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A Study of the training methods used by the Vehicle Maintenance Department of the Clark County School District Transportation Division

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A Study of the Training Methods used by the Vehicle Maintenance Department of the
Clark County School District Transportation Division

by

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Bachelor of Arts
University of Nevada, Las Vegas
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A professional paper submitted in partial fulfillment
of the requirements for the degree of

Master of Public Administration

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Abstract

A Study of the Training Methods used by the Vehicle Maintenance Department of the
Clark County School District Transportation Division

by

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The purpose of this study is to explore the training methods presently employed by the Clark County School District in preparing their mechanical staff for the future. The methods used to explore this issue are a review of pertinent literature and a series of one on one interviews with both the Human Resources Department and the mechanical staff. These interviews demonstrate that changes in training techniques are necessary to maintain the efficiency and competence of the mechanical staff. A proposal to assist the Vehicle Maintenance Department reach these goals is included.

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GLOSSARY

- ASE:** Acronym for the National Institute for Automotive Service Excellence. This is the organization that certifies the competence of vehicle mechanics in a variety of areas including automotive, school bus and trucks.
- Comeback:** a commonly used phrase in the automotive industry that describes work that returns to the garage for repair a second time for the same problem. This occasionally is due to a part failure but the most common reference is to poor quality workmanship by the mechanic.
- Gasboy:** The refueling system that is presently in use at all of the CCSD maintenance facilities. This system tracks the vehicles mileage and fuel use through an interface with the RTA system.
- Mechanic:** A worker skilled in making, using or repairing machines.
- Technician:** Expert in a technical field or process. This definition and that of mechanic are often interchanged in speaking of the automotive field. There is however an immense difference in the abilities of the technician over those of the mechanic.
- Training:** As it is referred to in this work, is to become proficient with specialized instruction and practice. This is not to be confused with higher education. Training here relates to some college course work but is not intended to imply a college degree unless specified.
- Vendor:** Company or individual that sells components, services or entire vehicles to the CCSD. Often delivering training on their product or system due to contractual agreement.

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Chapter 1

Introduction

All men by nature desire knowledge.

Aristotle

The transportation Division of the Clark County School District (CCSD) provides daily transportation for thousands of students and employees throughout Clark County. This immense fleet consists of more than 2300 vehicles, 975 of which are school buses. In order to maintain the safest and most efficient fleet of vehicles possible, there must be a constant review and update of the latest technologies and management techniques. This paper will examine the question: Is the CCSD Transportation Department meeting the present training needs of its employees and are they being prepared for the challenges of the future.

In an effort to meet these training needs and challenges the CCSD has had to utilize varied types, techniques and amounts of training. These methods range from On the Job Training (OJT) to classes and seminars that are sponsored both by vendors and the CCSD. The purpose of this work is to study these techniques and propose possible changes that will help the CCSD meet the challenges that the future presents.

There are several sides to the training and development question. In an organization such as the CCSD a myriad of issues are involved. The issues focused on here concern those of the Vehicle Maintenance Department (VMD) and its personnel. Thus, I will detail the issues that affect this particular department rather than discuss the needs of all district employees. The training concerns addressed here are mechanical, technical, management and personnel. Mechanical in the sense discussed here pertains to all of the vehicle systems on vehicles presently operated by the CCSD; this includes such items as the transmission, engine and brake systems. Technological training for our purposes is a discussion of computers and computer related skills. This includes skilled use in certain computer programs, such as Word, Excel, and RTA. Included in this is the ability to use computerized diagnostic equipment. In recent years the use of computers has become intertwined with the mechanical systems of the vehicle, many manufacturers use computer controls to optimize performance of their systems. This is the case with all cars and light trucks manufactured in the last ten years. The trend of component computerization on school buses started to effect the CCSD with the purchase of the 1998 model Thomas Bus. The personnel and management training encompass the following items: Drug and alcohol awareness, leadership and inter-personal skills such as sexual harassment and diversity training.

There lies within the employees of the VMD a great base of mechanical knowledge. The questions addressed here do not doubt the competence of the employees but rather questions the ability of the VMD to prepare them to handle the challenges of the future. The employees of the VMD have repeatedly proven themselves well versed technically and competent in the performance of their duties. Evidence of this

competence is in the percentage of buses available for service on a daily basis. The VMD in-service goal as set forth in CCSD 1998-1999 Budget and Statistical Report is 90 percent. During the period between September 7, 1999 and December 19, 1999 the garages of the CCSD maintained a minimum in-service rate of 94 percent. The Eastern and Russell facilities had a minimum in-service rate of 95 percent, while the Arville and Cheyenne facilities were no less than 94 percent in-service. (See figure 1) The charts in figure 1 demonstrate the number of times that each location had a certain percentage of buses out of service.

As the above indicates the garage personnel are competent for the present. However, they need training to prepare them for the changes that the future brings. Whether these challenges are in the emerging technologies or in the management of personnel, we must feed this constant hunger for new knowledge.

Structure of the Vehicle Maintenance Department

There are five locations for the maintenance of school district vehicles. The Arville location houses the White Transportation Center, which is the headquarters for Transportation Division and the Central Kitchen for the Food Services Department. This facility also known simply as Arville, maintains 475 buses. The other locations are satellite shops. The second largest of these shops is the Koepsell Transportation facility located at Russell Road and Galleria Drive in Henderson. This facility known in the VMD as Russell Road maintains 250 buses. The third largest facility is the Tate Transportation facility also known simply as Cheyenne, is located in North Las Vegas on Cheyenne Avenue. The Cheyenne facility maintains 134 buses. The fourth smallest and

oldest of the locations that houses buses is the Robertson Transportation facility. This facility located on Eastern Avenue is called the Eastern yard, houses only 116 buses. All of the buses at this location serve the Special Education programs of the CCSD. It is imperative that these buses receive extra attention during their maintenance, as they only transport special needs students.

Garage Positions in the Vehicle Maintenance Department

There are six basic positions within the CCSD Vehicle Maintenance Department. These positions are responsible for the maintenance and repair of the all of the vehicles operated by the CCSD. (See Figure 2) The positions, their requirements and responsibilities are as follows:

Garage Attendant: This is the entry-level position in the VMD. This position is required to refuel vehicles (primarily buses). In addition they check vehicle fluid levels, clean the shop and run errands. The training for this position is almost entirely OJT. The Shift Supervisor and the Garage Attendants' peers accomplish this training.

Vehicle Service Worker: This position is one level up from the Garage Attendant. The position requires a basic level of mechanical knowledge. This includes some prior training and possibly some technical schooling. The position performs preventive maintenance; changes oil and lubricates vehicles. Training, once in this position normally includes OJT and the attendance of some training seminars.

Vehicle Mechanic Assistant: This position is a step below the Vehicle Mechanic and as the job title suggest the Vehicle Mechanic Assistant often works with a Vehicle Mechanic on the more technical or heavy assignments (i.e. transmissions, engines). The position requires either 1-year of mechanical experience or technical training. While OJT is very important in this position, the recommendation is that the Mechanic Assistant pursues technical training outside the CCSD.

Vehicle Mechanic: This position is responsible for the diagnosis, inspection repair and overhaul of school district vehicles. This position requires 2 years of professional experience in the repair and overhaul of buses, trucks and automobiles plus 1 year of formal technical training from an accredited vocational school. This position reports directly to the Vehicle Garage Shift Supervisor.

Vehicle Garage Shift Supervisor: This position supervises the vehicle maintenance operations and the shift staff at their respective location. Each shift has one of these positions. They are responsible for all the activities that occur on their shift. Presently there are twelve of these positions in the VMD. The Arville and Russell Rd. shops each have three of these positions. Cheyenne, Eastern and Eucalyptus each have two shift supervisors. This position is responsible for conducting the department mandated safety meetings. The position requires four years of experience in the repair and overhaul of buses, trucks and automobiles. The Shift Supervisor reports directly to the Garage Manager.

Garage Manager: Manages, coordinates and supervises vehicle repair and the maintenance staff for all five of the CCSD transportation facilities. The author presently occupies this position. Requirements for this position are four years experience in the supervising major repairs of buses, trucks and automobiles. The position reports directly to the Vehicle Maintenance Coordinator. (Clark County School District Classification Manual, 1997)

Chapter 2

Research Method

This study explored several issues related to the training and development of the garage personnel of the CCSD. The work used a literature review as a base, to cover such topics as the cost of training, reasons for training and the benefits of training. The next section consists of face to face interviews with nine employees of the VMD and two representatives of the HRD. Use of a tape recorder insured accuracy in reporting the answers to questions during the interviews. Each interview lasted between 15 and 20 minutes and consisted of 12 questions.

Garage Personnel

Criteria for all garage personnel interviewed was that they must be post probationary employees who have expressed an interest in career advancement and have met the minimum requirements for their respective positions. As such, and assumed competency in their position served as a base for the interviews. The garage personnel interviewed included three Vehicle Mechanic Shift Supervisors, six Vehicle Mechanics and two Vehicle Service Workers. Vehicle Mechanic Assistants and Garage Attendants

were not included in this project due either to their failure to meet the minimum criteria or the time constraints of this project. Also not represented are the VMD clerical staff and those positions in which there are a very limited number of positions, such as Radiator Repairer (one Position) and Tire Repairer (three positions).

The first three questions of the interview are designed to elicit responses concerning the respondents job title, time in grade and past job history with the school district. The next five questions cover the employees training status, past and present. Questions nine and ten, probe the issue of promotional goals and the training required to reach them. While questions, eleven and twelve posed the problem of future training needs to the employee.

The employees interviewed did so, on their own time and in private. In order to reduce the Hawthorne Effect, the author requested that those interviewed not discuss either the questions or the interviews with other employees. Participants included different age groups and ethnic backgrounds. The employees chosen for interviews work at different shop locations and shifts to reduce the chance of discussion about the interview.

Upon asking each possible participant to be involved, the author explained that participation was voluntary and respondents were under no obligation. Participation in this project would in no way enhance or hamper their opportunities within the VMD. Nor would it effect their work environment. Each respondent received an assurance of complete anonymity in the final paper. Of all those asked to participate in this project only one refused.

The author has been an employee of the VMD for almost seventeen years. At first being employed as a Vehicle Mechanic and working his way up to Shift Supervisor and then Garage Manager. It is necessary to note at this point; that the position of Garage Manager presently occupied by the author can neither singularly deny nor grant promotion to anyone. The Vehicle Maintenance Coordinator, the administrator over the VMD, is the only person with the authority to control promotion within the department. Due to his familiarity with the operation, the author had to be particularly careful of the Participant-Observer effect. In an effort to reduce this effect, the wording of questions posed to the participants are written so as not to lead the respondents in any way. As stated by Earl Babbie in his work The Practice of Social Research “There is no complete protection of this effect, though sensitivity to this issue may provide a partial protection.” (Babbie, pg. 286) The author is sensitive to the Participant-Observer effect and has made every effort to minimize its influence on the outcome of these interviews.

Human Resources Department

Interviews with personnel from CCSD Support Staff Training and Development assisted in defining the role of the Human Resources Department (HRD) in the training and development of garage staff. Dr. Jeffery Hafen, Director of Systems Design and Support Staff Development and Edward Jackson, Administrative Specialist for System Design and Support Staff Development were interviewed in order to gain insight into the training programs available to the employees of the CCSD. The interviews of Dr. Hafen and Mr. Jackson were face to face as were those of the first respondents. The difference

in the two types of interviews was in the areas of privacy and the number of questions asked. Due to time restraints, the interviews of Dr. Hafen and Mr. Jackson occurred simultaneously. Originally, there was a concern that the supervisor-subordinate relationship would hamper their respective responses. However, it was evident that with these gentlemen cooperation and collaboration are the norm. As such, there was a free flow of information. The gentlemen from the HRD had only eight questions posed to them rather than the twelve asked of the garage personnel. The first three questions were similar in asking for their name, job title and training status. Questions number four and five explored the methods utilized by the CCSD in the needs assessment of both departments and individual job positions. The design of the final three questions was to elicit comments concerning training opportunities offered by the school district that are designed to assist the employee in their present position and in reaching their promotional goals.

Chapter 3

Literature Review

The Vehicle Maintenance Department (VMD) of the Clark County School District contains 133 employees. Of this number, 77 percent are directly involved in the maintenance of the vehicles operated by the school district. The list of service personnel includes; garage managers, shift supervisors, mechanics, mechanics assistants and automotive service workers (lubeman). The remainder of the staff plays important roles in the support of the garage; this includes the clerical staff and parts room personnel. (Clark County School District Transportation Division, 1999) The fact that the mechanical staff is a majority of the departmental personnel dictated where this work focused. The technical training of the mechanical staff is a priority for discussion here. However, this in no way underestimates the importance of the contributions made by the clerical or parts room staffs. Their training needs are of importance, and they should be included in any type of computer related or procedural training.

When an organization such as the CCSD considers developing and implementing a training and development program, it must consider several aspects. Why develop a training program? What will the cost versus benefits be to the organization? What do the employees and the organization want and need from this program? Who will perform the

training, the department itself or the human resources department? Once reaching the decision to develop a training program, the organization must determine what this program will include.

To Train or not to train; that is the question.

The garage personnel of the VMD have recently begun to deal first hand with rapidly evolving school bus technologies. The development and integration of high-tech electronics into component systems brings with it both advances and their associated problems. The advances allow for greater vehicle performance, including longer preventive maintenance intervals and higher fuel mileage. The problems associated with this new technology have spurred the need for technicians with very high skill levels in diagnostics and electronics. In his article “New Problems, Solutions”, Andrew Shadoian, Vice President of Sales and Marketing for SPX Service Solutions states that “we shouldn’t assume that the service and repair technologies, equipment and information we’ve used in the past will keep these vehicles on the road longer and in the shop less time, less often”. He goes on to say, “The problems we’ll face in the future will be different than they are today. As a result they will require more sophisticated diagnostic, service and repair equipment.” While the purchase of diagnostic equipment is costly, it is not difficult to attain. Training a technician in the use of the equipment and in new technologies in general are the real problems.

Change can be difficult for the employee. Dealing with the radical changes brought about by the new technologies can be traumatic. It is in the best interest of the organization to assist the employee in dealing with this change through training.

“Training is an essential method to help people with change. Change itself may be necessary for survival; but change can also lead to increased productivity.” (Prior, et al, 1991, pg. 34)

The issues arise of what do the organization and the employees want from the training program? The organization is searching for “ways to improve job performance so they can reduce cost due to accidents, waste and poor quality.” (Philipi, 1996) The issue of quality work is of particular importance to the school district as the mechanics here work primarily on school buses and student safety is always a concern. Every time a CCSD mechanic works on a bus the lives of 90 students are affected. The employee who is untrained or under-trained may produce unsafe work or raise cost with repeated comebacks. In producing poor quality work the mechanic also endangers lives, raises operating cost and opens the school district up to the possible liability and litigation. The quality of repair work is of the utmost importance. Therefore, all employees must approach their respective job assignments with that in mind. The concept of quality not quantity is of the utmost importance. According to Rob Sibthorpe in his article, The Benefits of Training and Development from the book The Gower Handbook of Training and Development, “quality can only be achieved if the employees work with quality in mind. Training can help to implement a quality approach, to promote discussion and a general attitude to seek quality, and to help employees improve their expertise and the quality of the service or product.” (Prior, pg. 35) In addition, “they [the organization] look for training that will enhance the return on their investments in new equipment or shifts in management procedure.” (Philipi, 1996) The ability of the organization to optimize the performance of personnel and new equipment will only help to raise the

efficiency and reduce the overall cost of operation. While this is not the focal point of the public entity, the ability to do more with less certainly helps answer the constant request for reductions in spending.

The employees focus on job skill and security issues. Employees want training that allows them to maintain their “marketability” and prepares them for the changes the future brings. They will need to “learn new job task and the skills required to perform them.” This will allow the employee to become a more involved, productive and integral part of the organization. (Philipi, 1996) The CCSD mechanics are moving rapidly towards becoming technicians. Occasionally the use of the term mechanic and technician are interchangeable, there are however significant differences in their abilities. The development of new technology has forced this transformation on both the willing and unwilling alike. Clearly, these issues are particularly important to the person who is pursuing promotional goals. The need to work within the latest rules and regulations imposed on the work place by the federal, state, and local governments is added to the ability to remain current in emerging technology. The role of the line worker (in this case the garage attendants through mechanics) has changed significantly. The focus has moved away from just doing their job. New business strategies have emerged, examples of these are improved customer service (garage personnel/bus operations relations), increased quality of work and developing an attitude of teamwork. As the authors note in Workplace Basics a new type of worker is evolving. “In fact one might even say that a new kind of American worker is being ordered up, a worker who will to be expected to have a broad set of skills that were previously required only of supervisors and managers.” (Carnevale, Gainer, and Meltzer, 1990, pg. 4)

The development of inter-personnel skills (i.e. Communications, Diversity) not only helps individual employee relations but will logically build a stronger organization overall. The training in these skills should be available to all employees and particularly to those targeted for promotional opportunities. The development of leadership and management skills in those employees, whose promotional goals intend to take them into management, would also benefit both the employee and the organization. The 1998 National Human Resources Department Executive Survey conducted by The American Society of Training and Development found that “it is believed that the most important traits of good leaders are integrity, competence and trustworthiness.” The organization cannot teach these skills, they must already exist in the individual. There are skills that the organization can teach, that enable the employee to become the best leader possible. These are “communication skills, inter-personnel skills, strategic planning skills, and change management skills.” (National HRD Executive Survey)

The other side of the training issue is not to do any training. To do nothing and have the employee learn of his own volition or not at all. This is a worse case scenario, which also has cost associated with it. According to Robert Hooper, Product and Technical Service Manager for the Technical Service Society (STS), “The only thing more expensive than training an employee and having them leave is not training them and having them stay.” (Birkland, 1999) Often management will balk at training for the fear that a well-trained technician will leave the organization that trained them for a better position elsewhere. However, just the opposite has proven to be true. The training of employees inspired them to stay rather than leave. The training helps to raise the technicians’ job skill level and their loyalty to the organization. The effort by

management to provide training demonstrates and appreciation of the technician.

(Birkland, 1999)

The VMD has recently lost two employees to another municipality. While higher wages were certainly a concern, it might have been possible to retain these workers with more training. At least one of these former employees had previously expressed an interest and requested increased training opportunities. In his article What if you don't train them and they don't leave? Mel Kleiman cites a survey performed by the management search firm BridgeGate LLC. they "found that when it comes to staying on the job, workers under 24 are twice likely to be influenced by the amount of training provided as by the money." Kleiman goes on to reference a new "in-depth study by the Gallup Organization" this reference concurs with his previous citation. Finding "One of the critical factors cited by the employees surveyed was "the opportunity to learn and grow" – in other words, training."(Kleiman, 1999)

The training of employees reduces the likelihood that they will leave the organization that trained them. "More training raises the wedge between the inside and the outside wage and therefore induces workers not to quit, even when they are unhappy in their job."(Acemoglu, and Pischke, 1998) The fact that the employer is willing to put out the effort and expense involved in training allows the employee to sense that they are important to the organization. There is no evidence that suggest a reason not to train employees, with the possible exception of excessive cost.

Costs of training

The organization must invest in a needs-assessment to determine what the employee and organizational needs are. This is an integral part of the decision to develop and implement a training program. “Even the simplest training program should be grounded in research.” The ability to develop an effective training program hinges upon the organizations ability to recognize where training needs exist and decide how best to implement the necessary changes. “It is important to analyze the needs of the individual employees, the units, and the divisions and the strategic outlook of the organization.”(Van Wart, Cayer, and Cook, 1993)

In order for the organization to compare the cost of training to the benefit it may derive from the training, a cost/benefit analysis of the proposed training must be included in the decision making process. This analysis may be as simple as a rough estimate or as complex as a detailed cost estimation. Either method that is used will assist the organization in deciding if there is justification in the expenditures necessary for training. These cost and benefits can be measured in both “hard”(money) and “soft”(effort expended) terms. (Molenda, Pershing, and Reigluth, 1996, ch. 13) The two concepts that are central to our discussion of the cost/benefit analysis are the Cost Savings Analysis and the Utility Analysis. The Cost Savings Analysis “looks at the financial value of improvement in the problem that the training was intended to correct.” This is normally a specific designated problem. Utility Analysis focuses on “all the ways the trainees improved job performance will financially benefit the organization (e.g., reduced grievances, less turnover).” (Blanchard and Thacker, 1999, p. 245) The Utility Analysis also includes some intangible aspects such as increased morale. In a public organization

such as the CCSD, this is of particular importance. The management may not grant bonuses, therefore a constant search for methods to boost the employee morale exist.

Types of Training.

Currently the CCSD uses several types of training to prepare its workers for the changes technology has brought about. Most common for new or inexperienced employees is the very basic type, On the Job Training (OJT). This usually occurs in conjunction with vendor training seminars as the employee advances in position and seniority. In their book Improving On the Job Training, Rothwell and Kazanas call this type of OJT “unplanned or unstructured training” This style of training is very haphazard in nature. OJT is the most basic style of training and it is also the most inefficient. In his article Frick, teaches Frack, Bob Filipczak describes this system as “follow Sam around the factory playing monkey see, monkey do.”(Filipczak, 1993) While this very basic training system is sufficient for the position of Garage Attendant and somewhat the position of Automotive Service Worker, it is insufficient for any position that requires a higher skill level.

OJT is an introductory method of training for all VMD positions. The Shift Supervisor uses OJT for teaching new employees procedural applications such as how to use the computer as a time clock or how to operate the Gasboy fueling system. Beyond this training there is no planned or structured OJT. “Unplanned OJT is not organized according to the job performance needs of the intended learner; rather it is driven by work demands and crises.”(Rothwell and Kazanas, 1994) A more efficient use of training time is planned OJT. This allows the supervisor to give the employee one on one

instruction. Planned or structured OJT “is planned instruction occurring on the job during the work, centered around what workers need to know to perform competently.”(Rothwell and Kazanas, 1994) Properly designed this system of planned OJT could be effective in the training of the VMD positions Garage Attendant through Vehicle Mechanic Assistant.

Vendor seminars are another very common method of training used by the VMD. These seminars come in two categories, onsite and offsite. The onsite variety is usually classroom based, and covers only the component supplied by that particular vendor. Offsite vendor seminars are by far the more desirable style of training as it normally includes a combination of theory, hands-on and diagnostic applications. These also only cover the component supplied by the vendor. Both onsite and offsite seminars have drawbacks. Onsite training allows for a larger group of attendees than does offsite, but is often short on hands-on training. Offsite training is more in-depth but has severe limitations on the size of the classes. Instruction for these offsite seminars occurs at the local distributorship for that particular component and therefore space is limited. Due to size constraints, frequently the CCSD only sends between five and seven participants to each session.

The onsite training occurs in the traditional classroom setting (the instructor speaking to the class, possibly with some teaching aids but little interaction). This method has witnessed a decline in popularity in recent years. Dropping in use from 76.4% of the time down to 70%, meanwhile use of both advanced Technology-Interactive Classroom and Learning Technologies have risen in the same period. The use of less traditional methods rose in use from 4.2% and 7.2%, to 11.7% and 15.8% respectively.

(1998 ASTD State of the Industry Report) The movement away from the traditional classroom setting places more responsibility on the student and less on the instructor. “In effective HRD programs, the learner is responsible for the learning; the instructor and the institution are seen as helpful resources.”(Covey, 1991) Nationally there is movement away from the traditional classroom setting and towards more self-paced and innovative training methods. The 1999 ASTD State of the Industry Report, “found that the [training] level of employees was positively associated with the use of learning technologies and other self-paced delivery methods.”

Within the last year, the VMD has purchased the Virtual College training system from the Cummins Engine Company. This program virtually allows the technician to train themselves on the system and diagnosis of the Cummins ISB and ISC engines. This is an excellent example of a self-paced learning technology in action. While this system is not fully operational in our application, the development of this system is clear recognition of the direction in which training is moving. The use of computers in training as well as for diagnostics and as a time clock and record keeping device demonstrate how the lines of training can become blurred.

The narrow focus of a training program will severely hamper its effectiveness. Procedural, mechanical/technical, interpersonal and leadership/management skills all must be considered essential to the training program. That there will “be some overlap of the types of training is inevitable, based on either the purpose of the program or the individual participant.”(Van Wart, 1993) In this light the training program must be viewed as a whole and not in individual sections.

Who is responsible for training?

The questions of who should actually perform the training, and who will be responsible for the coordination of the training are major concerns to any organization. When training technicians in mechanical skills there are several options. The shop manager or transportation director should be involved in the training. Dick Fisher, School Bus Technician editorial advisor, believes that the transportation director “should select a specific training program for each technician based on his or her job assignments.” (Maintenance 101,1999) While this is feasible for smaller districts, I do not recommend this for the CCSD. The Transportation Director of the CCSD oversees 1129 employees. These include clerical staff, bus drivers and garage personnel. A better choice to handle decisions concerning the training of the garage staff is the Vehicle Maintenance Coordinator or one of the Garage Managers. (CCSD, 1998) The development of a quality maintenance program has to include well-trained technicians. According to Dick Fisher, “This includes documentation of training and the monitoring of technician progress.” (Maintenance 101,1999) The maintaining of training records insures equity in training and allows management to review employee progress.

The Human Resources Department (HRD) though woefully understaffed is better suited to handle the non-mechanical training that is necessary to assist the employees of the VMD in reaching their promotional goals. The HRD is prepared to develop and implement programs such as drug awareness for supervisors and sexual harassment training. These classes are presently available to CCSD employees, through the HRD. Human resources regularly sponsor seminars on leadership and communication. These skills while always useful are not essential to performing the daily task of the technician.

When administering Leadership, Communication and Drug Awareness training the HRD acts as a third party. They guide the participants rather than force inclusion. By bringing together of employees from different departments and differing levels these employees, gain a new perspective on their own operation and problems. “This perspective enables participants to link their local decisions and daily operations to the broader organizational mission, thereby, improving organizational effectiveness and learning.”(Watad and Ospina, 1999)

Technology Literacy Services handles the development of the training skills necessary to gain competence with computers. This department trains and updates employees in the skills necessary to remain competent in the use of computers. (CCSD, 1998-1999) However, the employee is solely responsible for requesting this training. A monthly training schedule is available and all employees are encouraged to participate.

Chapter 4

Interviews

Human Resources Department

As previously stated the interviews are of two types. The first type of interviews is with the garage staff, in this paper that is six vehicle mechanics, three shift supervisors and two vehicle service workers. The second type of interview is comprised of representatives from the Human Resources Department. The interview analysis will start with the HRD representatives. They are as follows: Dr. Jeffery Hafen, Director of Training and Staff Development. Dr Hafen has held this title for the five and a half years that the department has existed. Mr. Edward Jackson, Administrative Specialist in Training and Staff Development has also been in this position since its inception and was with the HRD for four years prior. Dr. Hafen gained his training skills through professional training, public and higher education. Mr. Jackson developed his skills through college courses, professional seminars, hands-on experience in the industry and through his church.

Needs Assessment

Both men are well versed in the field of needs assessment and analysis. When asked how the needs assessment was performed and how often, both men responded to the questions. Rather than make an assessment by individual or departmental need, Dr Hafen stated that the assessment is by “bargaining group: support staff, administrative, licensed, police.”¹ The most recent assessment of the support staff was through a survey sent out at the beginning of the school year. Mr. Jackson stated that this “has been done twice in the history of the department...essentially in six years.” To the question of whether HRD performs an assessment for each position, or plans such an assessment for the future. Mr. Jackson replied that the assessment was “structured categorically as it relates to the job family and not by position.” Dr. Hafen added that “they get that (need assessment) from support staff employees, themselves, and from administrators who are saying that these are the positions that will most benefit from training.”

Once the identification is made of the position that requires additional training, the HRD performs a sophisticated analysis. The job analysis is the formal title of the process. Mr. Jackson offered an overview of the job analysis. The training and development staff bring in an employee that has been “identified as a superstar in their position...the employee is then given an orientation or idea of what the process is about.” The employee answers the question, what do you do. “This is not a task specific, but to understand, what duties they perform and then you list those duties and capture them.” Due to the time constraint placed on this interview, the description of this process suffers

¹ With the exception of the Vehicle Maintenance Coordinator who is an Administrator, all the employees of the Vehicle Maintenance Department are members of the Support Staff bargaining group.

from over simplification. Dr. Hafen explained that describing the job analysis can be compared to describing how one would “program a computer.”

Training opportunities

The school district offers several opportunities to the employees that assist them in enhancing their job skills or reaching their promotional goals. These programs include tuition reimbursement for courses taken by the employee on their own. The design of this program is to assist those employees, who are interested in going to college, whether it is UNLV or CCSN. Within the last year, the CCSD has developed the Cohort program, which assist support staff employees in becoming teachers. According to Ed Jackson, and apprenticeship program presently exists within the CCSD. This apprenticeship program involves several of the skilled trade maintenance departments. Applicants go through an orientation and then receive testing. “If they score (well) and are selected for process after being interviewed they become viable candidates to get into the maintenance prep program.” However, this is not for all of the maintenance positions. Mr. Jackson continues on, saying, “this is specifically for Electricians and HVAC presently.² We are anticipating on moving into the areas of plumbing and painting.” When questioned on the existence of an automotive apprenticeship program he said, “there was nothing, presently.” A subsequent conversation with Mr. Jackson revealed the possible future development of an automotive apprenticeship program. Dr. Hafen indicated that there were other types of programs available. Mr. Jackson expanded on

² HVAC refers to Heating, Ventilation and Air Conditioning Technicians.

this, explaining that there is also an opportunity for district employees to learn the basic skills and knowledge necessary for entrance in the skilled trade position of the maintenance department (i.e. Carpenters, Plumbers and Electricians).

The employee who wishes to reach their promotional goals will get assistance from the HRD. However, the employee must make the effort to contact the HR training staff. According to Dr. Hafen for the employee to obtain supervisory training, it is not necessary for that employee to occupy the position of supervisor. They need only to obtain permission from their supervisor to attend the classes in either diversity or leadership. The schedules for the training sessions are as follows: twice each semester during the school year and once during the summer. Dr. Hafen intimated that training during the summer months is difficult. Despite the fact that school is out and the students are gone, the maintenance of schools increases. The absence of students permits major maintenance work to be completed, thereby, reducing the number of employees available for training. The scheduling of training programs is very difficult due to the fluctuating demands of the multiple departments serviced by the training and development staff.

The Garage Staff

The interviews with the garage staff consist of different questions than those that made up the interview with the HRD. The format of the answers also differs as it involves eleven employees rather than two. The reference to employees is by job title and number (i.e. Vehicle Mechanic #1), in order to preserve anonymity. All of these employees gave an account of their mechanical background, including training.

Mechanical experience ranged from Vehicle Mechanic #6 with forty years total service as

a mechanic to Vehicle Mechanic #1 with 20 years of service in the United States Air Force (USAF). Shift Supervisor #2 has 24 years of service with the CCSD in which he held numerous positions in the garage including 12 years as a mechanic and four as a supervisor. The person with the least mechanical experience, Vehicle Mechanic #2 has three years as a mechanic with the remainder of the respondents somewhere in between Vehicle Mechanic #1 and #6. Time in position (in the CCSD) ranged one to five years for the supervisors and two to fourteen years for the mechanics.

Technical training received before employment with CCSD comes from a mix of technical school. Four of those interviewed went to private automotive trade schools, the other three received their training in the USAF or the USN, in either vehicle or aircraft maintenance. All three of the Shift Supervisors interviewed, attended technical schools, two private and one military. Neither of the Garage Attendants interviewed had graduated from a technical school and two of the mechanics had only received limited technical training combined with OJT. There is a scattering of college education amongst this group with none holding a degree. Each of the participants responded in kind with reference to the question of training received since obtaining their present position. Consensus held that vendor training made up the bulk of the training they have received while at the CCSD (i.e. Cummins Engine Familiarization). This includes basic familiarization with the new buses and their varied systems. Vehicle Mechanic #2 and Vehicle Service Worker #2 mentioned that they had also attended training classes for their smog licenses. These vendor-sponsored classes have often proven to be of equal value to both the mechanical staff and the vendors.

“I have gone to all those classes...picked up some pointers on how to repair the bus systems. I have given them some ideas too. Given them some idea of the problems we had with them. I brought these up to them, to see if they could come up with viable solutions to them (problems).”

--Vehicle Mechanic #1

When asked about the present quality of the vendor training and its ability to maintain the base mechanical knowledge. Four of the mechanics felt that the vendor training was insufficient, with Shift Supervisor #2 voicing a similar sentiment. Speaking on the subject of vendor supplied training; one of the mechanics described a specific incident that he believes sums up the shortcoming of vendor training. This is the effort to reach the entire staff, by aiming the program towards the lowest common denominator of mechanical knowledge. The complaint about the training class is as follows:

“Carrier was really basic. How the air conditioner works, principles of Freon. By the time, we got to their system. We did not have enough time to get into that (system).”

--Vehicle Mechanic #2

Vehicle Mechanic #6 the senior most mechanic interviewed in this work echoed Vehicle Mechanic #2. Pointing out that the training offered by the vendors was of very little use to him. He stated:

“I’m not happy with the vendors (training). Basically, all they (CCSD) have is vendor training and what they teach is basics. I had that 100 years ago.”

--Vehicle Mechanic #6

Vehicle Service Worker #2 pointed out that there are other negative aspects to vendor training. As there is little hands on training the vendors teach mostly theory and some of this theory does not hold up well in real life application.

“We have problems with their training. Some of the theories are completely backwards.”

--Vehicle Service Worker #1

Not all of those interviewed believed that the vendor training is insufficient. Two of the mechanics had no serious concerns over the use of the vendors as the primary training tool. Vehicle Mechanic #5 responded to the by saying “As a matter of fact (vendor training) has been a big help” and Vehicle Mechanic #4 believed that the classes “can solve problems.” Vehicle Service Worker #2 thought the classes “were pretty good”. At this point, the author must note that neither Vehicle Mechanic #5 or #6 nor Vehicle Service Worker #2 is a graduate of technical training programs. This fact might possibly explain their appreciation and approval of the vendor training. Those who have graduated from such programs did not express similar views as those who did not graduate. Each graduate of a technical program spoke of the inadequacies of the vendor training in its ability to maintain their base of mechanical knowledge.

In the effort to remain competent in their field, all the mechanics felt that the changes in technology played an increasingly significant role. That basic skills offered by the vendors were no longer enough. The program that the vendors teach must expand to cover the ever-changing technology that the mechanic has to deal with.

“More technically in depth training on the mechanical systems we’re getting on these buses. Diagnosis and repair.”

--Vehicle Mechanic #3

Other mechanics expressed the need for more technical training. They want more than the basic familiarization training. The mechanics have asked that the training be more technology focused.

“More lap top computers...everything is going to computers.

Computerized engine and transmission controls, ABS is going to computerization. If you don’t have the computer and electrical training, you will fall way behind.”

--Vehicle Mechanic #2

“I would like to see more training on most all of the new stuff. The electronic engines, transmissions and more electrical (training) on the buses. Because they (the buses) are changing all the time.”

--Vehicle Mechanic#5

Another mechanic chimes in with the following thought:

“As they throw more new equipment at you, ABS brakes and such, the training gives you an idea of what to look forward to. I think we should have someone come in and do updates for us in troubleshooting.”

--Vehicle Mechanic#4

As the last comment indicates, the advances of technology are a real concern for these mechanics. The vendors frequently give component updates in their respective classes.

The troubleshooting of components is a subject that needs more attention from the vendors.

In the area of promotional goals, mechanics and supervisors showed a great deal of commonality of thought in expressing a need for procedural and professional training. While the Vehicle Service Workers stressed a more practical training approach, neither of the Vehicle Service Workers expressed a concern for the development of computer, interpersonal or management skills. Their focus is towards the immediate next step up for them, which is the Assistant Vehicle Mechanic. Both of these gentlemen indicated that while training in the classroom was necessary, hands-on and OJT are the most important to them.

“If you show me the job once, I can do it. Classes will help me further”

but “OJT, is the number one thing, I think that will help me the most.”

--Vehicle Service Worker #1

The other Vehicle Service Worker interviewed, thought along a similar vein but stressed the need for theoretical training to be in conjunction with hands-on training.

“More hands-on, hands-on is really good... if you’re taking a class and you’re getting hands-on, that is when you’re learning the best.”

Continuing on he pointed out the downside of only teaching mechanical theory:

“If you read a book and do not get hands-on, you get the theory part, but in real life (application) you may not know what it is.”

--Vehicle Service Worker #2

Clearly, the old method of classroom training does not satisfy all of those who attend.

There is an indication that a certain degree of hands-on training must be included to

create the proper environment for learning. According to one mechanic, theory without application,

“Is like looking through at another planet through a telescope. You can assume what you like (but) until you are touching, feeling and handling things it is just not the same.”

--Vehicle Mechanic #4

Vehicle Mechanic #3 refutes this position by stating that “OJT is fine but it does not cover all of the necessary technical aspects.”

The next position up from mechanic is shift supervisor and the position up the ladder from shift supervisor is garage manager. All of the mechanic and shift supervisor respondents stressed the importance of technical training in the mechanical field.

However, they also expressed the need for more procedural and professional training.

Despite the fact that many of those interviewed were less than totally satisfied with the training at the CCSD nine of the eleven respondents answered an unequivocal “YES” to question #9; Given that an opening occurs in a position above yours, do you believe that you have had the training that will allow you to reach your promotional goals? The response of “yes” by nine of eleven participants is an example of the dangers involved in the Participant-Observer relationship. One must question whether such a high percentage of respondents answered in the affirmative because they actually believe they have the necessary training. Or is this a reaction to the position of authority that the author holds?

Vehicle Mechanics and Shift Supervisors expressed the need for the development of computer skills. All three of the shift supervisors have been through computer

training. Each supervisor has attended a four-day seminar on the RTA system. This system is currently in use throughout the vehicle maintenance department of the CCSD. All of the supervisors have also received drug awareness training, conducted by the HRD. One supervisor, Shift Supervisor #1, attended the Leadership 2000 seminar offered by the HRD. He expressed that “that was very helpful in dealing with his present personnel” and felt “this would assist him with promotions in the future.” According to one mechanic, the training of supervisors needs to involve more of an OJT approach.

“The person designated as the leaders assistant, should be allowed a certain amount of training, to sit there and learn what the leadman (Shift Supervisor) does, i.e. How to use the computer. The computer is the main thing that the leadman needs to know how to do. He needs to know a lot about what is going on, on the floor. It is this type of experience he learn just by being there and doing it over a long period of time in the capacity as back up leadman.”

--Vehicle Mechanic #1

It is necessary at this point to explain the relationship between the Shift Supervisor (a.k.a. Leadman) and his assistant, the back-up leader. Each Shift Supervisor chooses one mechanic to back him up. This person takes over the Shift Supervisor duties in the absence of the regular Shift Supervisor. There is no pay difference unless that back up actually assumes the duties; there is however, a certain degree of prestige associated with the position. Although there is no CCSD policy covering this the position, the opinion of many is that this is stepping-stone to a permanent supervisory position.

There is concern over the competency of supervisors and their need to remain competent. In order to address this concern there needs to be an emphasis towards managing personnel, rather than on technical knowledge.

“We’re paying these guys (mechanics) good money. We are assuming they’re mechanics. We know their work, we shouldn’t have to tell them how to change the brakes or fix the engine. In this position I need to go out there and say hey your having a problem with this and know how to deal with the management side of the issue.”

--Shift Supervisor #3

Training in management skills for the VMD supervisors are not universally applied. Of the fifteen supervisors presently in the department, only six have attended leadership training. The importance of leadership training and the development of management skills are important for both the vehicle mechanics and their supervisors. The honing of these skills will not only help the employee during consideration for promotion but will develop an air of professionalism within the department. Several of the vehicle mechanics interviewed voiced concerns over management training. Both in respect for obtaining this training to gain promotion and for maintaining their skill level once they reach supervisor. One mechanic made the following comment:

“There needs to be more in-depth training on procedural matter. Training of the handling of certain situations that occur under your direct supervision. A clarification of the chain of command and a clarification of the responsibilities of the position.”

--Vehicle Mechanic #3

Another mechanic spoke of the problems that exist between supervisors and employees and how he believed training would benefit both parties. He stated that there is a need for:

“More people skills” he continued on saying that an attitude of “I’m boss, you’re the employee type of thing. You have this ...gap that does not allow for interaction.” And “That you need to motivate people to work for you, and that they will enjoy working for you and they will work harder.”

--Vehicle Mechanic #4

The last two questions asked of the garage staff were; #11) Do you believe that a CCSD sponsored training program would benefit your coworkers and or yourself? The last question asked was #12) What should that program include? The answer to #11 was a resounding and universal “Yes.” Each respondent believed such a training program would be a benefit to all VMD personnel. The last question #12 brought a myriad of answers.

All felt that the program needed to include training in electronics, as this is the wave of the future. Consensus stated that the training program needed to be well defined with established goals. The need to understand how and why a vehicle or component works is essential to the ability to repair those items. Vehicle mechanic #1 stated a mechanical fact of life “If you don’t know how it works, you can’t fix it.” In the rapidly changing world of automotive technology the ability change parts no longer suffices. There is a real need to understand the systems on which you are working. Discussing the importance of understanding the manner in which components interact, Vehicle

Mechanic #2 gives an example of electrical work “It’s like electrical components, you can look at it and plug in a new one but you really should know how it works.” This ability to understand the vehicle is the difference between a mechanic or technician and a parts-replacer.

The development of a training program as viewed by those interviewed needs to address the varying levels of skill presently existing within the VMD. Shift Supervisor #2 discussed the curriculum for the training in depth. He felt that the automotive training should include

“Basic automotive to start off with, transmissions, brakes, suspension, diagnostics and tune-up classes. Classes should be offered in the day and the employee could work at night. Similar to the apprenticeship programs of many unions.”

--Shift Supervisor #2

However, not all of the employees require such a basic approach to training. Most of the mechanical staff have several years of experience and to put them through a basic program would not only be unnecessary but it would also be insulting. Vehicle Mechanic #2 believes as do many others that the CCSD must “have the training levels range from intermediate to advanced.” Otherwise those already at the advanced level will “come in and be bored.” Vehicle Mechanic #1 summed up the development of such a program. He stated “that it need to be tailored to all levels of proficiency.” The consideration of all skill levels is necessary in the development of such a program. This consideration will allow for a productive and successful training program.

Summary

This work has examined several of the issues involved in the training and development of the CCSD garage staff. Along with the results that were expected came some surprises. The expected results concerned the request for computer and electronic training. Also anticipated was the request by the supervisors for management training. However, the common belief that vendor training was sufficient to maintain the mechanics base knowledge, proved false. This study destroyed this commonly held notion about the ability of vendor training to suffice as the only training. According to those interviewed neither the majority of mechanics nor any of the supervisors felt that vendor training fulfilled their training needs for the future.

There are several problems with the system of vendor training presently in use at the VMD. However, the vendors are not to blame for all of the shortcomings of this type of vendor based training. The first of these is the disorganized manner in determining attendee selection. The fault for this problem lies totally with the VMD. There has been an effort on the part of the management to send a different group to each class. However, there is no set method for tracking those who have and those who have not previously attended a particular class. The attendees of a vendor training seminar normally receive a certificate of completion for that seminar. Once the employee receives a certificate of training they are able to place it into their personnel file. In order to better track the attendance of these seminars, a training record for each employee is necessary. This training record or file should be a completely separate file from the personnel file and must hold all of the copies of the training certificates. Unfortunately, no training file is presently in use.

The second and most significant problem with vendor training is the content of the training. Development of the vendor program includes very little input from the VMD. As previously discussed, these training programs range in content from solely theory based, to a program that includes limited hands on course work. There is presently no system for testing what the attendees have learned in the seminars. Without a testing program there is no method of determining what the employee has gleaned from the training program. Without input from the VMD, the information disseminated in the seminar may miss the mark in delivering information pertinent to the employees needs. As several of those interviewed indicated, the vendors aim to reach mechanics at the lowest common denominator. However, vendor training is an excellent instrument for information augmentation. It is sufficient for component updates and refresher courses, but it should not constitute the bulk of a training program.

Including the training by vendors in the vehicle bid has been a practice that has developed within the last five years. Including training in the vehicle bid was at the time of its inception considered a great step forward. Before the requirement of vendor training through contractual obligation, little training of any type had been available to VMD employees. While management has considered this sufficient training, it is obvious that their perception was wrong. Clearly there needs to be a change in the training methods used by the vehicle maintenance department. Moreover there needs to be a rethinking of the entire training process as it presently exist in the VMD.

The works and theories discussed in the literature review demonstrate the importance of training, to both the employee and the organization. The willingness and ability to train employees will help to develop a stronger employee commitment to the

organization. The employee will gain a greater sense of importance to the organization. The employee will also become a more valued participant in the organizations' operation. There is every indication that the well-trained employee will remain loyal to the organization that trained them. Aside from the importance of remaining mechanically competent, the question of employee loyalty has become a serious issue for the CCSD. Surrounding public entities have lured away several employees of the VMD. As previously discussed, monetary gain was a factor in their decisions. Unfortunately, the CCSD could not compete in this area.

The implementation of a serious training program might well have cemented the relationship between the CCSD and these employees. Once trained the employee is better able to see the link between their future and that of the organization. The sense of connectedness experienced by the employee after under going an established and organized training program is best explained by the Hawthorne effect. Singling out of the employee for special treatment (training) gives them a higher sense of their value to the organization. The CCSD should not strive to make individual employees feel better about themselves or the district. Instead, all of the VMD employees should receive the training that will enable them to have this sense of connectedness.

The management, leadership and interpersonal skills training presently performed in the CCSD are too haphazard and indiscriminate to be completely effective. However, we cannot place fault on the understaffed HRD training section. The two-man operation known as Systems Design and Staff Development is simply overwhelmed. The training received from this department is of the highest quality. The sheer size of the CCSD as compared to the limited resources of this department minimizes the overall effectiveness

of the training. Each school district department must come to them for leadership, management and interpersonal training. Therefore, there are severe restrictions on the amount of time and space that is available for training. The limited resources create a similar problem in the area of computer skills training. Although there are more trainers and larger facilities, Technology Literacy Services performs all computer training and funnels all employees through their program.

The findings of this work call for an immediate review of all garage training. Due to the limitations faced in acquiring training from outside of the department, the VMD has several options available to it. The first is to do nothing and allow the mechanical staff to fend for themselves. This is not an option, as it neither serves the best interest of the employee, the VMD nor the students they transport. That said, a program of training needs to be developed. The two options left are the “Squeaky wheel gets the grease” theory, in which the employee or department that ask for training gets training. The other more viable option available is the “Take the bull by the horns” method where the VMD develops its own training program.

The fact that school buses carry our most precious cargo should alone drive the need for better training of the garage staff. While considered competent for the present, the garage staff faces the ever changing and advancing technologies that lie in wait for the unprepared mechanic. These technological changes will remove this competence status if the garage staff is ill prepared. In order to meet this challenge, the Clark County School District must use training to prepare its garage personnel for the future.

Chapter 5

Recommendations and Conclusion

Recommendations

The CCSD in general and the VMD in particular suffer from the mindset of Crisis Orientation. The overwhelming growth witnessed by the school district has eroded or destroyed the Vehicle Maintenance Departments' plans for the future. Instead of focusing on the future, the VMD management moves from one crisis to another, essentially putting out the fires as they flare up. The ability to maintain the high level of competency required for the repair of the technologically advanced vehicles of the CCSD, is merely another one of these fires. The VMD must find a solution to this propensity for the crisis orientation. One possible cure is to develop and implement a carefully planned and executed training program. Such a program will allow the VMD to quickly adjust and adapt to the technological changes of the future.

Position Changes

Presented in the preceding pages is ample evidence to consider the implementation of a training program. The first logical step in creating such a training program is to establish the goals for that program. One of these goals is to reorganize the layout of the department. Presently all of the Vehicle Mechanics of the VMD are in the

same pay grade. There is a need to establish differing levels of Vehicle Mechanics within the VMD. Several of the other public entities in Southern Nevada already use this system. Clark County, the City of Henderson and the City of Las Vegas all take the stepped multi-level mechanic approach. While each agency has variations to its vehicle maintenance department, they all have similar standards for mechanics. These entities have divisions of duties designed in the following fashion: Mechanic I- light-duty vehicles, Mechanic II- Medium and Heavy-duty vehicles and either a Senior Mechanic or a Smog Certified Mechanic. This change would eliminate the positions of Vehicle Service Worker and Vehicle Mechanic Assistant and would replace them with the lowest level mechanic.

In the CCSD determination of the pay raises and the pay scales for mechanics are not by degree of mechanical knowledge or merit but rather by time in grade. This is a double-edged sword for management. The CCSD considers all of the Vehicle Mechanics on the same level, unfortunately this is not the case. The best example of this is the difference in knowledge required by the Vehicle Mechanics working in the bus and truck garages and those mechanics working at the Eucalyptus facility. Those working at the Eucalyptus garage repair a smaller type of vehicle only (cars and trucks). The expectation is that mechanics at the other CCSD garages be able to repair almost any vehicle large or small. It is evident that this is a recipe for disaster, as only discontent can come from this arrangement. Traditionally mechanics that work on heavy equipment (buses, trucks and tractors) are paid a higher wage than their counterparts in the strictly automotive field.

It would behoove the CCSD to move to a stepped design in the mechanical staff. This will allow for training at different levels, pay at different levels and a more regular

method of promotion. It is necessary for training to play a major part in the advancement of mechanics from one grade to another. This would also allow the CCSD to monitor the training of its mechanical staff and judge their abilities against others in the same grade not just in a general group. The choice for the position of Shift Supervisor must only come from the highest level of mechanic. Either that of heavy equipment or smog certified mechanic. As this will be a group of limited size, those persons occupying the higher levels can be trained to be supervisors. This will help to ensure that the person most qualified technically and academically will receive promotion.

Changes in the VMD and Training Methods

Once the goals are established, a cost/benefit analysis is in order. As previously discussed this cost/benefit analysis must include both the cost of hard and soft money. It must also include both a Cost Savings and Utility Analysis. This will allow the CCSD to understand all the possible costs and ramifications of developing such a training program. An examination of the current employee files and their previous training status is an excellent starting point for this analysis. The examination of the employee files will allow the management of the VMD to gain a perspective on the training level of each staff member and the overall needs of the department.

It is suggested that in both the reorganization of the department and the needs analysis of each of the VMD staff that the HRD is deeply involved. The involvement of the HRD in this program is a priority. The VMD will need to access the expertise of the HRD in order to fully and accurately develop a cost/benefit analysis. It is also essential that the HRD is involved in the job analysis. A job analysis by position is required to

assist in the evaluation of the VMD training program. It is imperative that completion of this job analysis occurs before developing the standards for the new stepped mechanic levels.

The training of the mechanical staff must meet the needs of the individual. There is no sense in teaching basic skills to a journeyman or master mechanic. The blanket type approach used presently has proven ineffective. To distinguish the differing levels of ability the review of present records will take into account years of experience, technical schooling (military and private), ASE Certification and formal higher education. Vehicle Mechanic I requirements are as follows: one to five years of experience and some OJT and technical schooling. Vehicle Mechanic II requirements are as follows: experience of five years or more, technical school graduation and some ASE certification. The requirements for the position Vehicle Mechanic III are as follows: ten years of experience, Master Automobile, Bus or Truck Certification from ASE or an AA degree. The requirements for the position of Shift Supervisor are as follows: the employee would have to have occupied the Vehicle Mechanic III position for at least two years, hold an Associates or Bachelors degree and under gone management training through the CCSD or an accredited college or university.

The first question that arises in the new training program is who is responsible for the training program. Ideally, there needs to be one responsible party for the implementation and upkeep of this training program. This responsibility must fall to one of the two Garage Managers in the VMD or a position equal to them. We will give this position the new title of Training Manager. The Training Manager will coordinate all aspects of the training program. This will include interfacing with the HRD on a regular

basis and assisting the vendors in developing programs that will fully benefit the CCSD. The Training Manager will need to develop a training record for each member of the garage staff. The training record will permit the Training Manager to record and track the progress of each employee within the training program. The employee and their immediate supervisor will review this file biannually, not only during the yearly review period. By placing the responsibility for the administration of this program under the auspices of one person the program is better controlled and coordinated.

The second question is what training methods are in use in the new training program. The training will utilize OJT as well as technical schooling. Ideally, structured OJT is the preferred method of hands-on training. Thus the newest mechanic will work along side one the class III mechanics. This will introduce them to the different types of equipment and the assorted idiosyncrasies of that type of vehicle (this is of particular importance for the repair of the buses, due to the shortage of mechanics with prior school bus experience). By having the newest Mechanic I work with a more experienced Mechanic III for half of their probation period there is control over how and what the new mechanics learn. The use structured OJT in combination with either in-house training or outside training such as the automotive classes offered at the CCSN allows for a complete educational experience.

In-house training consists of using higher level mechanics and shift supervisors to teach in areas that they have had extra training or experience in. This includes the reexamination of how the CCSD chooses employees to attend offsite training. Instead of sending mechanics indiscriminately to off-site training that is offered by vendors, only the level of Mechanic III and Shift Supervisors will attend these classes. The purpose of

limiting the attendance of these classes is to send employees that will come back and teach others. The ability of the VMD to have its own people disseminate their accrued knowledge will raise the general level of mechanical knowledge of the entire staff. There is hope that it will help to develop a sense of unity within the VMD by moving the department towards the concept of the learning organization.

The use of outside training such as that offered through the CCSN will give a solid and recognized base to all those mechanics that develop through the CCSD training program. It is in the best interest of the CCSD if the Community College of Southern Nevada is involved in this training. Their association with the training program will give a sense of legitimacy to the in-house training program. The position of Training Manager would be instrumental in coordinating and determining the progress of each employee. Once the mechanic levels are changed, the establishment of specific benchmarks for each employee will allow the VMD to determine the performance and training needs of each employee. The department will then in-turn be able guide the employees towards reaching their individual promotional goals.

The training for the Vehicle Mechanic I, II and III positions will encompass CCSD sponsored technical schooling (either in-house or outside) along with structured OJT. This technical schooling can come from several areas, the community college, vendor training (structured vendor training) and in-house training. The development of the training will also include the information necessary for the mechanics to obtain their ASE certifications as well as any certifications for smog licenses.

In order to allow mechanics to develop their skills it is necessary to move away from the traditional teaching models. Instead of relying only on outdated classroom

methods and OJT, the CCSD must make use of the newest technologies. The VMD already has access to some these technologies. The Virtual College program from the Cummins Engine Co. is an example of this. By using the computer as a one on one teaching tool the mechanical staff can learn at their own pace. In this way they not only feel less pressure from the group but also gain a sense of individual accomplishment. The VMD presently owns the Virtual College program but this system is unavailable for use due to technical problems related to the CCSD computer system. The use of video as a teaching is already a standard in the VMD. Presently the primary use of videotapes is for instruction in safety practices but they have also addressed the subjects of sexual harassment and drug awareness.

Management Training

The mechanical staff has had to adapt to the changes brought on by new technology; simultaneously the management of the VMD has had to adapt to both technological and societal changes. The CCSD can no longer be satisfied to have the VMD management merely assign work to the mechanics and answer technical questions. Instead, the Shift Supervisors must deal effectively with shifting demands that now incorporate mechanical ability and interpersonal skills. In order to meet the demands placed upon the Shift Supervisors they must be equipped with the proper tools. The assumption is that they already have the necessary mechanical skills due to the position from which they gained promotion. Therefore, an emphasis on management and interpersonal skills is a necessity.

The development of a quality supervisor will necessarily include training in diversity, sexual harassment, drug awareness and communication skills. The HRD presently offers these classes. As previously discussed the problem related to enrolling in these classes is the inability of the HRD to meet the needs of all departments due to its limited size. The development of a program that would allow a few representatives to receive this training and then train their coworkers would have a greater impact and allow for the more effective dissemination of this information. The Training Manager is the ideal person to send to this training, as they are already familiar with the training needs of the VMD.

In conjunction with the HRD, the VMD needs to develop a system whereby departmental trainers are developed. This system of creating departmental trainers from the already existing staff will not only help to reduce the demands on the already overwhelmed HRD staff but will insure that all VMD supervisors receive the same training in the same fashion. In the area of management skills the Shift Supervisor will receive OJT while they occupy the Mechanic III position. Thus, they will already understand what the job entails and will have the basic skills necessary to perform that job.

The addition of formal education to the position of Shift Supervisor is highly recommended. The use of training in this position is imperative but the addition of formal education will serve to expand the horizons of the supervisor. This is of particular importance to that supervisor that wishes to rise to Garage Manager or Vehicle Maintenance Coordinator. Without attaining a full four-year degree, which is difficult with fulltime employment, the employee should at minimum, make the effort to take

some college courses. The CCSN offers an Associates Degree in Management and the UNLV department of Continuing Education offers a Management Certificate Program. Both of these programs would benefit their participants immensely.

Conclusion

The methods of training presently used by the VMD are quickly becoming outdated. The reorganization of the department is necessary to keep pace with the changing demands of the workplace (both technologically and monetarily), but to help facilitate the development of a better learning environment. Clearly, the changes discussed in this work call for greater cooperation between the VMD and the HRD. In actuality, they call for changes within those departments themselves. For the VMD to adjust for the changes that the future brings, it must move towards becoming a learning organization in the midst of a teaching organization. The HRD must move away from its role as the traditional HRD model and towards the paradigm of the Strategic Human Resources Department.

Everyday CCSD buses transport thousands of students. The ability of the VMD to adapt to the changes the future brings constantly challenges the departments' ability to deal with those changes. There is a need for further investigation into the impact that the departmental reorganization will have on the CCSD as a whole. A serious question also exist in whether the VMD can continue to compete with the surrounding entities as the wages of mechanics continue to climb. The creation of a full fledged training program for the mechanical staff and supervisors will enable the VMD to prepare its personnel to meet the challenges of the future. The ability to prepare the mechanical staff for the

future is of the utmost importance, for as the CCSD heads towards the future, the future rides on the buses maintained by the Vehicle Maintenance Department.

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