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An internship experience in educational leadership at Vineland Public Schools

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AN INTERNSHIP EXPERIENCE IN EDUCATIONAL LEADERSHIP

AT VINELAND PUBLIC SCHOOLS

by
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A Masters Thesis

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ABSTRACT

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An Internship Experience in Educational Leadership
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Dr. Ronald Capasso
School Business Administration

The intent of this study was to show how the Vineland School District could increase its efficiency to meet staff requests to solve computer problems through the use of a help desk system. The intern distributed surveys to district employees before the help desk was implemented. After the help desk system is in place, post questionnaires will be distributed defining satisfaction levels in service and support and determine the effectiveness of a help desk.

There were two major research instruments used in the study for the Vineland School District, surveys and personal interviews. The purpose behind both of these instruments was to gather as accurately as possible, opinions about the benefits of developing a help desk from district employees.

It was found that the district was well overdue for change. Nearly everyone polled wanted to see more resources allocated for hardware and software support, and additional staff training. Frustration was evident at every level, and it was obvious the district needed a little guidance in meeting its technology objectives.

MINI-ABSTRACT

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The intent of this study was to show how the Vineland School District could increase its efficiency to meet staff requests to solve computer problems through the use of a help desk system. With the creation of a help desk, the district recognized the need to support its technology infrastructure and has made an investment in its future.

Acknowledgment

The intern wishes to acknowledge the guidance and support from the following individuals: The district's Superintendent, School Business Administrator, Supervisor of District Technologies, district principals, supervisors, staff members, Computer Maintenance Service Technicians, and the newly appointed Help Desk Specialist.

Table of Contents

Chapter 1

Focus of the Study

A school system, like any business in today's world, needs computers to assist with the many chores and tasks that keep it running. Computers are most effective when they are kept in top running form and controlled by knowledgeable personnel. To fall short in the areas of maintenance and training makes for poor productivity, low moral, and is not fiscally sound. Since computers are used in both the administrative and educational arenas, the school business administrator will be affected by how well they are managed.

The concept of a help desk, a mini department staffed by personnel, whose main purpose is to assist district personnel with computer software and hardware questions, got its start in November, 1996. It is the Vineland School District's answer to a plaguing problem of how to manage 2000 PCs spread out among twenty-two buildings.

Project Product Outcome

The intent of this study is to show how the Vineland School District will increase its efficiency to meet staff requests to solve computer problems through the use of a help desk system. The intern plans to distribute surveys to district employees before and after the help desk is implemented. Pre- and post-questionnaires will be distributed defining satisfaction levels in service and support and determine the effectiveness of a help desk.

In addition, the intern will examine and understand methods of assigning personnel and resources to accomplish the creation of a help desk system and to utilize scheduling techniques for the coordination of tasks to maximize personnel and resource utilization to accomplish this goal.

The intern will complete journal entries documenting the progress of the development and implementation of a help desk. Overall, it is hoped that the school district will increase employees' perception that the help desk is a useful system to solve computer problems.

This thesis goes beyond the scope of just tracing the evolvement of a help desk. The concept of a technology department has been around since the first PCs were delivered en mass back in 1992. This thesis will trace the path of the technology department (Slated to form in late 1997 - early 1998), and the creation of a help desk, which the department will oversee. At the present time, it is planned that the technology department will fall under the direction of the school business administrator.

Definitions

The following is a list of terms, acronyms and specialized vocabulary with their respective definitions. This vocabulary is found throughout this thesis, and explained for the benefit of the reader:

ASBA Assistant School Business Administrator.

Fiber Fiber Optics. Very high speed communications glass wire used for data, voice and video transmission.

Help Desk	A department staffed by personnel who render assistance to anyone within an organization who needs help with computer hardware or software.
LAN	Local Area Network. Computers connected in a room or school.
Microsoft	One of the world's largest software companies. Makers of Windows software, Office 97, and Works integrated programs
MIS	Management of Information Systems
PC	Personal computer
Protocols	A set of technical rules on how something should be done.
SBA	School Business Administrator. (Chief Financial Officer)
Server	The main computer in a LAN. Holds programs and data. Controls the rest of the PCs.
T1	High speed data telephone line. Used for high speed Internet access.
WAN	Wide Area Network. Connected computers between buildings.

Limitations of the Study

Although the information provided in this thesis would be beneficial to other school systems, there are certain limitations to this study:

The success of the help desk will largely depend on how well it is supported by both administration and staff. Proper support for staffing and resources is necessary, and it must be utilized and accepted by the end users (teachers, administration, staff). The level of computer knowledge among the teachers and staff will vary.

Regardless of wether the help desk becomes a reality or not, there will be computer assistance available in some form or another in the near future. The popularity

of the Internet is increasing on a daily basis and there will no doubt be web resources available to district personnel. As a matter of fact, there are definite plans to network the entire district and tie the schools together. Someone will take it upon themselves to publish help on the web and make it available for the district to use.

Setting of the Study

The mission statement of the Vineland Public Schools includes a reference stating that all children can learn. Vineland has extended this opportunity to its residents since 1861, and today, it still offers its children the opportunity to be lifelong learners.

Vineland is situated halfway between Philadelphia and Atlantic City. At 69 square miles, it ranks as New Jersey's largest city in land area. It is the home of the Dandelion and Eggplant Festivals, and where Welch's Grape Juice and the Mason Jar got their start.

Its diverse population is comprised of 73% white, 11.5% black, 14.3% Hispanic and 1.2% Native American, Asian, and European. (Cumberland County Profile: 1990 Census). This cultural blend is quite a contrast from its original mix of European and Anglo-Saxon immigrants that inhabited Vineland over 135 years ago. The appeal that Vineland had in its beginning is still evident today. Farming originally attracted the Europeans, and years later spurred a large Spanish population growth.

Although Cumberland County ranks as one of the lowest per capita income ($12,963) and has one of the highest unemployment levels in the state, there are projections that show improvement in the areas of construction and labor. A federal prison and local mall expansions are underway, and evidence of new construction around town is obvious to many visitors.

The Vineland School District's ties with the city's 54,673 residents are very strong. The Public Schools are the second largest employer with just over 1,300 employees. Over 9,000 students attend the 18 schools. Distance between the schools provide a challenge and have forced the school system to maintain one of the largest school bus fleets in the state.

In the past, the Vineland School District has struggled with its growth to meet the state's requirement of comparable education. Vineland has been labeled a "special needs" district for several years and has had its share of budget defeats. Despite all of this, Vineland Public Schools has one of the lowest per pupil costs, and has tried to maintain high standards for its students.

The Vineland School Board's budget for 1997-8 is 93 million dollars. The district is funded 73.8% by state aid, 19.6% comes from local taxes, 3% from federal sources, and the balance of .6% is received from other sources. The school tax rate is $1.05 per $100 of assessed property value. (Vineland Public School Calendar)

In the past, Vineland has struggled with its budget. In 1996 the Vineland Public Schools placed a bond referendum for a taxpayer's vote. It was defeated 5 to 1. Our current superintendent (who was not hired until 1997) states the reason it was defeated is because of the demographic change that has taken place over the last several decades.

In 1960, the percentage of households in America with school age children was 65%. Today that figure has dropped to 20%. With numbers this low, it is no wonder we see budget defeats. Support for our schools today will come from parents, school employees, and businesses (who realize the value of a well-educated worker).

Strong schools will entice people to move into the area. This is priority for both the city and the school system. It is the focal point in several of the superintendent's speeches and the Economic Development Committee of the city.

Recent court mandates and state guidelines have merged the school district and city into a mutual partnership that has great positive potential. Vineland is slated to receive 10.6 million dollars because of the Abbott 4 district ruling by the State Supreme Court. This influx of money will allow the district to make improvements in curriculum, staff development, hire additional personnel, decrease class size and improve technology, all at no cost to the taxpayers.

This development has made many school employees hopeful about reducing class size, increasing the number of counselors, and devoting resources to staff development. The superintendent is very committed to this plan and has communicated this to the public on many occasions.

Another initiative that the school board is working on will hopefully strengthen ties with the city. A Wide area Network (WAN) will begin early next year and will link all school buildings, major city installations, the county college, and the public library. This is a major undertaking that will cost over one million dollars and take eighteen months to complete.

The advantages of this project go way beyond simple economics. Besides owning the fiber, the school board will enjoy high speed communications for voice, data and video that surpass the best rental arrangements available on the market. Both the school board and city are very optimistic and will no doubt see other partnerships develop from this project.

Vineland is doing its best to keep pace with technology. However, the struggle is made more difficult because Vineland lacks a technology department. It is hard to fathom that a district so large with so many computers never had a department to oversee it all.

In 1992, a coordinator was hired to make some computer purchases for a few schools. As the number of computers increased it was necessary to reassign maintenance personnel to carry out repairs. In 1995, a third technician was hired and the coordinator position was upgraded to supervisor. In 1997, a network coordinator was hired to supplement the supervisor in the areas of networking, staff training and software support. To date, all three of the maintenance personnel and the network Coordinator do not work for the supervisor on paper.

The new superintendent has made the lack of a technology department a public issue (within the district) and has garnered support from virtually all employees district-wide. Plans to create the technology department are now top priority and an outside consultant was recently hired to assist in recommending solutions to accelerate its creation and help with its structure.

The establishment of a technology department will impact several areas under the SBA. The department will be staffed with former maintenance personnel who will be re-assigned under an educator. The district's five year plan will be modified and will reflect the changes made by the creation of the department. There are plans to establish a help desk, which will most likely fall under the newly formed department. At the present time, it appears that the technology department will fall under the direction of the SBA.

Importance of the Study

Many school systems (and school business administrators) are forced to grapple with the problem of how to effectively manage hundreds or thousands of PCs in their district. By documenting one district's journey through the process, it is hoped that other districts will benefit from Vineland's experiences. Vineland is on the threshold of new technological age. There is great potential for improving the technology services through additional funding. Plans to formulate and staff a technology department are underway, and district staff training is now a high priority. This is a perfect opportunity to introduce a help desk system.

The concept of a help system is not new in schools. It is gaining more popularity as schools struggle with the addition of new PCs and sophisticated software. If schools want their staff to keep pace with society and justify the thousands spent on the latest technology, they must provide a mechanism to keep it operating. The help desk is one such concept. Although it may come in different forms and mediums, it still nonetheless has an importance in our schools.

A help desk will greatly enhance the Vineland Public Schools in many areas:

- Consolidate software and hardware requests to one agency.
- Provide a central point of contact for hardware and software questions asked by teachers, staff and administration.
- Provide feedback to the technical training department for instructional needs.
- Reduce the cost for commercial technical support from outside the district.

- Provide improved management of operations, inventory, and accountability.

In addition to the above areas, the help desk concept may well expand beyond the district in which it will serve. Recent talks between the city of Vineland and representatives of the school system have revealed the need for frequent information exchange between MIS departments. Similar software, hardware, and protocols will greatly enhance the overall effectiveness of the WAN. Additionally, the Vineland Public Schools would be in an excellent position to provide staff training and technical support (Help desk as well) to the employees of the city of Vineland. This alone is a phenomenal opportunity!!! This exchange of ideas, visions, and strategies has not taken place for many years. It is long overdue and desperately needed.

Organization of the Study

It is the intent of this Thesis to cover the creation and track initial growth of the Technology Department. It will focus on the introduction of a help desk to improve the management of computer operations. Chapter Two will contain the review of literature, which will support the district's need of a formalized technology department. The help desk concept is an important concept within the department. Chapter Three will review the procedures and outline the design of the study. Chapter Four will present the research findings and describe several observations. Chapter Five will detail conclusions, implications, and provide for further study.

Chapter Two

Review of the Literature

"Students entering the Vineland Public School district today will graduate and live in the 21st century. Their needs will be dictated by a rapidly changing, technology based society. The responsibility of all school districts is to prepare students to live in this rapidly changing world." (Cochran, 1997) This statement was made in the executive summary portion of Vineland's modified technology plan. The plan's purpose is to provide recommendations for the effective use of appropriate technologies to enhance learning of all students. The plan also provides for staff training and support, since it is necessary for the staff to utilize this technology effectively.

A very important part of any technology plan is the support component. After reviewing several technology plans, it is a foregone conclusion that a built-in support system is essential for effective and efficient technological operations. Unfortunately, many school districts have neither the financial or human resources to provide full support in the areas of staff development and technical services on a large scale. Most make due with what they have. Vineland's technology infinitives are very ambitious and will require a more sophisticated support system. This need was identified in the technology plan and will be addressed within the next five years.

Since the concept of an actual help desk is fairly new for educational institutions, we must turn to the corporate world for appropriate research. Virtually all major corporations have a support system to assist employees with technology. At one time, company employees relied on the Information Services (systems) department for answers to their questions. (Tunick, 1997) As the use of computers became more wide spread, the department grew until it became too cumbersome to handle both computer operations and support the PC base in the company. This division lead to the creation of a separate department that just handled PC based problems. Today, even corporations like Computer Curriculum Corporation, an educational software company, has two help desks. One handles questions concerning administrative software, and the other supports the customer base. (Resnic, 1997)

School districts may or may not have elaborate financial software programs to handle payroll or student data. Some districts privatize these services. But all districts have computers in the classrooms and the administrative offices. This equipment will need servicing and the employees who use them will require assistance from time to time. Although the servicing can be handled by a third party, someone must keep track of the equipment and schedule the maintenance. One or two people can most likely handle a small district, but beyond that, a larger support system must exist to handle the load.

Once it is established that a help desk support system is needed, it then becomes a question of how sophisticated it must be. This will obviously depend on what the help desk must support.

On the corporate level, a help desk support system may service the needs of thousands of employees in several locations, hundreds of miles apart. Large companies like IBM utilize a large staff and very sophisticated software to control equipment and solve employee problems. This has led to the development of help desk software, which can costs thousands of dollars per user. Many of the large corporations like Microsoft, IBM, and McAfee, have developed software to answer and track software and hardware questions, schedule computer maintenance, dispatch in-house technicians, provide access to WEB resources, and link huge data bases. Since this software is both expensive and sophisticated, seminars are offered to explain their features and offer suggestions on how to best integrate the program within the support areas.

School systems like Vineland must first examine and analyze who and what the help desk will support. Most school district technology plans reviewed indicate support is necessary on all levels: Administrative (main office personnel, support staff), technical staff, teachers, secretaries, and students. Support will also be necessary in the following areas: Hardware (repair, upgrades, use of), software, network operating systems, administrative, and academic applications.

Since funding is usually limited in many school districts, the help desk support system may be required to handle all of the above. This is especially problematic because of the scope of what must be covered. Even lumping hardware and software support together in a district the size of Vineland with 1600 computers can keep a team of several individuals very busy.

This situation existed in Vineland until very recently, and the results prompted the hiring of a software/networking specialist. This alleviated some of the stress on the technicians, but it is far from ideal.

Handling a district the size of Vineland is not an easy task. To complicate matters further, Vineland's technology plan calls for additional networking, Internet access and a joint venture with the city for a fiber optic cable deployment. This agreement with the city will require a close working relationship and perhaps a duplication of support services. The duplication of these services may appear to be counter-productive, but redundancy within the system has proven very beneficial in past cases. Furthermore, the county technology plan calls for a redundant Internet connection (Vineland will most likely be one) and it is likely an Intranet of sorts will include help desk support.

Recent talks between city officials and district personnel revealed the possibility of a joint help desk system and a network of training sites identified for staff development. An added benefit to a consolidation of services would be the standardization of hardware specifications, software platforms, and network protocols. The mutual benefits to both parties will be well worth the long wait for the inter-service agreements to return from the lawyers.

Once the help desk concept is agreed upon, and the target areas for support are identified, the next task is to examine who will staff the help desk and what resources are needed to operate it. Once again we must look at who the help desk will serve. In Vineland's situation, there is a broad spectrum of services that the help desk might provide.

There must also be close integration between what are now separate areas, provided everything falls under one department. Once everything comes together, it could very well prove too daunting for one small group to handle.

Many large corporations like Microsoft outsource their help desks. This has proven effective because of the costly overhead associated with maintaining a help desk system. (Pastore, 1997) The company that provides the services to Microsoft handles internal support for Microsoft employees and does it effectively. It frees up Microsoft to concentrate on their market base.

The question arises whether a school system can afford to outsource its help desk, provided its needs are large enough. If this is not practical, then another solution must be available. Outsourcing can take many forms. There are many sources for support aside from a third party vendor. There are help desk services available via the telephone and the Internet. Support can take the form of a yearly contract or on a call by call basis. These services can be provided by the companies selling the equipment (DELL, Apple) or software (Corel WordPerfect), or by an independent company.

Surveys indicate that some of these services can prove to be costly; sometimes as much as $35.00 per incident (Yakal, 1996), so it would be prudent to figure this into the formula when making initial purchases. Many districts either don't realize this or are locked into making purchases because of state contract advantages.

There are additional support avenues that can render assistance to supplement the help desk or pose as a resource prior to its arrival. The Web has proven to be an excellent source for product data, online help and Frequently Asked Questions (FAQs). There are

hundreds of useful web pages and technical papers (white papers), that can aide with software questions and assist with troubleshooting. The Web will no doubt provide the help desk with a valuable link to the technology world.

Currently, the Internet provides the school system with the ability to display home pages highlighting the achievements of students and staff at their respective schools. The Vineland Public School District has its own home page and links with five other schools in the district. After the Wide Area Network is established, all of the schools will have home pages, and these pages will reside on the district's web server. In addition, an Intranet is planned, and the help desk will have a direct link with it. (Dantinne, 1997) It is very conceivable that requests for hardware and software support will take the form of e-mail requests instead of pen and paper. A conversation with the head of the maintenance department revealed that they are currently investigating a similar program for routine maintenance requests.

Funding, or the lack of it provides the greatest stumbling block for the implementation of a help desk support system. As mentioned earlier, many districts will not or cannot commit the necessary resources to fully implement it. Is it conceivable to be able to provide adequate support with a limited staff? Although the results will not be as favorable, it certainly is better than nothing. Thanks in part to specialized software like Saber Software's Support Express, and Pannamation LAN Support, remote access can be used to solve software and network problems without escalating them to the department administrators. (Marts, 1995)

Some of this software is capable of troubleshooting and resolving problems all from one location. This would certainly be a boon for overworked or understaffed help desk departments.

Staffing the help desk support team is a job unto itself. In Vineland, it will most likely be the job of the Supervisor of Technologies to determine who will make up the support team. Help desk staff members must be courteous, capable of providing help on all levels, have a great deal of patience, and most of all be very knowledgeable in their area of expertise.

Perhaps the biggest concern for help desk planning is training. Properly trained staff members will allow for a smooth communication flow, happy clients, and a well patronized system. The Vineland Public School District has completed its new five year plan for technology. Its mission is to prepare our children for the 21st century and prepare them for the technology challenges that await them in society. Back in the 60's, technology was more prevalent in the schools, today, many homes have more sophisticated equipment. (Kohn, 1997) For years, Vineland has been struggling to catch up with the outside world. It has made plans to update its facilities and technologies, and provide our children with the best possible education. A help desk support system will no doubt aide in keeping Vineland on the cutting edge of technology by providing assistance to administrators, staff and students on a daily basis.

Chapter Three

The Design of the Study

Creating the idea of a help desk is a simple matter; especially when a district the size of Vineland has an installed base of over 1800 computers and has just two people to answer questions about software and hardware. Getting management to take the next step and commit resources to this project is another matter. At a software review committee meeting in November 1996, the Assistant School Business Administrator (ASBA) first proposed the idea of creating a help desk that would assist teachers and staff adjust to a new software package (Microsoft Office) recently selected. Microsoft Office combines integrated word processing, spreadsheet, data base, and presentation products all in one package. Since there was some scepticism about selecting this new package for district wide implementation, and fear about the learning curve associated with it, the ASBA proposed the idea of creating a "Help Desk team" to assist questions relating to installing, configuring, and using the new software. In the end, the new software package (Microsoft Office) won out over WordPerfect (the other choice) and the idea of having a help desk was quickly forgotten.

In March of 1997, during a routine monthly meeting with the ASBA, the idea of creating a help desk resurfaced. During this four month gap between November and March there were no conversations regarding the help desk at all, so it appeared to be a

dead issue. Apparently the ASBA has not forgotten about the help desk, and still wanted it to become a reality. The group discussed the concept in more detail and there was talk this time about staffing it with one person and utilizing external resources for support. The idea was presented to the Business Administrator and received favorable comments. A small group of four individuals discussed who might staff the help desk and what resources could be committed to the project. The group consisted of the Assistant Business Administrator, a Systems Annalist, a Senior Programmer, and the Network Coordinator. The group determined that the help desk representative could be in place as early as mid-summer, and a review of help desk software should commence as soon as possible.

The summer of 1997 came and went with no final action being taken on formally establishing a help desk. In August, 1997, this internship project was approved and there has been a slow, steady renewed interest in finally establishing a help desk. Although it looks like some of the key players might change, the idea, none the less, is still alive and well.

It has been the intent of this research project all along to investigate, examine, and measure any and all means of establishing and supporting the creation of a help desk. In addition, measuring the customer satisfaction level achieved after the help desk is in place is also a product outcome.

The Development of the Instrument

There were two major research instruments used in the study for the Vineland School District, surveys and personal interviews. The purpose behind both of these instruments was to gather as accurately as possible, opinions about the benefits of

developing a help desk from district employees. The first survey conducted in September served two purposes: one was to give the district's technology consultant statistics on how the district viewed technology, needs, levels of computer expertise, training, and uses of technology in the classroom. The other served as data collection for this design. Another mini-survey was conducted in conjunction with interviews that would obtain a cross-sampling of employees in the district. The intent was to design an instrument that would gather as much information as possible. Although the aspect of anonymity is lost, it was believed the number of responses would be more or less guaranteed.

Sample

The surveys issued in September were sent to all teachers, administrators, other professional staff, board office support personnel, and any other staff members that utilized a computer for job-related duties. In all, over 800 surveys went out.

The interviews totaled twelve, and were representative of administration, teacher, secretarial members, and maintenance. These targeted areas probed deeper into the district's technology needs and provided data for the research design.

The original survey provided statistical information for developing goals and an action plan for the Vineland School District's Five Year Technology Plan. In addition, it was very useful in providing the intern with evidence showing the district's need for a help desk system. Follow-up surveys are useful to provide evidence that a help desk system is needed, and aid in providing the necessary statistics to defend its continued support.

The data analysis plan measured survey and interview responses on a sliding scale from least to most to better facilitate the broad range of responses anticipated. The actual data collected was useful in drawing conclusions about district goals and needs.

The adopted five year technology plan further supported the creation of a help desk system, and the district's technology advisory committees discussed the positive impact a help desk would have on the district.

Data Analysis Plan

It is particularly important to note that the help desk system will need time and financial resources to first create it, and later maintain it. Approval for the staff position(s) has received preliminary approval from the board of education, and funding can come within existing budgets. However, it has been past practice to re-approach the board for approval when substantial financial expenditures are made on a project, and the help desk software can be very expensive. It is very prudent for the proponents of the help desk system to utilize the instrument's data for support if and when the issue is revisited by the board.

How can one prove this project is having an impact in Vineland? First, by the hiring of a help desk person(s) and their approval by the board and second, the implementation of a help desk system (perhaps software driven). To effectively utilize technology, it must be supported. Even if an "official" help desk system is not established, the creation of a "real" technology department will have a positive impact on Vineland's ability to use technology.

Chapter Four

The Research Findings

In August, 1997, Dr. Dave Cochran, a North Jersey Technology Consultant, was asked by the Vineland Public Schools to examine how technology was being used instructionally and administratively. He was asked to assess the district's needs and work with the Vineland staff on its five year plan. Additionally, he served as advisor on the Superintendent's Technology Advisory Committee.

In September 1997, over 800 surveys were issued to administrators, teachers, aids, and other professional/administrative support staff. Its purpose was to get a feel for how technology was being used, assess the needs of the district, and to finds strengths and weaknesses associated with the current technology plan implementation. Additionally, thirty-two district employees were interviewed by Dr. Cochran to probe deeper into the problem areas.

The survey results provided useful data in this intern's research to provide support for a help desk system. It uncovered district needs, and showed weaknesses in the present structure. In reality, since there was no structure to support the technology that presently exists, it was obvious that support from the new superintendent would be necessary to see these recommendations through. The Superintendent's Technology Advisory Committee was formed in September to discuss and support these recommendations.

Originally it consisted of two groups; internal professionals from the district served on the first, and school representatives and community members made up the other. After a few meetings were held, the two groups merged into one so that cross-talk could be shared. It proved to be more productive and eased hardships among district representative who served on both committees.

In December 1997, the rewritten five year technology plan was submitted to the board of education and was approved. Subsequently, it passed county muster and now appears on the district's WEB page. A few of the recommendations listed in the five year plan were discussed and debated at the committee meetings and have been officially addressed by the district. In fact, some of the most important issues have been resolved in part by the infusion of Abbott IV funding. Vineland is one of twenty-eight special-needs districts who qualified for this special funding.

The need for the district to evaluate and possibly fund a help desk grew out of a meeting by the district's software review committee. People were frustrated with how the district responded to hardware and software problems. When the idea of a new software package was presented to the committee for voting, there were complaints about how it would be distributed and supported to all the schools and buildings. It was proposed that a help desk would be created to assist with the installation and configuration, and implementation of the new software. At the time that it was being presented, many people did not believe a help desk would be created because no technology positions existed outside of the one supervisor.

The help desk issue is very tightly woven into the infrastructure of a strong technology department. Since one did not exist in September, the help desk was still just an idea. However, there was strong consensus among the district that changes were necessary, and the results of the survey overwhelmingly supported this notion.

During the time of the survey, the district was hard at work preparing its plan for Abbott IV funding. One of the objectives within the plan called for the creation of a joint project between the city and the board to create a Wide Area Network to link all schools with the library and college. Funding would also be used to assist in creating a department to handle technology implementation and training. Included in this were four teacher/trainers. One of these teacher/trainers will also be responsible for the district's computer and technology "help desk." This "help desk" online operation will provide direction and answers to staff member's questions and problems.

As mentioned previously, the survey uncovered key issues that needed attention. Among them were: The need for better infrastructure to support technology that exists now and in the future, the need for a computer training program for the "professional staff", more equipment, and greater access to technology. The surveys clearly showed the need for reorganization of responsibilities and the addition of staff as soon as possible.

The results of the survey were tabulated and presented to the superintendent and technology advisory committee in October. Of the 428 who responded (out of over 800 surveyed) over 80% had access to a computer, thus validating the survey. Proficiency in common application software packages varied, and the vast majority indicated that they were weak in integrating technology into instruction. Furthermore, a small percentage felt

they were adequately trained, most were self-taught, and over half of those responding felt somewhat comfortable or less so about using a computer.

Individual interviews (32) were also conducted by Dr. Cochran and revealed frustration across the board. Further interviews were conducted by the intern independent of Dr. Cochran's research. The results of these findings are presented here.

The results of the interviews were not officially published in the five year plan, but the findings were used for making recommendations found in the appendix of the plan. Overwhelmingly it was found that a technology department must be officially created and staffed with technicians and professional staff. The lack of this department made it very difficult if not impossible to oversee the installation and maintenance of computer equipment and related software. Every principal interviewed spoke of the inadequacies of the current hardware repair program, and the apparent lack of cohesion between maintenance and the board office. Maintenance technicians complained of the lack of training received and the number of assigned technicians in relation to the amount of work requests. Many complained about the lack of training available for teachers and the lack of usable equipment (or any equipment at all). Both the surveys and interviews pointed out the need for a support structure, and a help desk is well suited to support both software and hardware for all users.

The topic of a help desk was listed under the heading of Support Staff and was included in the discussion at the District-wide Technology Advisory Committee meeting held on January 14, 1998. Although its mention did not raise a great deal of discussion, it did provide the opportunity for the intern to mention this research project and its potential to the district.

Both the Abbott IV and five year plans called for three departments in technology: Administrative services, Technical Services, and Educational Services. At this time, no one was sure about what department the help desk would fall under. But no matter how one looked at it, the idea of some sort of help desk was becoming etched in stone.

From a purely technical standpoint, justification for a help desk system can be derived from answering a few basic questions:

1. ***How many end-users are being supported?*** In the Vineland School district, there could be as many as 1500.
2. ***How many hardware platforms are being supported?*** Vineland uses the Apple IIe. Macintosh, DOS, Windows 3.1, 3.11, 95 and NT, PRIME, and Novell NetWare. Quite a few, and all are very different.
3. ***How many software programs are being supported?*** Vineland uses over 300 educational programs and related software. It has standardized on the Microsoft Office package but other programs are used on an individual level.
4. ***What is the level of end-user expertise?*** Many are computer literate, but everyone needs help now and then.
5. ***Is hardware tracking important?*** Tracking 1800 computer serial numbers is time consuming and a paperwork nightmare, especially when assets move around.
6. ***Are case histories important?*** Cohesion between hardware and software technicians is paramount and it would be helpful for a technician to be able to see a pattern of problems with a particular piece of hardware or software.

Vineland can benefit greatly from hiring a person (or persons) to manage the above. Currently, an attempt is being made to accomplish most of the above items, but it is a slow process and some of the parts may never be adequately addressed.

In January of 1998, the newly hired Superintendent for Personnel, Technology and Abbot IV implementation came on board and began making changes. On February 2, 1998, interviews were conducted and an individual was selected to serve as co-teacher/coordinator of Technology. This began the process of establishing a department to provide technical training to professional staff.

Chapter Five

Conclusions, Implications, and Further Study

When this thesis was first proposed, the idea of creating a help desk was more like a dream then a reality. In 1996, the Vineland Public School had over 1500 computers, no computer department, two computer repair technicians who worked for maintenance, and one person who was tasked to support it all. Through his efforts, along with a determined Superintendent, an understanding board of education, and the appointment of a new Assistant Superintendent, things are much different today.

Schools are often slow at making change. Tight budgets, conservative thinking, and basic resistance to change help slow the wheels of progress so it appears that years pass before schools catch up to the real world. It takes a lot of persistence from many people to change years of status quo. The bureaucratic layers are many, but forward thinking and seizing the right opportunities at the appropriate times chisel away the obstacles that block progress. In the end, everyone wins, especially the children.

Today, the Vineland Public Schools has a large technology department. It has two divisions, a technical department and training department. The Technical department is staffed by a supervisor, Network Administrator, Internet Specialist, and five computer service technicians. In addition, a computer support person will be assigned at each school to assist and coordinate with the technicians. The technology training division is staffed by a coordinator, three technology trainers, and a help desk specialist.

The development of this department took approximately eleven months, and could not have come to fruition if it weren't for several people. The major players included a consultant, who was instrumental in developing surveys, coordinating the new five year technology plan, and assisting the Superintendent with the department structure. In February, a new Assistant Superintendent for Personnel, Technology, and Abbott IV implementation was selected. With an extensive background in Technology, she has been very instrumental in bringing about change, and has helped to fine-tune the department. In addition to the major players, many other individuals had a hand in the development of the department and the creation of the help desk concept. The other people responsible include the Assistant School Business Administrator who first came up with the help desk concept, the computer operations personnel, the Supervisor of District Technologies, and a very persistent Network Coordinator.

Major Conclusions for the Project

At a regularly scheduled Board Of Education meeting on March 11th, a computer teacher from one of the middle schools was selected to be the help desk specialist. With the development of a Technology Department, the Vineland School District clearly recognized the need to support its technology infrastructure and has made an investment in its future. The help desk is one of many support mechanisms in place to assist administrators, teachers, and staff employees with solving hardware and software problems. It function may include, but not be limited to solving or routing hardware difficulties to the appropriate areas, answering software questions through the use of a

data base system, hardware and software asset tracking, and finally generating reports to appropriate departments. The help desk will provide a wealth of data that can be utilized for additional studies. Although many large scale businesses employ a help desk system, it is a very new concept to education. Vineland is unique in that it will be one of the first districts to include a full-time help desk support system to supplement its technology efforts. Vineland's help desk program will start out very small, and with a minimal investment. It will consist of one person, PC, phone and reference material. In time, it is anticipated that computer growth will necessitate doubling or tripling the help desk staff.

It is highly recommended that very careful planning goes into establishing a help desk center. A checklist for planning purposes can be found in Appendix B.

Leadership Development

The past year has provided many opportunities for leadership development. The Superintendent and School Business Administrator provided excellent guidance, and encouraged active participation in high-level meetings and discussions. The opportunity to contribute ideas, and make recommendations about spending thousands of dollars was very rewarding and provided a very valuable lesson.

A good leader is many things. Surrounding yourself with good people helps, but this is not always possible. A good leader should inspire and lead by example. A good leader provides opportunities for participation from his or her subordinates. Active participation leads to vested interest. The Vineland School District provides many opportunities for active participation: committees, Site Improvement Teams, Parent

Teacher Organizations, school board meetings, and open door policies with the top school administrators. It would be prudent for district employees to take advantage of these opportunities.

Change in the Organization

Perhaps the most difficult part of establishing a help desk was creating a technology department. It was obvious to everyone polled that the department was needed, but it was so difficult for the administration to make the moves. There appears to be no reason for this behavior other than the fact that the district was keeping its head above water. The organizational structure was virtually nonexistent, but the job did get done (but very slowly). (See Appendix D)

Today, with the new department in place, employees are much happier, and there is greater potential for improvement. The Vineland School District is moving ahead. An agreement between the City of Vineland and the Board of Education to form a high speed fiber network was recently reached, and other joint project are in the works. This alliance reflects a change in attitude between the city and the school board. Both parties wanted to cooperate, but financial issues and a communication breakdown long ago prevented progress. With continued state support, the Vineland School District is also looking at ways to improve technology and cut costs. The fiber optic network will assist in eliminating costly phone lines and switching. This forward thinking attitude was not evident just twelve months ago. With federal and state dollars earmarked for technology, Vineland is looking at becoming a leader, not a follower. Change has never looked so good!

The Need for Further Study

It is too early to determine the long term impact that help desk will have on the Vineland School District. Reports generated from the help desk will be used to analyze its effectiveness and help determine if a substantial investment for help desk administrative software and additional personnel is warranted. Addition surveys will need to be created and sent out to a cross-section of users to see if the help desk is meeting their needs.

The computer department is now a reality as well. During the next year the Vineland School District will add additional equipment and software. The Internet should be available to approximately one-half of the student body. An assessment of the district's support system (i.e., repair technicians, and network administrators) should be made to determine future needs. In addition, because of the accelerated growth in the technology area, the district's five year plan should be examined and updated as needed. The data collected from surveys, and reports generated from the help desk will aid in the modification of the technology plan.

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APPENDIX A

SURVEY RESULTS

Survey: Test Survey

Report: Frequency Bar

Date: Thursday, October 02, 1997

Respondent Selection:

Respondents in Batches:

VHS1: 61
VHN1: 56
AHS1: 4
DIS1: 34
LIS1: 1
MIS1: 27
RIS1: 57
BPS1: 22
CPS1: 16
DPS1: 27
LPS1: 9
JPS1: 13
WPS1: 24
BAK1: 8
EVK1: 6
MFK1: 12
OMK1: 4
AES1: 14
ITN1: 3
ADM1: 26
MTC1: 1
TRN1: 3

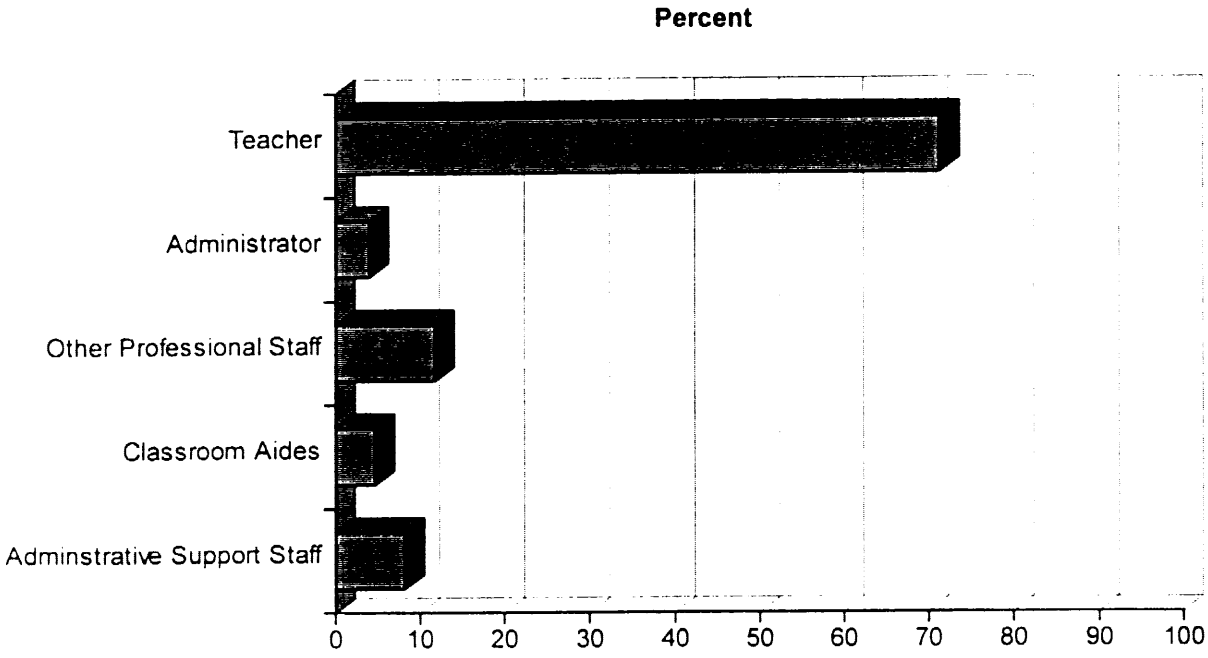
No subgroups selected.

Item: 1

Text: 1. Which best describes your position in Vineland Public Schools? a) Teacher b) Administrator c) Other Professional Staff d) Classroom Aide e) Administrative Support Staff

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Teacher	1	303	71.3%
Administrator	2	17	4.0%
Other Professional Staff	3	50	11.8%
Classroom Aides	4	20	4.7%
Adminstrative Support Staff	5	35	8.2%
		425	

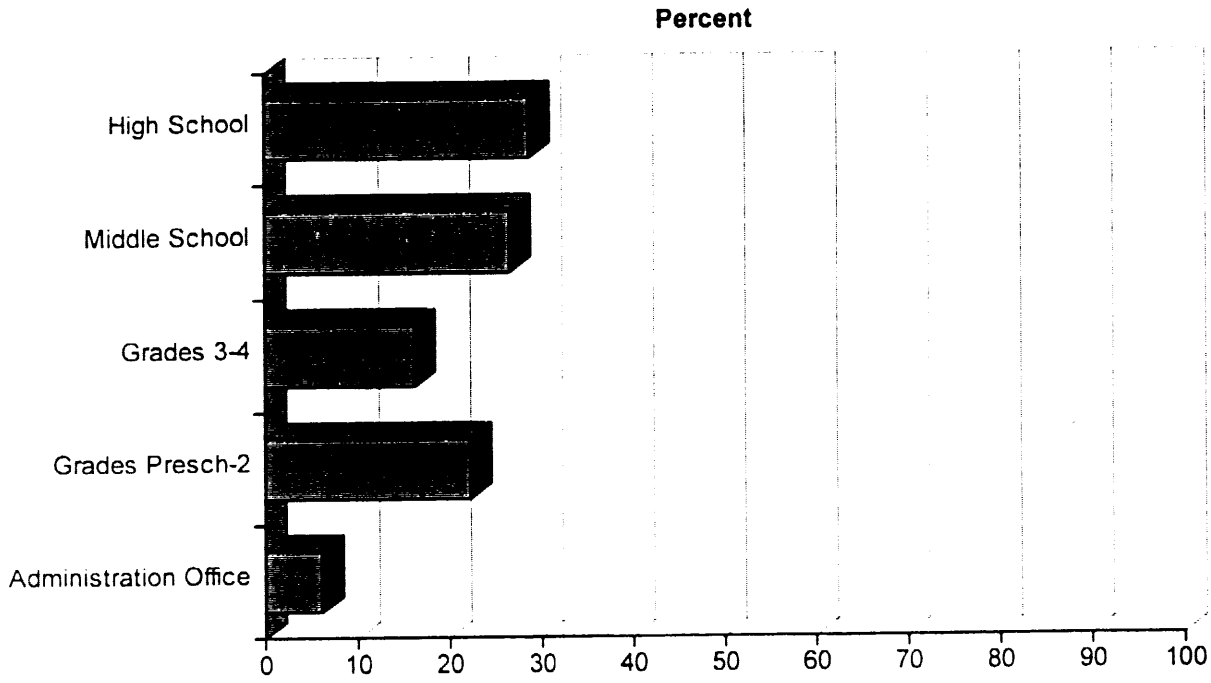
Mean: 1.75 **Std Dev:** 1.30 **Missing:** 3

Item: 2

Text: 2. At which level do you work? a) High School b) Middle School c) Grades 3-4 d) Grades PS-2 e) Administration Office

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
High School	1	135	28.7%
Middle School	2	125	26.6%
Grades 3-4	3	76	16.2%
Grades Presch-2	4	105	22.3%
Administration Office	5	29	6.2%
		470	

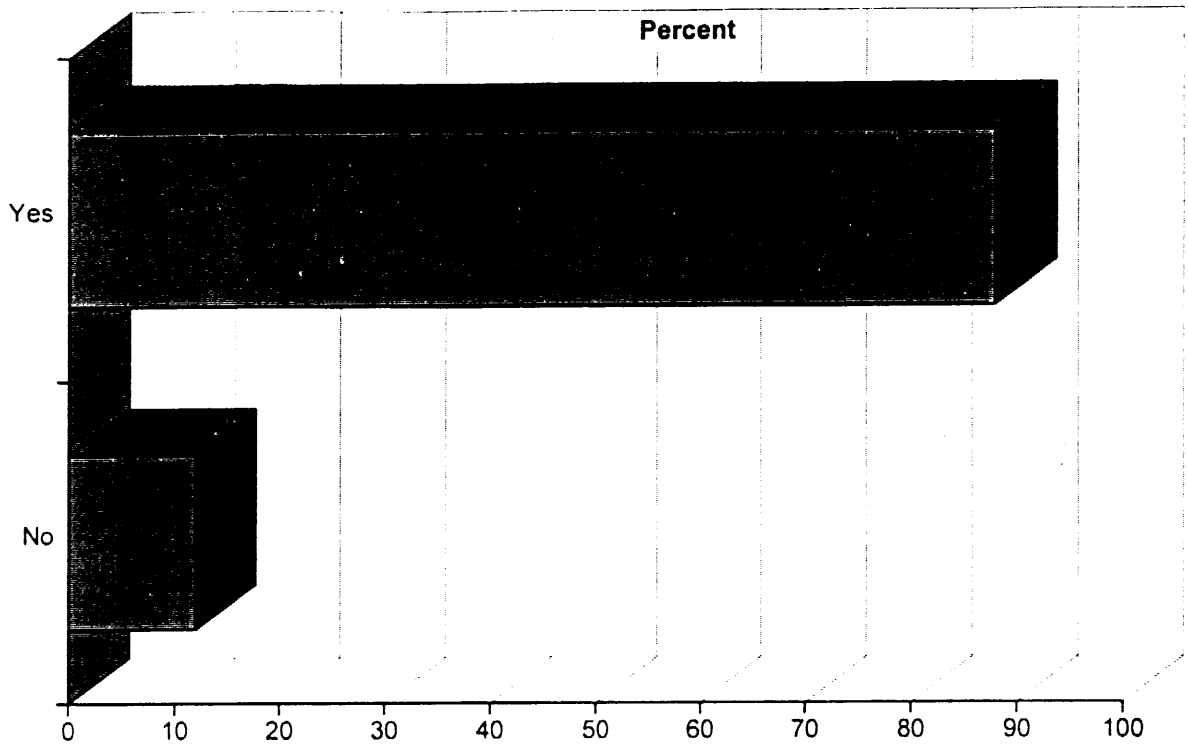
Mean: 2.51 **Std Dev:** 1.28 **Missing:** N/A

Item: 3

Text: 3. Do you have regular access to a computer at your work location? a)Yes b)No

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Yes	1	375	88.0%
No	2	51	12.0%
		426	

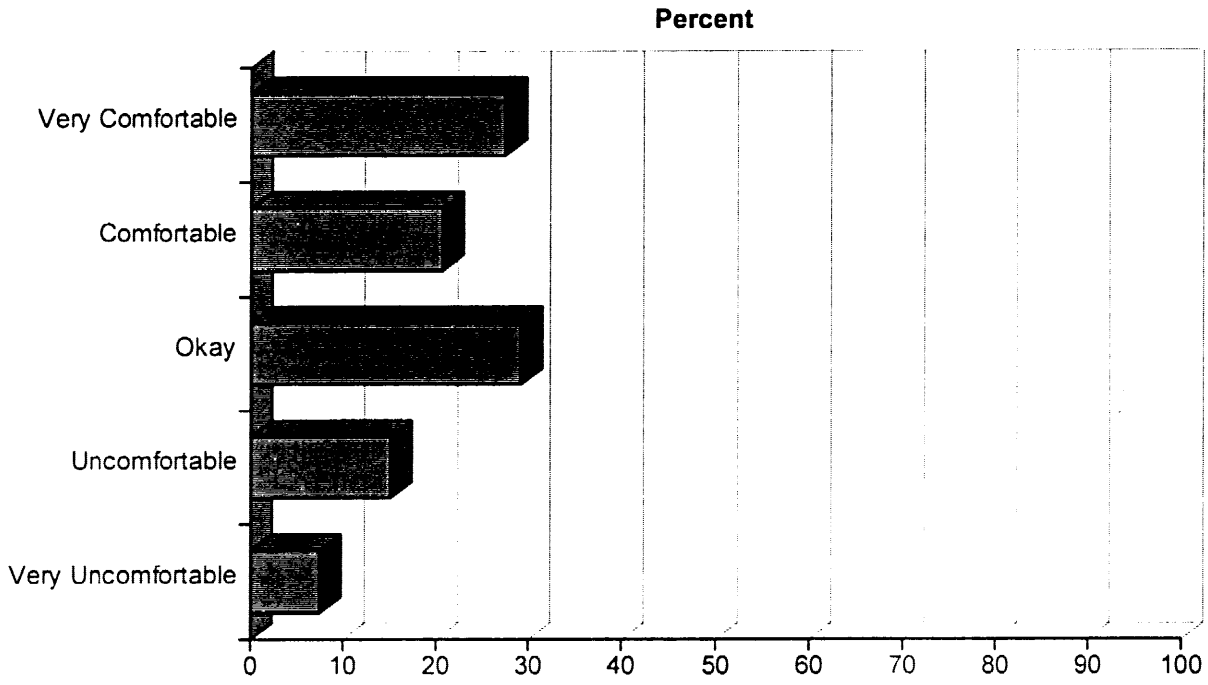
Mean: 1.12 **Std Dev:** 0.33 **Missing:** 2

Item: 4

Text: 4. How comfortable do you feel using the computer at your work location? a)Very comfortable b)Comfortable c) Okay d)Uncomfortable e)Very uncomfortable

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Very Comfortable	1	117	27.5%
Comfortable	2	88	20.7%
Okay	3	124	29.2%
Uncomfortable	4	64	15.1%
Very Uncomfortable	5	32	7.5%
		425	

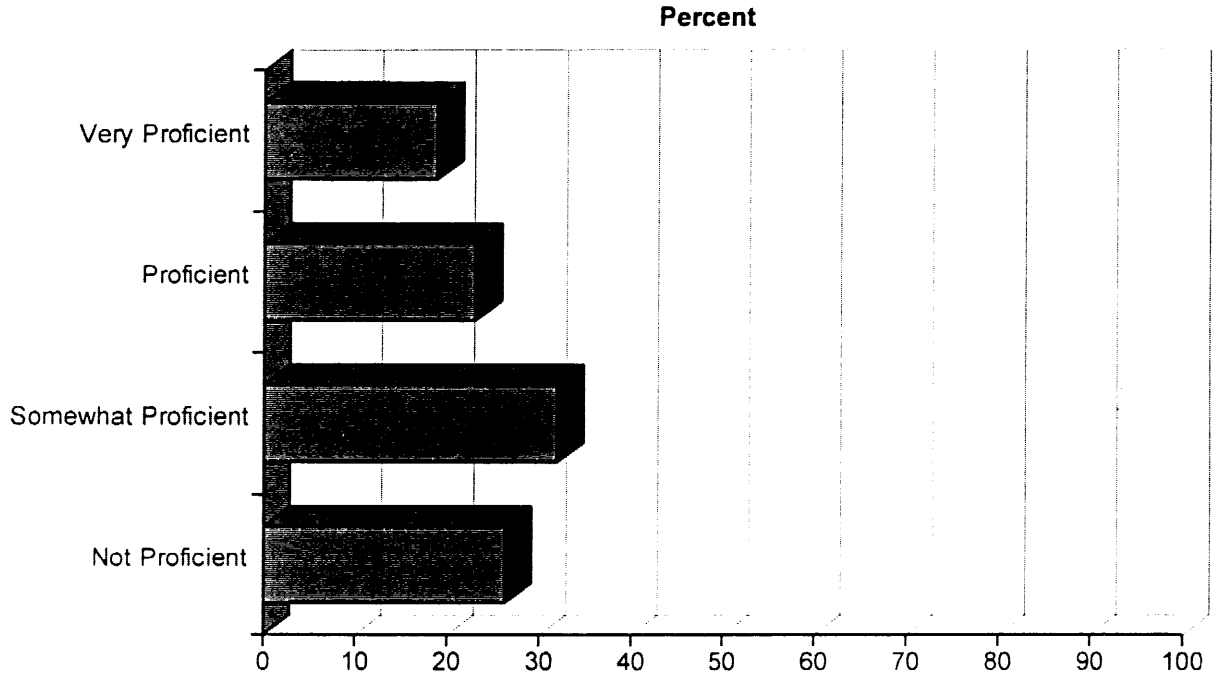
Mean: 2.54 **Std Dev:** 1.25 **Missing:** 3

Item: 5

Text: 5. How proficient do you feel using a word processing program? a)Very proficient b)Proficient c)Somewhat proficient d)Not proficient

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Very Proficient	1	80	18.8%
Proficient	2	98	23.0%
Somewhat Proficient	3	136	31.9%
Not Proficient	4	112	26.3%
		426	

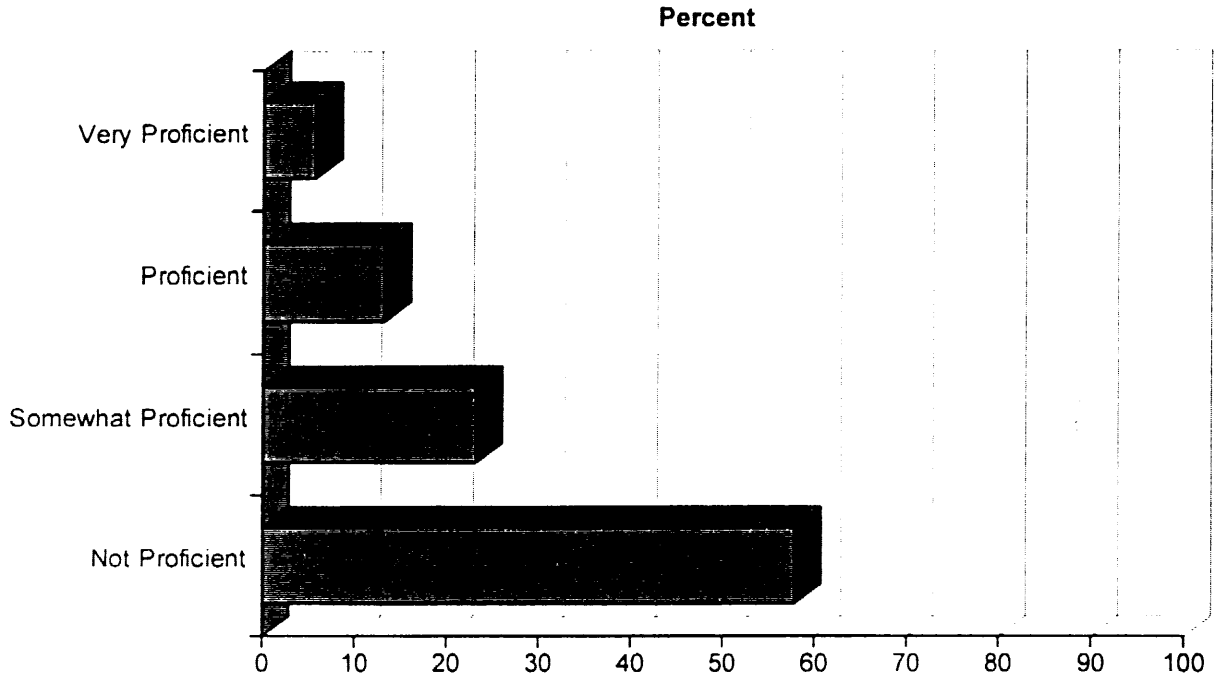
Mean: 2.66 **Std Dev:** 1.06 **Missing:** 2

Item: 6

Text: 6. How proficient do you feel using a database program? a)Very proficient b)Proficient c)Somewhat proficient d)Not proficient

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Very Proficient	1	24	5.7%
Proficient	2	56	13.2%
Somewhat Proficient	3	98	23.2%
Not Proficient	4	245	57.9%
		423	

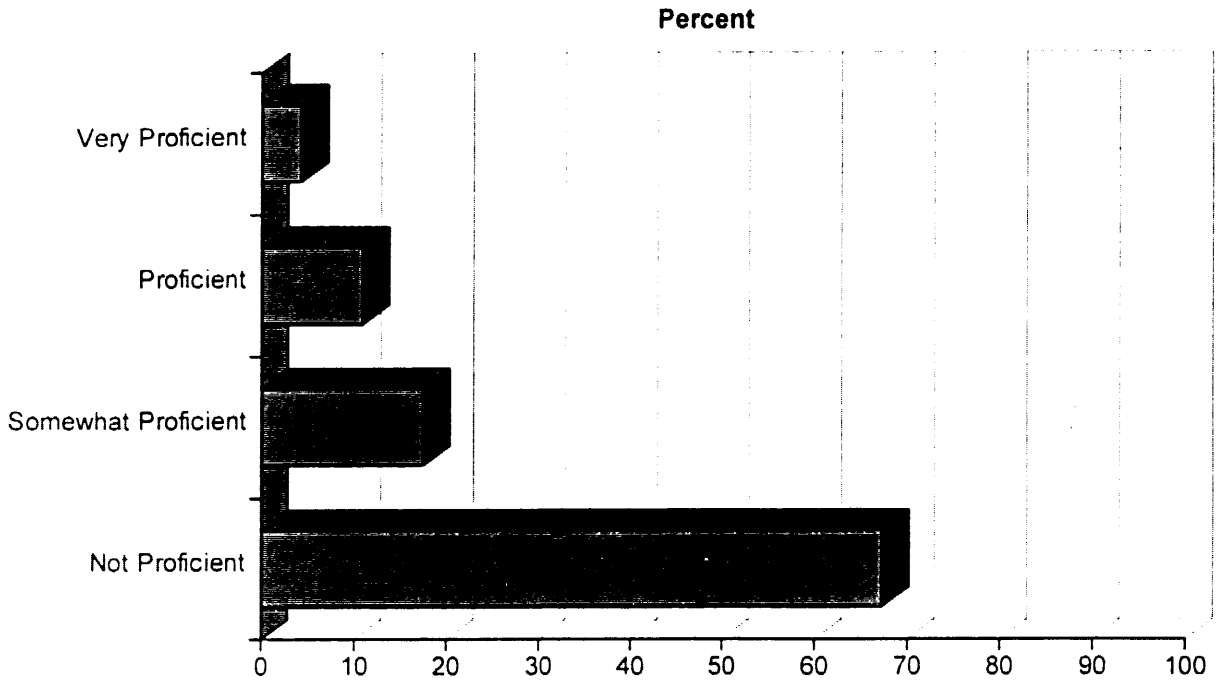
Mean: 3.33 **Std Dev:** 0.91 **Missing:** 5

Item: 7

Text: 7. How proficient do you feel using a spreadsheet program? a)Very proficient b)Proficient c)Somewhat proficient d)Not proficient

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Very Proficient	1	18	4.3%
Proficient	2	46	10.9%
Somewhat Proficient	3	74	17.5%
Not Proficient	4	284	67.3%
		422	

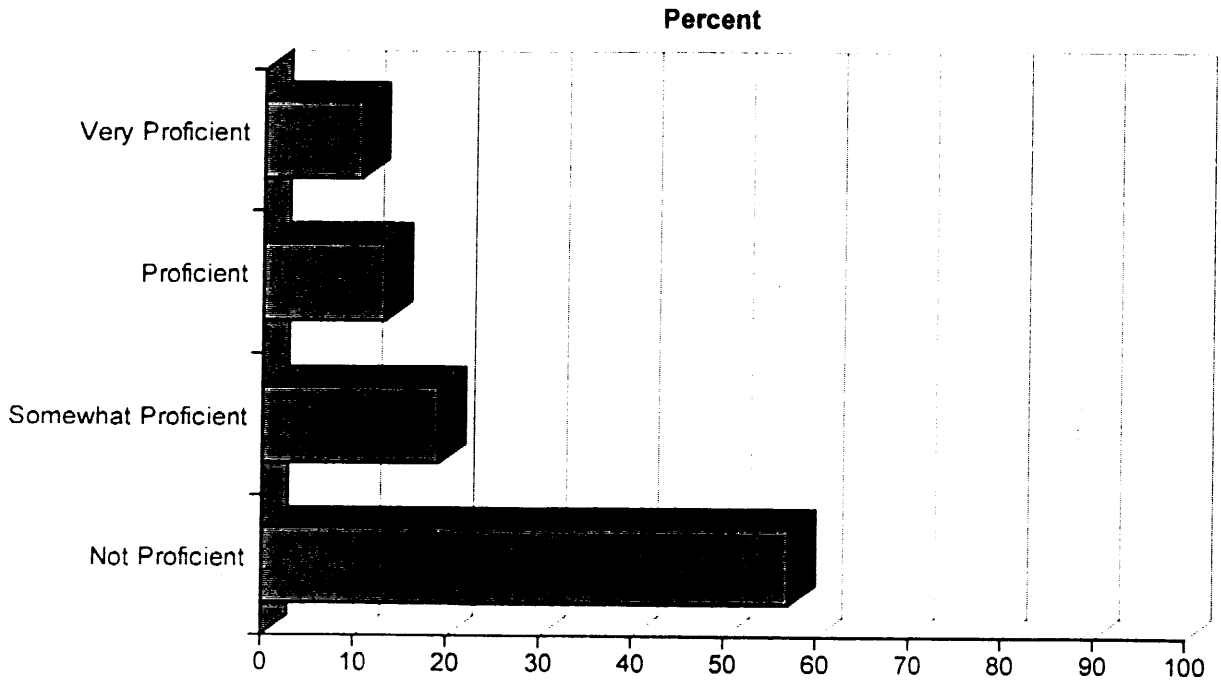
Mean: 3.48 **Std Dev:** 0.85 **Missing:** 6

Item: 8

Text: 8. How proficient do you feel using the Internet? a)Very proficient b)Proficient c)Somewhat proficient d)Not proficient

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Very Proficient	1	45	10.6%
Proficient	2	56	13.2%
Somewhat Proficient	3	81	19.1%
Not Proficient	4	242	57.1%
		424	

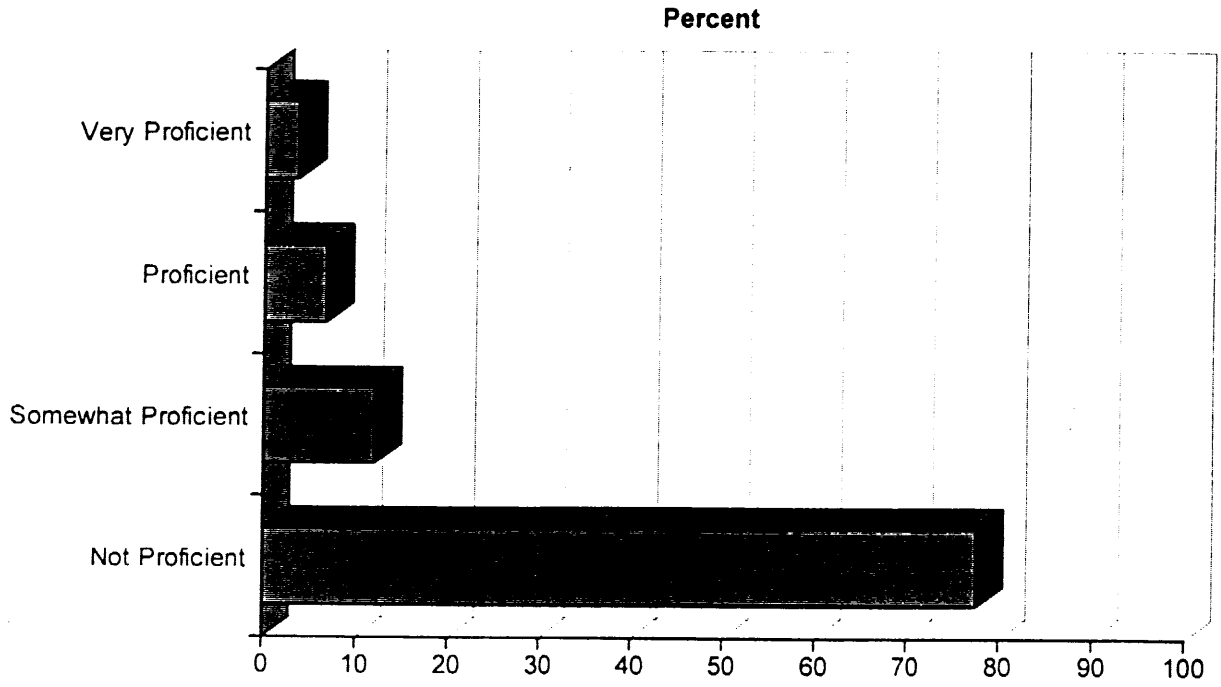
Mean: 3.23 **Std Dev:** 1.04 **Missing:** 4

Item: 9

Text: 9. How proficient do you feel using multimedia programs such as Microsoft PowerPoint? a)Very proficient b)Proficient c)Somewhat proficient d)Not proficient

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Very Proficient	1	15	3.6%
Proficient	2	28	6.7%
Somewhat Proficient	3	50	12.0%
Not Proficient	4	323	77.6%
		416	

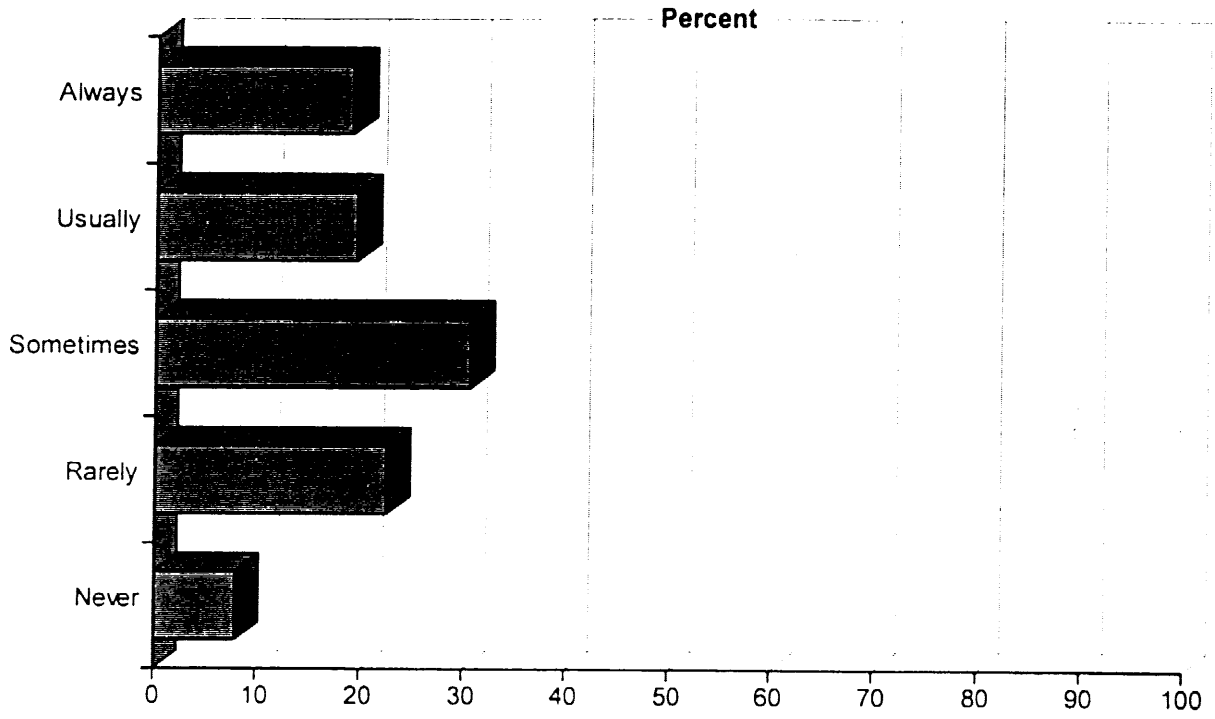
Mean: 3.64 **Std Dev:** 0.76 **Missing:** 12

Item: 10

Text: 10. How frequent do you use technology at your work location? a) Always b) Usually c) Sometimes d) Rarely e) Never

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Always	1	81	19.1%
Usually	2	83	19.6%
Sometimes	3	130	30.7%
Rarely	4	96	22.6%
Never	5	34	8.0%
		424	

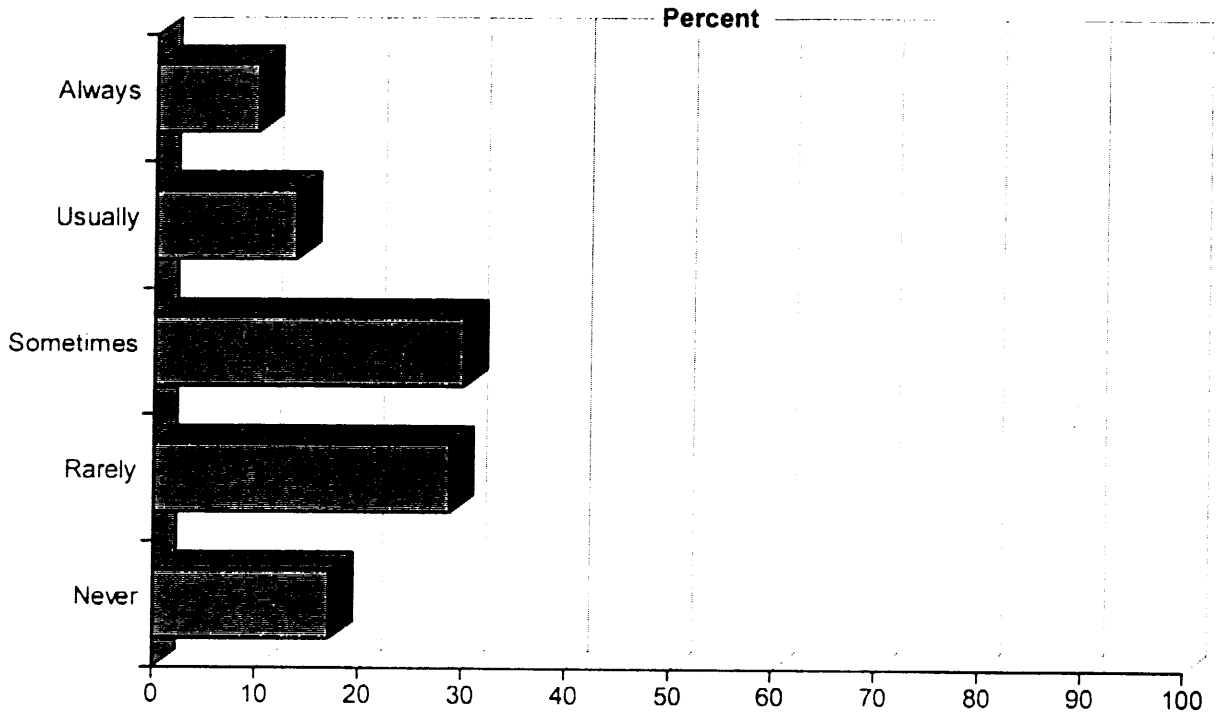
Mean: 2.81 **Std Dev:** 1.21 **Missing:** 4

Item: 11

Text: 11. How frequent do you integrate computer technology into instruction (teachers only)? a) Always b) Usually c) Sometimes d) Rarely e) Never

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Always	1	32	10.0%
Usually	2	44	13.8%
Sometimes	3	96	30.1%
Rarely	4	92	28.8%
Never	5	55	17.2%
		319	

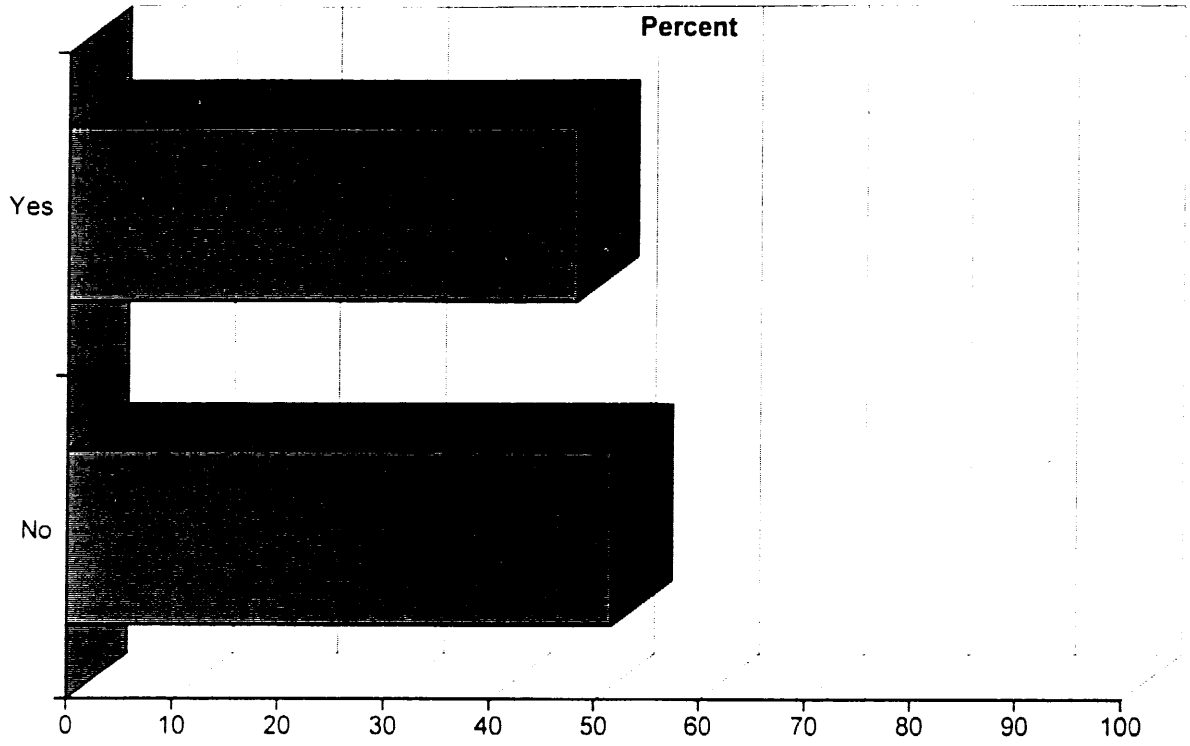
Mean: 3.29 **Std Dev:** 1.20 **Missing:** 109

Item: 12

Text: 12. Do you have adequate technology available to you? a)Yes b)No

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Yes	1	200	48.3%
No	2	214	51.7%
		414	

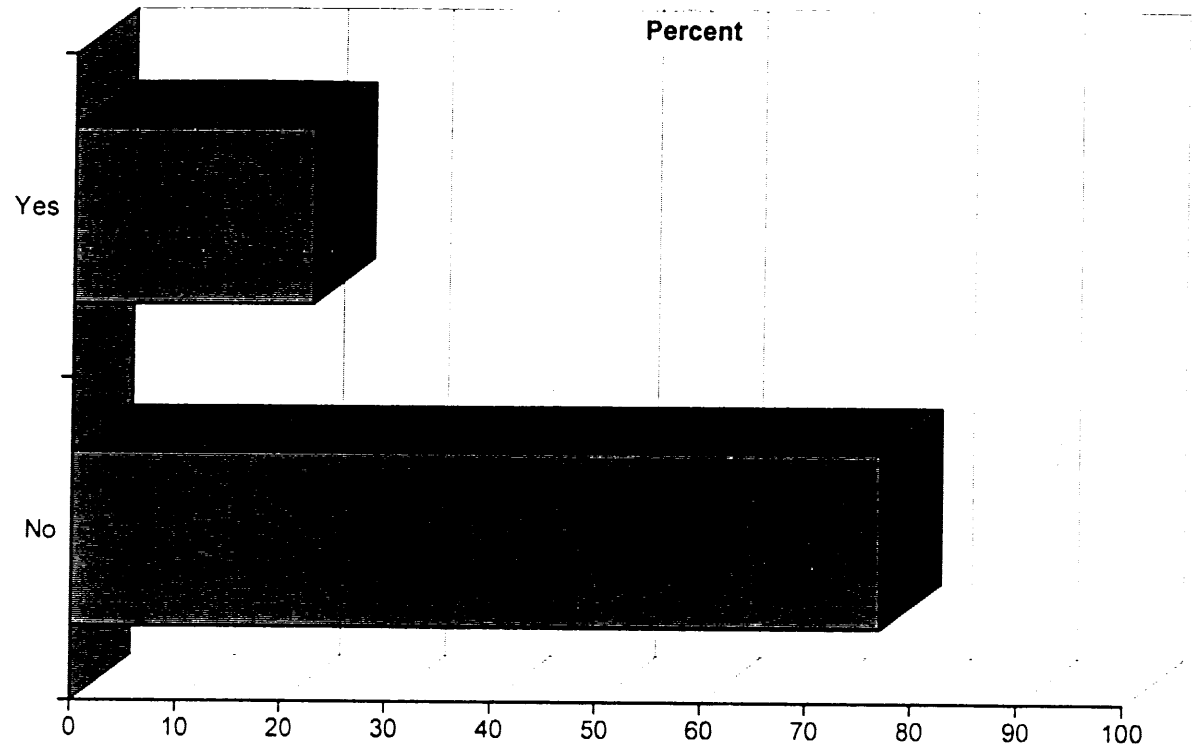
Mean: 1.52 **Std Dev:** 0.50 **Missing:** 14

Item: 13

Text: 13. Have you been adequately trained in the use of technology? a)Yes b)No

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Yes	1	97	22.9%
No	2	327	77.1%
		424	

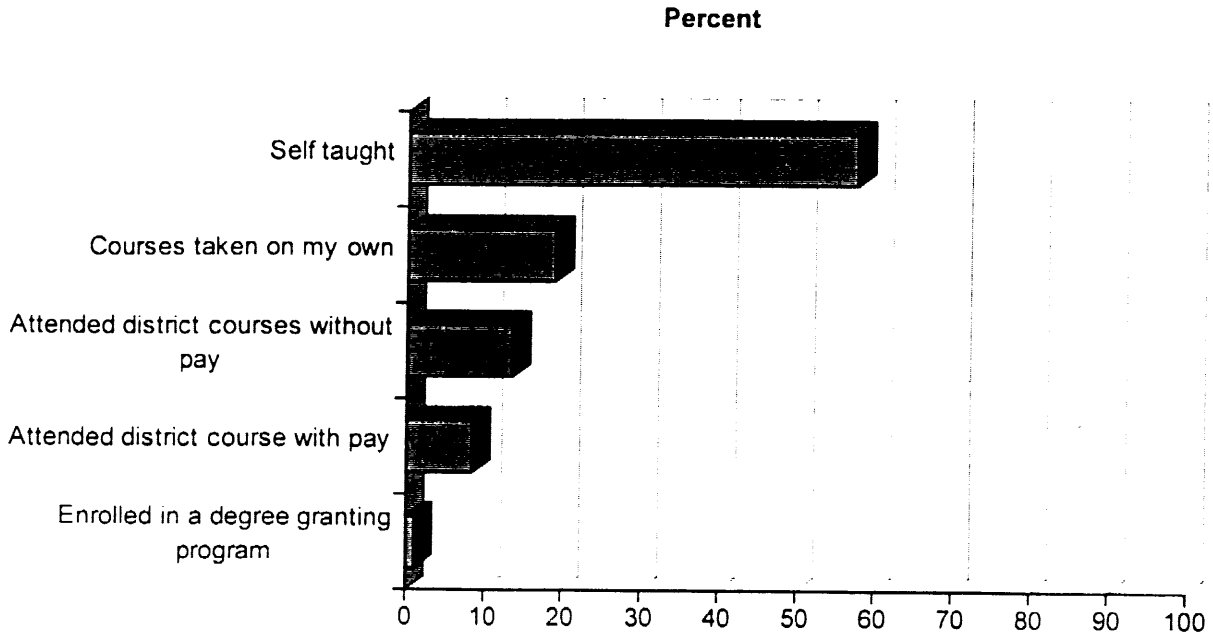
Mean: 1.77 **Std Dev:** 0.42 **Missing:** 4

Item: 14

Text: 14. How have you learned to use the technology available to you? a) Self taught b)Courses taken on my own c)District paid d)District not paid e) Degreed program

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Self taught	1	271	57.7%
Courses taken on my own	2	90	19.1%
Attended district courses without pay	3	64	13.6%
Attended district course with pay	4	40	8.5%
Enrolled in a degree granting program	5	5	1.1%
		470	

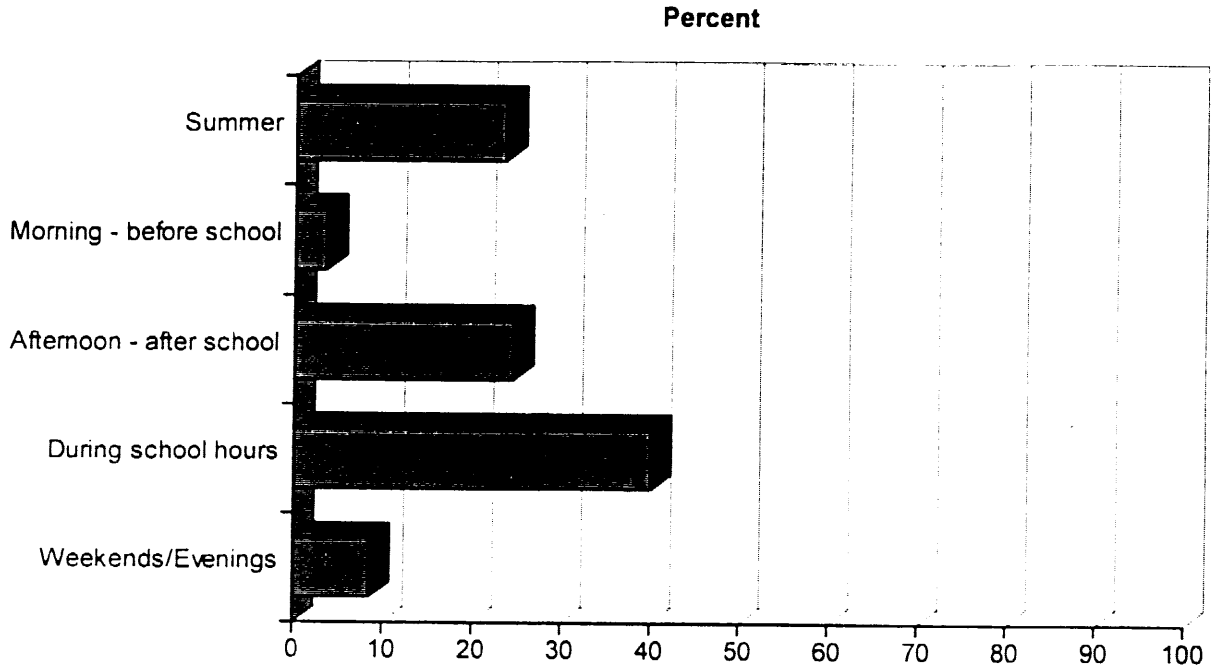
Mean: 1.76 **Std Dev:** 1.05 **Missing:** N/A

Item: 15

Text: 15. When is the best time for you to receive training? a)Summer b)Before school c)After school d)During school e)Weekends/Evenings

Batch: combined (428 respondents)

Subgroup: N/A (428 respondents)



Response	Weight	Frequency	Percent
Summer	1	114	23.5%
Morning - before school	2	17	3.5%
Afternoon - after school	3	119	24.5%
During school hours	4	194	40.0%
Weekends/Evenings	5	41	8.5%
		485	

Mean: 3.06 **Std Dev:** 1.31 **Missing:** N/A

APPENDIX B

HELP DESK PROCESS

TEN STEP PROCESS FOR CHOOSING HELP DESK SOFTWARE

1. Assemble representatives who will recommend, buy and use the software.
2. Determine needs (What will the software be used for, i.e.. Asset tracking, solving hardware and software problems, etc.)
3. Contact vendors (attend seminars, trade shows, use direct mail or Internet resources)
4. Arrange for live demos, visit installed sites, or install demo software.
5. Contact references, visit installed sites (if possible)
6. Analyze research findings and narrow selection to a few vendors. Review costs, resources needed, and timetables.
7. Make preliminary selection. Establish financial considerations.
8. Establish time lines for installation, training and implementation.
9. Make recommendations to Board of Education.
10. Finalize contract deals, set implementation plan in place.

APPENDIX C

SUPPORT TEAM TRAITS

SELECTING THE HELP DESK SUPPORT TEAM
TRAITS TO LOOK FOR

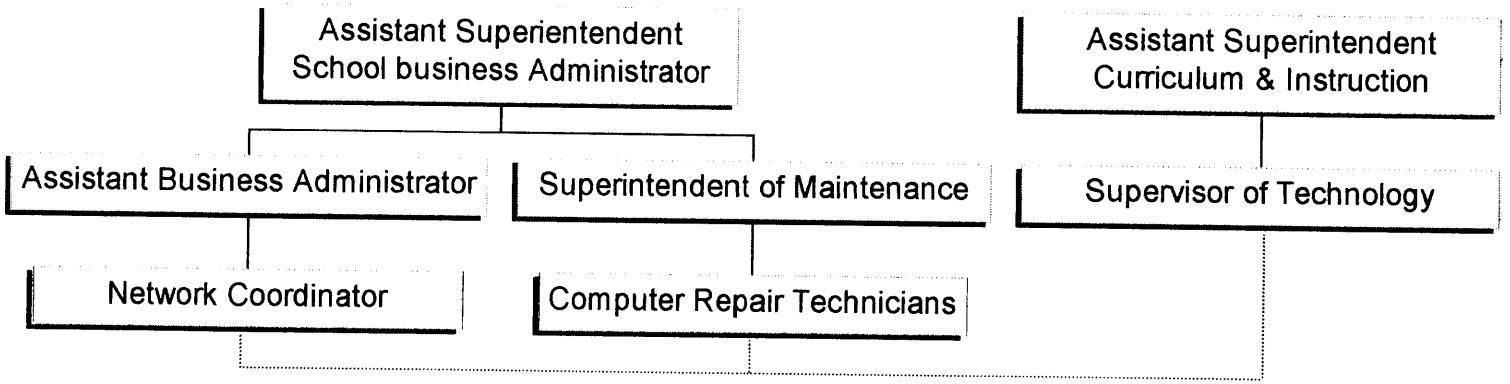
These traits are not listed in any specific order since their importance will vary from organization to organization. Use this as a guide while conducting interviews and discussing positions.

Listening skills	The rep should listen to the question in its entirety
Temperament	The rep should have the patience of a saint
Verbal Skills	Phone calls may make up the majority of their business
Questioning Skills	The rep should be able to pinpoint problems through the use of well developed questions.
Problem-solving Skills	The help desk specialist should be astute at solving problems
Persistence	Every customer deserves an answer, no matter how long it takes to research it.
Technical skills for hardware and software	Help desk personnel should be able to troubleshoot hardware and software problems
Organizational Skills	
Administrative Skills	
Ability to Handle Multiple Projects	

APPENDIX D

ORGANIZATION CHARTS

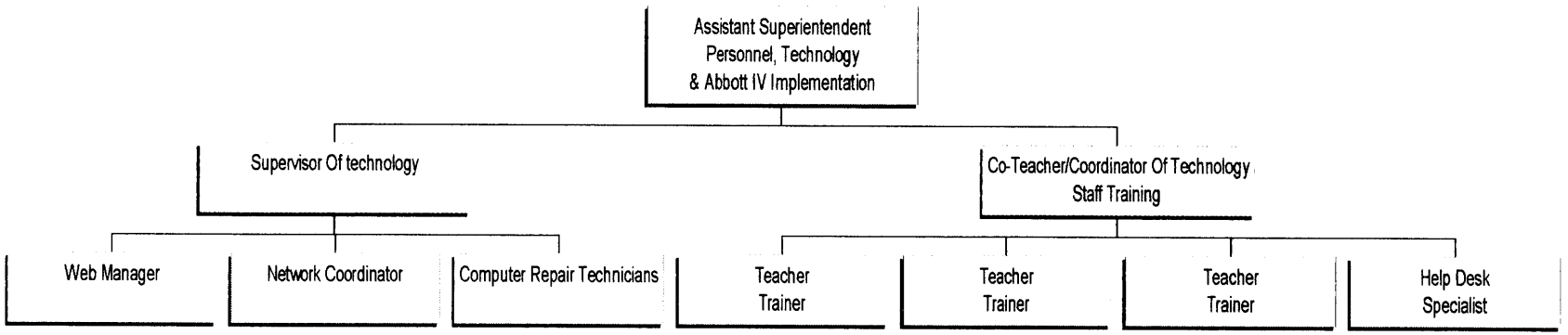
Vineland Public Schools
Existing Structure
(Before Technology Department)



Direct Control

Indirect Control

Vineland Public Schools
Technology Department
1998



Biographical Data

Name	Joseph A. Camardo
Date and Place of Birth	October, 27, 1961 Vineland, NJ
High School	St Augustine Prep High School Richland, NJ
Undergraduate Degree	Bachelor of Science Business Studies Stockton State College Pomona, NJ
Graduate Degree	Masters of Art School Business Administration Rowan University Glassboro, NJ
Present Occupation	Vineland Public Schools Vineland, NJ Network Coordinator