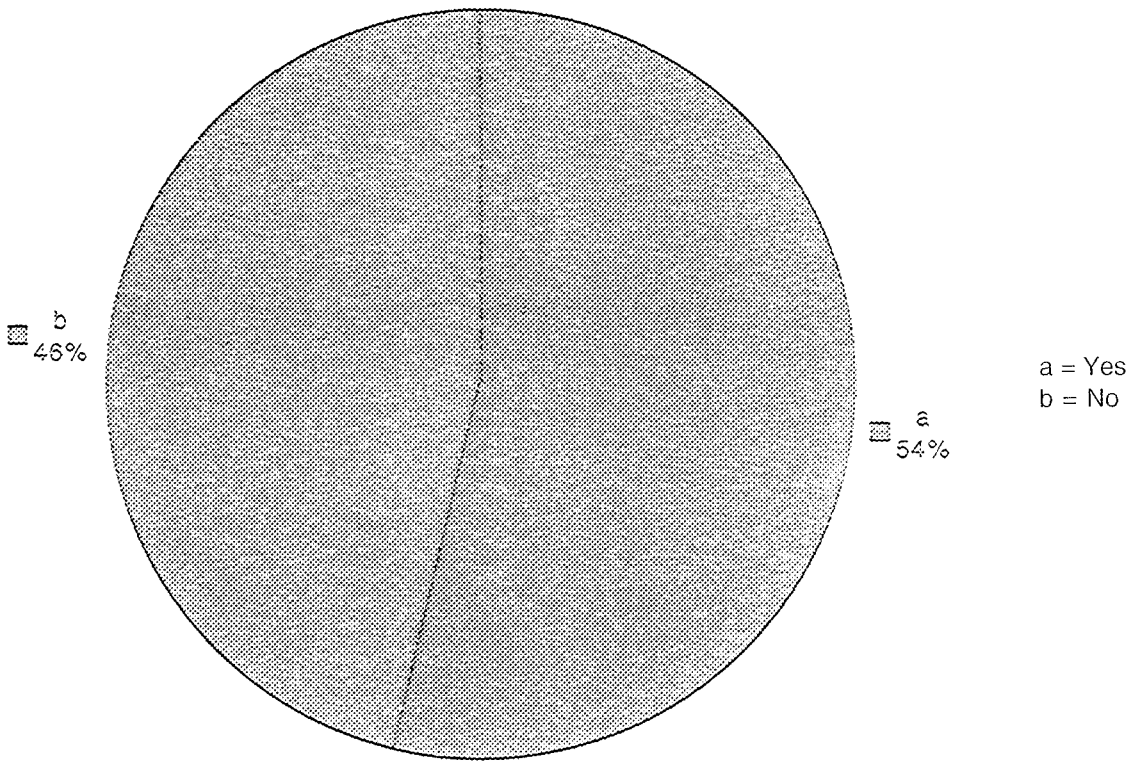
Improved Task Facilitation?



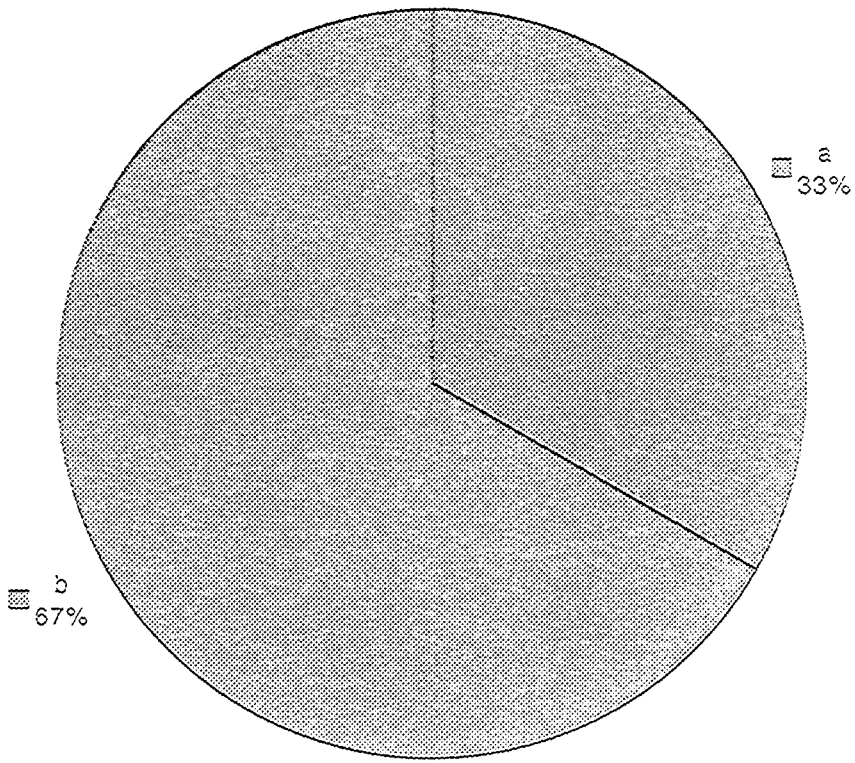
Satisfaction of Staff with System?



Staff Retention?

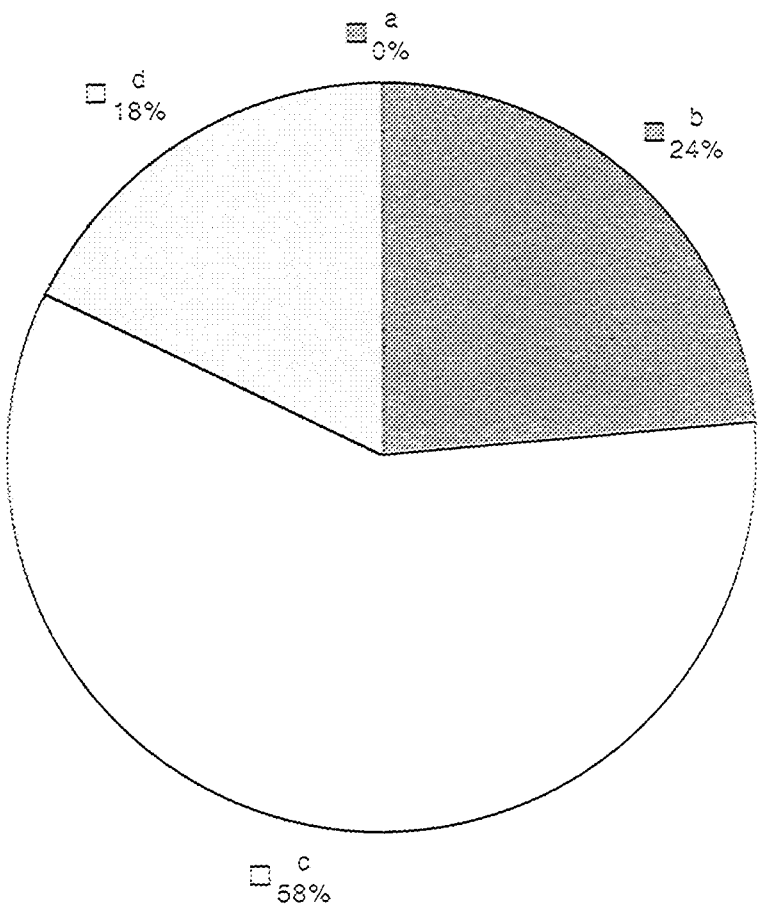


Staff Downsizing?



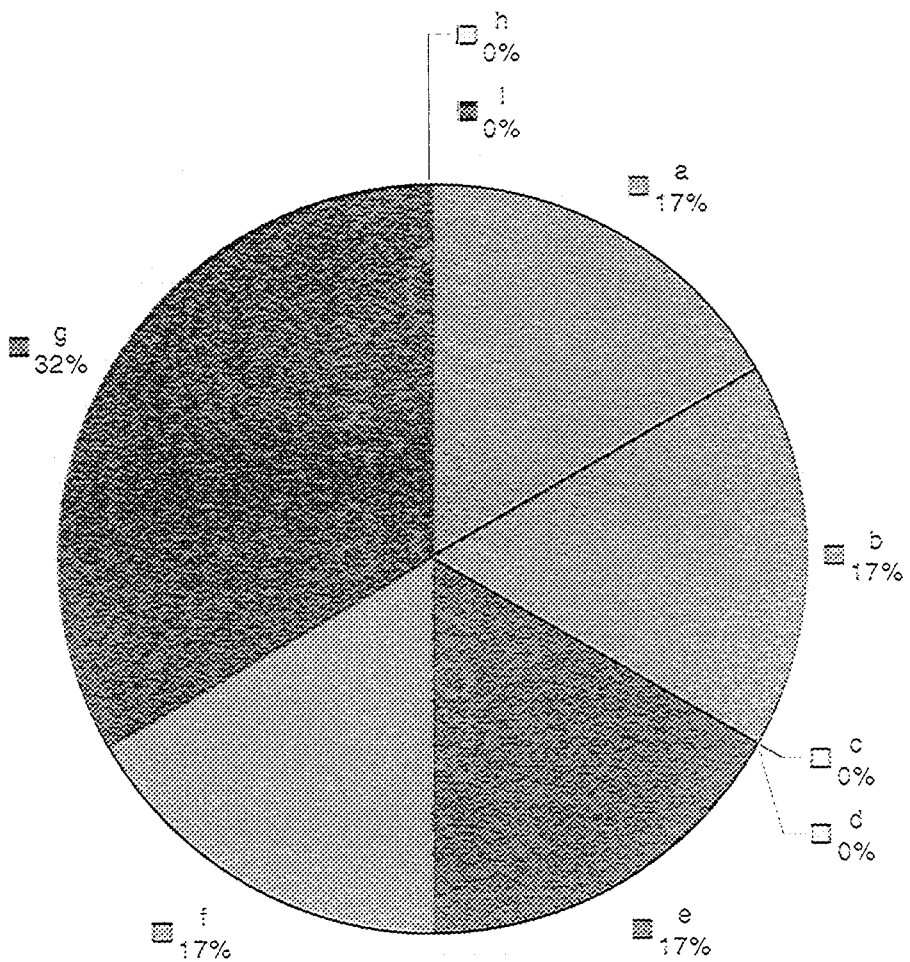
a = Yes
b = No

Overall Rating



a = Poor
b = Fair
c = Good
d = Excellent

Software Used



a = ACCU-SCAN
b = Alpha-Microsystems

c = Bon Appetit
Software Systems

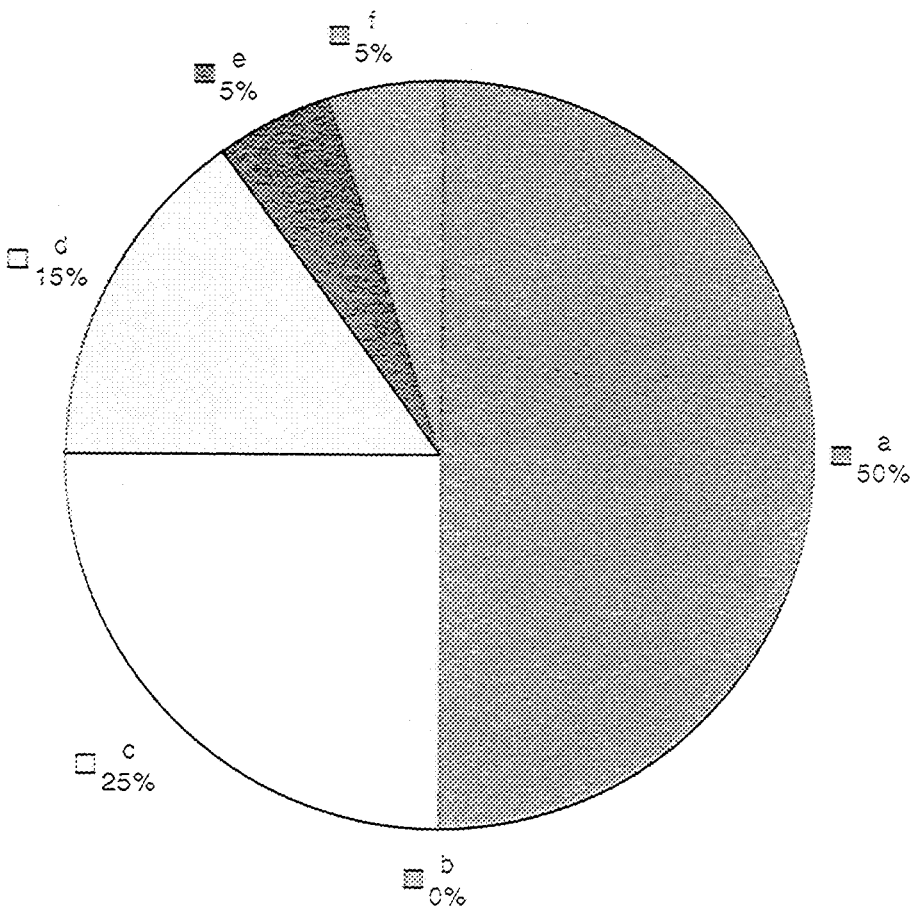
d = CAFS
e = CompuHELP
f = HORIZON SOFTWARE

g = LunchByte Systems

h = SNAP Systems, Inc.

I = Other

Type of Hardware



a = Personal Computer

b = Macintosh Computer

c = Desktops
d = Laptops
e = Hand-held devices

f = Other

Biographical Data

Name	Donna M. Houston
Date and Place of Birth	February 25, 1951 Bronx, New York
High School	James Monroe High School Bronx, New York
Undergraduate Degree	Bachelor of Arts Biology Cheyney State College Cheyney, Pennsylvania
Graduate Degree	Master of Arts School Business Administration Rowan University Glassboro, New Jersey
Present Occupation	Operational Specialist for Food Services Camden Board of Education Camden, New Jersey

Page 52

"Filmed as Bound"