

Engineering Management
Field Project

**Training Program Plan for the Sales Department of
Great Western Manufacturing**

By

Katherine Wiley

Summer Semester, 2011

An EMGT Field Project report submitted to the Engineering Management Program
and the Faculty of the Graduate School of The University of Kansas
in partial fulfillment of the requirements for the degree of
Master's of Science

Herb Tuttle
Committee Chairperson

John Conard
Committee Member

John Brickleyer
Committee Member

Date accepted: _____

1 ACKNOWLEDGEMENT

This field project is dedicated to my husband who has made many adjustments to help me through school. Thank you for all your support and understanding through this very busy time in my life. It is also dedicated to our soon-to-be son, Karter. Thank you for an uneventful pregnancy, which allowed for the completion of this project.

I would like to thank all the Engineering Management staff that has taken so much time to help me in my studies. I would like to especially thank my project committee members for all of your help and suggestions on this project. Thank you also to Mr. Bowlin who filled in at the last minute to make sure that I could do my presentation on time. I greatly appreciate the time and effort that was given for my project.

Finally, I would like to thank my employer, Great Western Manufacturing, fellow employees, and specifically the owner, and my boss, for assisting me in this project and school.

2 EXECUTIVE SUMMARY

This field project for the Masters of Science in Engineering Management at the University of Kansas was designed to provide a layout for a training program for the Sales Department of Great Western Manufacturing. It began with a literature review on how adults learn, the types of training programs available, and information on designing training programs. Through the literature review, it was determined that adults learn best through repetition and scenario based training.

A questionnaire was distributed to the Sales staff and production managers at Great Western Manufacturing. The questionnaire was focused on the opinions of both veteran employees and new staff within the Sales department. Based on the idea that the production staff would know better where sales lacked at delivering the necessary information for production, a second questionnaire was created for production supervisors to get a sense of what the supervisors thought should be included in the sales training program. The questionnaire focused on what training employees felt was needed in a training program for the Sales department. It also asked employees what they felt would be the best method of training for the training program

The Sales staff found five areas to focus training: internal systems, technical aspects of Great Western equipment, sieves and flows, customer/industry information, and competitor information. Overwhelmingly, production managers found the area in greatest need of training attention concerned documentation and order descriptions. Both groups found formal structured training with some hands on training to be the best methods of delivery.

Based on the information provided by the literature review and questionnaire, a training plan was developed for the Sales department of Great Western Manufacturing. The plan includes the content of the program, mode of delivery, roles and responsibilities, and the preliminary schedule.

TABLE OF CONTENTS

1	Acknowledgement	1
2	Executive Summary	2
3	Introduction.....	5
4	Literature Review.....	8
4.1	Educating Adults	8
4.2	Types of Learning/Training Programs and Modes of Delivery	10
4.2.1	One-to-One Training.....	10
4.2.2	Scenario Based Learning	11
4.2.3	Web Based Training	11
4.2.4	Mobile Learning.....	12
4.2.5	Self Directed Learning.....	13
4.2.6	Performance Support	14
4.3	Developing Training Programs	15
4.3.1	Designing a Program.....	16
4.3.2	Centralized versus Decentralized Training Programs.....	19
4.3.3	Scenario Based Learning	20
4.3.4	Mobile Learning.....	20
4.3.5	Performance Support Software	21
4.3.6	Benefits of Behavioral Self-Monitoring	22
4.3.7	Benefits of Mentoring.....	22
4.3.8	Benefits of Social Learning	23
4.3.9	Feedback	23
5	Procedure	26
5.1	Questionnaires	26
6	Results/Project Plan	29
6.1	Project Overview	29
6.2	Project Plan	30
6.2.1	Purpose.....	30
6.2.2	Assumptions and Constraints.....	30
6.2.3	Deliverables	31

6.2.4	Preliminary Schedule	31
6.2.5	Reporting and Communications	32
6.2.6	Quality Control	32
6.2.7	Information Storage	32
6.2.8	Closeout/Evaluation Plan.....	33
6.2.9	Updating/Revising Procedures.....	34
6.2.10	Modular Units	34
7	Suggestions for Additional Work	45
8	References/Bibliography.....	47
9	Appendix A: Sales Staff Training Needs Assessment Questionnaire	50
10	Appendix B: Veteran and New Employee Assessment of New Employee Training Needs	51
11	Appendix C: Production Staff Training Needs Assessment Questionnaire.....	52
12	Appendix D: Preliminary Schedule	53

3 INTRODUCTION

Great Western Manufacturing is the oldest, continually operating manufacturing company in the state of Kansas and has been manufacturing milling equipment for 150 years. With such a long history in the industry, most of the clientele come from loyal customers due to the wealth of knowledge and superior quality offered by Great Western.

The Sales department is the main interface with the customers of Great Western. Originally starting with only the owner of the company, the Sales department has grown to include five individuals. Three of these individuals were added within the last five years; two of the three individuals were added within the last six months to one year. The top management of the Sales department will most likely consider retiring within the next ten years and will take with them 45 years of experience and knowledge. This amount of change and turnover is unfamiliar to Great Western and has required the addition of employees whose backgrounds are outside of the milling industry. The ever-decreasing amount of individuals with a milling background is requiring Great Western to prepare for a future of employing individuals outside of the expertise needed.

Great Western is a company of a little over 100 employees. Therefore, employees do a mixture of job tasks. The Sales department not only takes sales calls and writes proposals, but they are also in charge of testing materials, helping design material sifters, determining the cost of equipment and components, and scheduling equipment. Therefore, the skill sets necessary to be a successful sales employee at Great Western has less to do with personality and more to do with knowledge in the field and of the equipment and ability to multitask.

Great Western Mfg. currently has no training program in place. It is well known that the employees learn through trial and error. The problem is with such a high degree of expertise leaving

within the next decade and such high turnover recently, there is less time for individuals to learn the job through “on-the-job” training and trial and error experiences.

As Shannon Hogg (*Adult Education in the Workplace*, 2007) once stated in an article on adult education in the work place:

“On-the-job training is common throughout business and industry, and it is often conducted with no formal direction or guidelines by individuals with specialized knowledge but little background in adult education and little time to dedicate to the task. As a result, much of what we label as on-the-job training might be more accurately described as unguided efforts to foster self-directed learning of job skills”

Though many companies do train employees in some form, most prefer to invest in on-the-job training with little formal documentation or procedures. Many companies view training as a cost rather than an investment. However, training programs can provide many benefits to a company such as increasing the knowledge base of employees, helping employees feel empowered, reducing rework and errors, increasing quality, increasing productivity, and increased employee retention. Training programs can also help transition employees when changes are needed in the work place.

There are many factors that determine the success of a training program. Some of these factors include the learning styles of the audience, instructional methods used, preparation of the training program, technological competence of employees, and time constraints.

There are things companies can do to better ensure success of training programs. Some of these items are:

- Creating a formally documented training program
- Use materials that build on employee’s experiences
- Create a collaborative learning environment and encourage participation
- Evaluate the training program and employees

- Include learners when developing the training program.

This field project will be used to help speed the learning process for new employees so they can be productive members of the Sales Department much sooner. It will allow Great Western to maintain its reputation as an industry leader in the knowledge of milling and sifting equipment.

4 LITERATURE REVIEW

4.1 Educating Adults

In order for training the workforce to be effective, it needs to be appropriate for an adult audience. Teaching adults in the work environment is unique to traditional teaching. In the work environment, students often come to the table with previous experiences and some knowledge on the subject matter. Therefore, the first area researched in this project was on how adults learn in order to tailor a training program effectively to the desired audience.

Research on the human brain shows that humans remember things through experience. Every time humans encounter something new, from the day they are born, they create a blank template for this item in their mind. These blank templates are called Holons. When encountering a similar item later, humans form another Holon by using the original Holon from the first experience and adding to it. Holons are continually combined to form memories of new experiences. Therefore, people are constantly using past experiences to remember new ones. Remembering is actually reconstructing these Holons in the mind, not retrieving them (Whitmore 2009, 60-65).

In order to remember these new combinations of Holons formed during new experiences, individuals require many repetitions to strengthen the new Holon arrangement in their mind. It is also imperative to associate this new arrangement with positive outcomes. By associating these new Holon with positive outcomes, it is more likely to be retained in the memory.

Malcolm Knowles, a major figure in the research on adult education, came up with six core principles of adult education (Kistler 2011, 28-30):

- Adults need self-directed learning.

- Adults bring experiences with them.
- Adults are goal oriented.
- Adults are relevancy oriented.
- Adults are practical.
- Adults need to be respected.

Adult learners tend to be self-directed learners. Trainers need to build a respect with the students and acknowledge their opinions. It is helpful to allow students to accept responsibility for parts of the training such as presentations and discussion. Trainers should act as facilitators not dictators (Kistler 2011, 28-30).

Adult learners will bring their own experiences to the training that will affect their learning. These experiences will help them learn the material by allowing for associations with past experiences. Trainers need to draw out the experiences that relate to the training. However, these experiences may have created assumptions and biases that the instructor will need to question (Kistler 2011, 28-30).

Adults tend to be goal oriented. They often need to realize a need for education and why it is important. They will weigh the benefits of the training versus the consequences of not participating (Kistler 2011, 28-30).

Training needs to be structured so that adults can see the relevance of the training to what they hope to achieve. Training should reflect their interests. Students should be able to reflect on the training and see where it fits with their goal (Kistler 2011, 28-30)s.

Adults learn best with practical training. This can be accomplished through real life examples and focusing on their needs. They will focus on the aspects of the training that most strongly relate to their work and their needs (Kistler 2011, 28-30).

Adults need to be respected. They tend to be intrinsically motivated. Educators should encourage feedback and treat students as colleagues. Trainers need to acknowledge the experience that the students come with (Kistler 2011, 28-30).

There has been plenty of research conducted on how adults learn. Companies need to use this information and the principles of adult education when developing training programs. By making training programs more conducive to adult learners, there is a greater chance that the training will be successful and long lasting.

4.2 Types of Learning/Training Programs and Modes of Delivery

There are many types of learning and training programs companies can adopt. Traditional training programs involve classroom based instruction and are usually very teacher oriented. The trainer dictates information for students to memorize. The downside to this type of training is that it is often hard for employees to retrieve the information they have learned in real world situations.

The types of training companies use are widely varied. They range from trial and error methods to strictly structured, formal programs. Trial and error training is more of discovery learning. Employees are thrown into work without any formal training and learn through experience and mistakes (Whitmore 2009, 60-65).

4.2.1 One-to-One Training

One-to-one training is another training method organizations use where one employee, usually considered to be an expert in their field, directly trains another employee. Employees may follow or shadow the expert during the training period. This is a low cost option for training, which requires the right trainer and needs to be performed at the right time and place. To be the most successful, one-to-one training needs to be well thought out and structured.

4.2.2 *Scenario Based Learning*

It has been shown that scenario based learning (SBL) or problems based learning better aids employees in real life work situations. This type of learning requires trainees solve carefully constructed, real world problems based on genuine job tasks that will be later encountered in the work environment. This training method gives employees experiences, which increase expertise. Trainers guide employees to learn the required concepts and procedures while solving the problems (Clark 2009, 84-85).

Scenario based learning has shown great success in the fast transfer of knowledge. In one study, air force personnel were put through 25 hours of scenario-based learning. At the completion of the training, the personnel's expertise level of knowledge had increased from that of a two and a half year employee to that of a ten year employee (Clark 2009, 84-85). In SBL, students are required to gather the essential information required to solve the problem, gain understanding of the necessary concepts, develop the skills needed to solve the problem and take accountability for solving the problem.

Though SBL has shown great success in the retention of information, it requires much more effort at start up compared to the previously mentioned training programs. Also, it may be too complex and complicated for new employees who do not come to the table with some knowledge and experience. SBL works well for training employees on non-routine tasks that involve troubleshooting. It has also proved useful in aiding decision-making and with sales tasks that allow for judgment calls (Clark 2009, 84-85).

4.2.3 *Web Based Training*

Many companies have seen benefits in web-based learning. Web based training has the advantage of being able to reach a lot of people at once. It is most successful when it enforces self-

directedness and focuses on competencies. It tends to work best when it requires employees to perform interactive activities (Giguere 2005, 15-16).

Web-based training is often thought to be a cheaper alternative than traditional training since it eliminates an instructor, can reach more people at once, and employees can go through training at any time. However, it requires major start up resources. Web training requires major investments in time, talent to design the web base, and training to use the program. It often may be cheaper to hire a consultant or instructor (Giguere 2005, 15-16).

Some believe face-to-face training is better than web-based training due to the lack of communication available through web-based training. Increased communication can be achieved, however, through establishing blogs, workplace social sites, and e-mails (Giguere 2005, 15-16).

Both face-to-face training and web-based training have their advantages. Some lessons tend to lend themselves better to one type over the other; however, neither method will deliver the intended lesson well if students do not find meaning in the lesson (Giguere 2005, 15-16).

Web-based training may not work well for all employees. Developers need to consider the amount of prior knowledge the employee has, the preferred learning method of the employee, and the amount of technical experience the employee has (Giguere 2005, 15-16).

4.2.4 Mobile Learning

Mobile learning is said to be one of the top trends in the learning field for 2011. Mobile learning involves training through mobile devices like cell phones and iPads. It can be used as a timesaving method for training where employees can access information on their own time. It can also be used as a supplementary role where employees have easy access to manuals and supporting materials. This allows for accelerated strengthening of the original training. Similar to web based training, this type of training allows for easy access to many people at once. However, it is difficult

to transfer a complete training session via mobile devices as many employees will be using rather small mobile devices like cell phones (Brink 2011, 27-29).

4.2.5 Self Directed Learning

Self directed learning is training in which the employee identifies a needed skill or concept they are lacking and works at their own pace to acquire the skill. Traditional training tends to be very structured. Most traditional training is done through lectures aimed at multiple individuals and is provided by the company. Self directed learning, on the other hand, allows for individualization of the training. Employees are allowed to grow and develop at their own pace. This type of training can work especially well for Sales where employees make many judgment calls and job related decisions on their own like how to organize their contacts and gauging customer needs (Boyer 2008, 62-66).

There are four types of self directed learning: induced, synergistic, voluntary, and scanning. Induced self-directed learning involves training that is mandatory for the industry or company like licensing (Boyer 2008, 62-66).

Synergistic self-directed learning incorporates training that is provided through a company but is not made mandatory to the employee. Employees are free to accept and use the training if they feel it will benefit them, or they need it. Synergistic self-directed learning may include information booklets, manuals and training courses (Boyer 2008, 62-66).

Voluntary self-directed learning is training in which the employee decides what to learn and when. This type of training requires the employees to be able to assess their own needs and deficiencies. It involves being able to evaluate the market to deduct what needs to be learned (Boyer 2008, 62-66).

Lastly, scanning self-directed learning involves an ongoing search for learning. The employee does not know what training they will be looking for until they find it. They may decide on training endeavors by searching trade journals or talking to industry experts (Boyer 2008, 62-66).

Self directed learning has been shown to reduce training costs because companies are not investing in unnecessary training. It has been shown to increase learning efficiency, reduce training time, increase intrinsic motivation, create higher employee commitment, and create a more adaptive work force. It has been especially beneficial in sales as sales employees tend to be more aware of the competition and, therefore, their training needs. However, self-directed learning requires some skills and motivation on the employee's part. It may not be best for employees who do not have the skills necessary to find information quickly and appraise their own deficiencies (Boyer 2008, 62-66).

4.2.6 Performance Support

While some companies prefer formal training methods and others prefer more self-directed training models still others prefer even less formal training. Performance support can be used as a company's sole training method or as a supplementary resource to already existing training methods. This type of training provides the right information at the right time to the right people. Performance support provides resources, tools and information on the job or task (Mosher 2008, 23-25).

Performance support does not have to replace traditional training within the organization. When performance support works in conjunction with formal training methods, it can greatly reduce the amount of formal training necessary to the employee. When paired with performance support models, training can focus on just the critical concepts, processes and skills needed for the employee to get started. The training program doesn't have to absorb all training because performance support allows the employees to support themselves (Mosher 2008, 23-25).

In order for performance support to be successful, it must be accurate or employees will lose trust in the system and look elsewhere for information. Companies need to keep these systems up-to-date. There needs to be a mechanism in place for changing information and getting the information back into the performance support materials. Lastly, employees must to be made aware that these changes have taken place in a fast, accurate and visible manner (Mosher 2008, 23-25).

Companies have a vast array of training programs and modes of delivery. It is important for companies to assess their needs and abilities prior to choosing a certain mode of delivery. There are advantages and disadvantages to each. The best choice for each company will be dependent on the skills they are trying to convey and the technical experience of their employees.

4.3 Developing Training Programs

Training programs are hard to develop because of the large amounts of information needed to be contained within them and the fact that this information often changes quickly with the industry. However, surveys show that learning and development increase employee satisfaction. In fact, surveys show that employees find this to be the most important factor in achieving career advancement (Hansen 2010, 16-17). Training and development aid in employee satisfaction, but it also benefits the company by increasing their competitiveness and growth prospects. As workers increase their skills, they will also increase innovation and product development, which leads to increased revenue for companies. Therefore, it is important for companies to take the time to develop the appropriate training program for their institution (Hansen 2010, 16-17).

Companies tend to have skills gaps in three areas: technology, industry, and thinking and behavior. Technology changes all the time making it hard to keep up with the necessary skills. A survey performed by the American Society of Training and Development showed that 41% of companies surveyed said that employees lacked industry skills they felt were important to have. In

this same study, 31% of companies stated they had a gap in management and leadership skills like creativity, collaboration, teamwork, and problem solving (Lieberman 2011, 18-25).

4.3.1 Designing a Program

When designing a training program, companies need to assess and describe the capabilities the employees need to learn, and then, design the training activities around the needed competences. These activities should be broken down into parts that can be assembled together into a lesson and should provide plenty of repetition and practice for the employee.

When developing a training approach, trainers need to focus on the following aspects:

- Needs analysis
- Delivery of training
- Transfer of knowledge
- Evaluation

Trainers need to analyze not only the needs of the job or tasks that need to be trained but also the learning needs of the employee. The delivery method of the training should be based on the needs analysis and on the objectives of the training. Transfer of the knowledge gained in training to actual job performance is crucial. The employee should put the new knowledge to work immediately in order to avoid retention reductions. If the tasks learned are seldom used on the job, training aids should be developed to retain the skill. Finally, evaluation of the trainer, trainee and system needs to be conducted to make improvements as necessary (Whitmore 2009, 60-65).

Practice should be done in the different environments that will actually be experienced on the job. This will help to strengthen remembering of the material. Employees should view these practice sessions positively. Positive training conditions will help to reinforce long-term learning.

A training program will include all information and training necessary to become a successful employee. Training programs are broken down into training modules that accomplish one set of learning goals (Prentiss 2004, 46-47).

Much research has been done on the different training programs. The Center for Creative Leadership finds that experiential learning is often best. An employee can read literature but actually performing tasks is often better at preparing employees. They have found that stretch assignments and interactions work better than formal education and training programs. In fact, they estimated that 70% of learning is actually done informally on the job (Lieberman 2011, 18-25)

When designing hands-on training modules, trainers need to take into account (Prentiss 2004, 46-47):

- Training objectives
- Tasks
- Givens
- How the job will be performed
- How well the job will be performed
- Procedures
- Tools, resources, and materials

The training module is made up of a series of education goals. The training objective breaks these goals down into measurable tasks. Givens are the limits you must work within. For example, this can include the necessary information or equipment needed to do the task or prerequisites necessary before starting the task. Trainers should make sure to state all prerequisites (Prentiss 2004, 46-47).

Trainers must also document how the trainee will perform the job and how well the job will be done to be considered a success. Trainers will need to provide procedures for how the tasks will be done to not only the trainee but to all individuals involved in the hands on training (managers, crew, etc.) (Prentiss 2004, 46-47).

Lastly, trainers will need to provide the tools, resources, and materials necessary to accomplish the objective. To validate training modules, trainers should review the modules with skilled, experienced workers who can identify flaws or areas that may be lacking (Prentiss 2004, 46-47).

There has been great emphasis on Lean and Toyota systems in the workplace to reduce waste and costs. This has also carried over into training programs. Many companies search for the least expensive, fastest mode of training. Though the past focused on reducing wastes, today's companies are focusing even more on communication, adaptability, flexibility and innovation. Therefore, training programs need to focus on these aspects as well (Major 2011, 62-67).

For training programs to be successful, employees need to be given time to actually use the training. Managers need to make training important to employee's jobs. They need to follow up on employee's progress and evaluate the skills gained by the employee. Training programs need focus, resources, and commitment from top management. Training will not work with only edicts and classes (Kirkpatrick 2008, 28-29).

Once completed, companies need to allow for employees to make mistakes. If companies do not adapt a culture that allows for mistakes, employees will be scared to try new training techniques. According to the Center for Creative Leadership, 12% of executives surveyed said that mistakes were their best learning experiences (Lieberman 2011, 18-25).

No matter which training method a company decides upon, it will prove useless unless the training is aligned with corporate goals. The required tasks also need to be aligned with customer requests, especially in the services and sales industries.

Companies need to remember that training should also be preparation for the future. If companies do not train with future goals in mind, they will have to hire personnel to fill the missing knowledge gaps when those skills are required in the future.

4.3.2 *Centralized versus Decentralized Training Programs*

One of the decisions companies need to make is whether they will have a centralized training program or decentralized training program. Centralized training systems have all training personnel within the company acting as a unit. Decentralized training systems tend to have different training personnel for each business unit. There are advantages and disadvantages to each as outlined below in table 2.1 (Ikon Office Solutions 2008, 70).

Table 2.1. Advantages and disadvantages of centralized and decentralized training programs

Centralized Training Program	Advantages	Decentralized Training Program
<ul style="list-style-type: none"> • Easier to cross train • Easier to implement benchmarking • Allows for consistency in training design • Allows for mentoring of trainers • Smaller number of instructors needed • Reduces duplication of effort 		<ul style="list-style-type: none"> • Easier to identify deficiencies in skills • Better relationship development with business unit • More individualized training • Department supervisor sees the major benefits of the training and is also the trainers manager • Close to target audience

Disadvantages

- More effort to develop relationships with business unit and gain respect
- Not as easy to identify skills deficiencies
- Training budget all in one place and easy to cut in times of cost-cutting
- Centralized power reduces flexibility and adaptability
- Replacing trainers more difficult
- Training throughout company varies in quality and consistency
- May duplicate efforts
- May have difficulty funding large training programs

4.3.3 *Scenario Based Learning*

When setting up a scenario based learning experience, trainers begin in the same fashion as other training approaches. Training developers will need to perform a needs analysis of the task and employee. However, they will also need to determine the associated scenarios that are important for the training. It is best to consult experts in the field of work that you will be training.

Secondly, the trainer will need to determine the design of the learning environment. They should begin with the desired deliverables and then determine the supporting components. The trainer needs to keep in mind how the employee will give feedback and allow time for reflection.

Scenario based learning can work well with face-to-face training or e-learning methods. Therefore, trainers will need to determine the acceptable training media for their company (Clark 2009, 84-85).

4.3.4 *Mobile Learning*

Companies who decide to use mobile learning platforms have three types to choose from: formal, informal and self-directed platforms. Formal mobile learning platforms include e-learning

systems, triggered notifications and reminders. Informal platforms involve methods for two-way communication, social media and getting feedback. Self-directed platforms include pod casts, manuals and supporting materials (Brink 2011, 27-29).

To be the most effective, mobile learning media should be short, accessible and relevant. Many employees will be accessing the data on smaller devices, therefore, length and ease of access is important. It is good practice to keep learning materials to durations of ten minutes or less. Due to the size of most mobile devices, visual designs should be minimal and be easy to use with the least amount of explanation (Brink 2011, 27-29).

When designing a mobile learning program, trainers need to think about how employees will access the information, and how they use these mobile devices. Developers need to consider the role of the employee when developing the program and what information they will use and how (Brink 2011, 27-29).

4.3.5 Performance Support Software

If a company decides to invest in performance support software, they have even more aspects to consider. When determining the appropriate software, they need to consider tools the employees currently use in their jobs. The software needs to be easy to locate and use, as employees will not want to stop their work and look for information (Mosher 2008, 23-25).

Then the company will need to locate all the information the employee will need to perform their jobs. Often this information can be dispersed throughout the company. It is best to leave the information where it is and use software that can integrate with multiple sources. Support specialists may need to develop new content for areas that are lacking documentation (Mosher 2008, 23-25).

Lastly, companies need to be careful in the selection of software. Though you want to consider the future, it is not advisable to purchase complicated software. Software should be

selected based on how it addresses the company's needs, the simpler the technology the better (Mosher 2008, 23-25).

4.3.6 Benefits of Behavioral Self-Monitoring

Behavioral self-monitoring is the act of observing, assessing and documenting an employee's own behavior. This type of monitoring supports long-term progress. It has been shown to be the most beneficial when companies give their employees a choice in the target performance, set participatory objectives, set up reminders, and offer feedback and follow-up. It is important for employees to chart their performance and progress. Successes should be celebrated and barriers to success should be analyzed (Gravina 2009, 18).

It has been found that the accuracy of the monitoring by the employee is less important than the actual act of monitoring oneself. This tends to be a low cost option that provides self-directed benefits (Gravina 2009, 18).

4.3.7 Benefits of Mentoring

Mentoring has also shown great benefits in training programs. Mentoring is a program where an expert takes a new employee under their wings and helps to guide, support, and train the employee. For the mentoring to be successful, mentors need to meet certain criteria in regards to the necessary experience, knowledge, and training. The right mentor and employee need to be selected for each other (Murphy 2006, 27-28).

Mentoring can be done on a one-on-one basis, a group basis, or situational basis. One-on-one mentoring is the traditional mentoring approach where an expert takes a single employee under their wings. Group mentoring involves a group of experts and leaders sharing information with employees. Situational mentoring is more targeted. It is used when a specific skill is needed from an expert who has that specific skill (Murphy 2006, 27-28).

Mentoring benefits the mentor, trainee and business. The mentor gains a confidant and the emotional benefits of helping a fellow employee. The trainee gains knowledge, increased career satisfaction, and a better career path. The company has the benefit of knowing that the future of the company is being well trained to follow the current management path (Murphy 2006, 27-28).

4.3.8 Benefits of Social Learning

In a study by the CARA Group, who specializes in custom learning, 80% of companies feel like social media is valuable in training. 91% of companies felt that though informal training was important, formal training was more important and informal learning should be used as a supplement.

Social networking sites like Facebook tend to pose a security risk to companies. Companies also worry that employees will not use the sites appropriately for learning purposes and may end up increasing the amount of time employees spend on nonproductive work activities (Brotherton 2011, 18-19).

Most companies tend to feel that “traditional” social learning is more valuable than the newer social media sites. Things like sharing sessions, mentoring, and networking communities may prove to be more useful than online social networking sites (Brotherton 2011, 18-19).

4.3.9 Feedback

In order to develop a training program that is useful long term, it is important to review and evaluate the training program against needs of the company and employees. Donald Kirkpatrick determined four levels of evaluation for training programs: reactions, learning, behavior, and results (Kirkpatrick 2008, 28-29).

Measuring reactions include how the employee reacts to the training and whether they find it relevant. This can be done through face-to-face interviews, employee comments or evaluation

sheets. Trainers should list the items they would like reactions to, design a form to gather the information, encourage honest comments, request 100% feedback, and discuss the results with the appropriate people (Kirkpatrick 2008, 28-29).

It is important to assess the amount of learning that has taken place. This can be accomplished with pre and post tests, work based projects, and peer observations. Trainers need to assess the skills and attitudes both before and after training. They can provide performance tests in the classroom as well (Kirkpatrick 2008, 28-29).

Behavior evaluation measures the extent that the training was transferred to job performance. This is the most valuable assessment of the training and also the most costly. It is usually performed three to six months after the training to allow for the proper amount of time for implementation. Trainers may ask questions like:

- Did the employee use the training on the job?
- Was there noticeable change? If not, why?
- Was this change sustained?

Trainers will want to measure behavior both before and after the training, if possible. They need to make sure they allow for the appropriate amount of time after training. Lastly, trainers should request information on progress from not only the trainee but also the trainee's manager and peers (Kirkpatrick 2008, 28-29).

The last level of evaluation, results, measures the results of the training in quantifiable terms. This may be in increased sales, decreased costs, decreased defects, etc. Again, trainers need to measure results both before and after the training, allow the appropriate time for results, and repeat the measurements as appropriate. This tends to be a difficult measure to evaluate, as it is often difficult to draw hard line conclusions on why the measurable items increased or decreased (Kirkpatrick 2008, 28-29).

There are many types of training methods available to companies who want to develop a training program. On top of that, there are many ways of delivering this training ranging from traditional classroom training to one-on-one training to web based classes. Though all have their advantages and disadvantages, it is up to the company to determine which mode of training is best for their organization. Once they determine the best training method and mode of delivery, they then need to assess the skills needs of the employees and organization and design the right training program (Kirkpatrick 2008, 28-29).

5 PROCEDURE

The research procedures for this project plan included literature reviews, interviews, and questionnaires. Prior to the initiation of this projection, an interview was conducted with the Sales Manager to determine a need for such a project.

Following the interview, literature reviews were conducted to determine the best methods for relaying training to adults in the workplace, the different methods for delivering training, and things to consider when designing a training program.

5.1 Questionnaires

The literature reviews gave great insight into the many methods available for training delivery. However, the Sales Department at Great Western Manufacturing has employees in varying ages, stages in their careers, and technical capacities. It was determined that a questionnaire would be the best method to establish which delivery method would be appropriate for the sales staff. This questionnaire would also be used to understand where the employees themselves thought additional training should be focused. Refer to Appendix A for a copy of the sales staff questionnaires.

The questionnaire was focused on the opinions of both veteran employees and new staff. The veteran staff was questioned on what they thought was lacking in new hire training, in essence, where they felt most new hires were deficient. New staff was asked where they felt the training lacked or where they struggled, as they were moving through the new hire process. These two questions also allowed veteran employees to illustrate the differences between what they felt was most important and lacking when they were first hired versus what they think is most important and lacking currently. It was interesting to note that most new hires find they would like additional

training in the design aspects of the machinery while the veteran employees find knowledge of the competition and industry to be of greater importance. Refer to Appendix B for graphs summarizing the results of this questionnaire.

The sales staff has two customer groups that their work affects, the external purchasing customer and the internal production staff who must create the items the sales staff sells. While the sales staff, especially veteran staff members, would have an idea of where training should be focused for external customers, they would not necessarily know where they were deficient for the internal customers.

Based on the idea that the production staff would know better where sales lacked at delivering the necessary information for production, a second questionnaire was created for production supervisors to get a sense of what the supervisors thought should be included in the sales training program. The questionnaire was then given to the Production Supervisor to look over and disseminate to the production managers. Refer to Appendix C for a copy of the production staff questionnaires.

The questionnaire focused on determining where the managers felt the Sales Department most affected their area of production. Then, based on this, what the production managers thought should be included in the training program. It also asked the production managers to determine what the largest source of rework or problems were with relation to the interactions between the Sales Department and their department. Lastly, they were asked to determine how they thought these areas of training would best be delivered and, if it was necessary for their new hires to know this information, how they delivered this information to their staff.

Overwhelmingly, production managers found the area in greatest need of training attention concerned documentation and order descriptions. Production Managers need correct and complete material information on the orders. They also felt that much of the documentation created by the

Sales Department, in regards to previous customer orders, was lacking in description. This lack of description and documentation makes it hard for managers to know what to make for future orders.

Sales staff and production managers were given one week to finish the questionnaire. Once the questionnaires were filled out, all the information was summarized in order to determine the best focus areas and delivery methods for the training program.

6 RESULTS/PROJECT PLAN

6.1 Project Overview

The results of the sales questionnaires showed that the sales staff felt the following areas should be emphasized within the training program:

- Where to find information and how to use internal Great Western systems
- Technical aspects of the equipment
- How to develop flow diagrams
- Information on the industries that use Great Western equipment
- Information on competitor's equipment

Overwhelmingly, production managers felt order descriptions and documentation lacked. Both groups unanimously felt that hands on training with some formal structured training were the best options for delivery.

It was determined that a modularized training plan would be ideal for Great Western because employees are hired with different levels of experience in the industry and with Great Western equipment. This would allow individuals to skip areas of the training where they are already competent. For instance, the newest hire to the sales staff was promoted from a maintenance technician to a sales associate. The new hire had five years of experience maintaining sifters before moving to the Sales Department. Therefore, it would be inefficient and a waste of resources to train him on the technical aspects of the sifter. The new hire would, however, greatly benefit from the other identified training areas. In fact, the questionnaire this sales member filled out specifically mentioned training on Great Western's internal systems and industry knowledge as areas to focus training.

Based on information gathered from the questionnaires, it was determined that the training would be divided into five modularized units. The creation of each unit will involve a different team of individuals, usually the production manager involved with that area or an employee considered an expert in that area along with any other necessary employees. Due to the varying quantities of information to convey in each unit and difficulty in organizing the information involved in each unit, the units will have different amounts of time allotted for completion. Therefore, the creation of each unit will be treated as a sub-project. The modularized aspect of the training program will allow for each unit to then be grouped together forming a complete training plan.

6.2 Project Plan

6.2.1 Purpose

The objective of this project is to lay the foundations for the creation of a training program for the Sales Department of Great Western Manufacturing. This project will aid in employee changeovers that will inevitably occur within the next few years and speed the knowledge transfer necessary for a successful sales staff. The scope of this project will be to create a project plan for the development of a training program for the Sales Department of Great Western Mfg.

6.2.2 Assumptions and Constraints

Assumptions

- A training program will speed knowledge transfer
- Great Western will use the training program
- Great Western will allow time for completion of the training program
- Employees will be honest regarding their questionnaire questions

Constraints

- Time allowed for training
- Getting people on board with training initiative
- Combining documentation from multiple people and departments
- Employees involved with developing the program will still be responsible for their day-to-day responsibilities

6.2.3 *Deliverables*

The project deliverables will be a training program outline for the Sales Department of Great Western Manufacturing. The plan will include the preferred method of delivery, the overall content that will be in the training program, and personnel responsible for each step of the training. It will also include a management plan with controls and updating procedures.

6.2.4 *Preliminary Schedule*

This project involves multiple people and a wealth of information. The largest area of time allocated for this project will be for the accumulation and creation of documents. As Great Western has never embarked on such a project, all schedules are subject to and expected to change.

Training units can be managed simultaneously or consecutively. Though performing projects simultaneously will reduce total time to completion, it will be difficult for some unit projects to be performed simultaneously because employees will be working on project tasks in conjunction with their daily responsibilities. When possible, unit projects will be performed consecutively if one individual is heavily involved in two unit projects. Due to the modularized nature of the units, however, the completion of each training unit project is not constrained by the completion of any other unit. Please refer to Appendix D for a Gantt chart of the preliminary schedule.

6.2.5 Reporting and Communications

This project is expected to be a long-term project, as employees will have to perform their project duties in conjunction with their daily assigned duties. Therefore, once the official plan, schedule, and responsibilities have been identified within the initial meetings, a bi-weekly e-mail will request updates on the status of deliverables. Then, a monthly face-to-face meeting will be scheduled to update the schedule, work plans, and responsibilities. This will also be used to distribute documents and completed deliverables.

6.2.6 Quality Control

Documents and deliverables will be assembled and will go through a three-phase quality check. The document creator/owner will have the document verified and validated by the production manager in charge of the area that produces the product being documented or by the individual most knowledgeable on the subject matter. Once necessary improvements have been made, a copy will be sent to the appropriate sales staff for review. Lastly, once the comprehensive set of training unit documents have been completed, it will be sent to the Sales Manager for final review and approval.

6.2.7 Information Storage

Information and documents for each unit project group will be available for all members of the team. It will be necessary to save all documents and work in one location for easy access for all group members. This will allow for the most up-to-date information to be available to all team associates and eliminate any document duplications. Therefore, one location will be set up under the public computer drive for all training documents and information. The folder will be organized by units to help classify the information. Within each unit, it will be subdivided into the different work plan activities. Refer to figure 1 as an example.

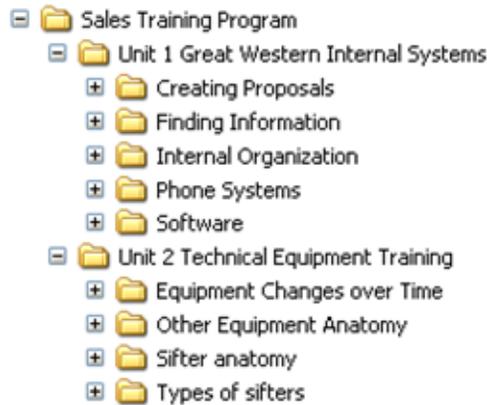


Figure 1: Organization of documents and information on public drive

6.2.8 *Closeout/Evaluation Plan*

Once all units have been completed, verified and approved by the Sales Manager, they will be assembled into one complete training program. This completed program will be disseminated to all team members along with sales staff for final approval. As employees will be performing these tasks in conjunction with normal work activities, the project closeout will not require any personnel job changes. Employees, at the completion of the project, will simply return to their daily tasks. The final product will be produced and a copy given to all members.

Evaluation of the program will be difficult as the Sales Department is currently running at full capacity. Therefore, the need for a new employee will be in the unknown future. To compact the problem, a study has never been done on the effectiveness of the current training program for comparison. Evaluation, therefore, will be mainly based on peer and manager review of the system after the completion of the first training cycle. Evaluation will be based on the ease of training, the amount of knowledge retention, and the reduced time it takes for employees to become productive members of the sales staff. These evaluations will undoubtedly lead to revising and updating the training program for improvements.

6.2.9 *Updating/Revising Procedures*

As products and industry changes, it is expected that documents and training information will require updating. If updating requires revisions to an already existing document, the revision request will be sent to the document owner. Once completed the document will again go through the three-phase quality control plan.

If the updating requires a completely new document, the document will be created by an agreed upon employee with the help of the employee most knowledgeable on the subject matter or the production manager in charge of the area involved in the document. Once complete, the document will go through the three-phase quality control plan.

The Sales Manager will approve all educational additions or changes to the training program. If the changes require additional training, a team will be gathered to create a unit project to determine schedules, necessary information, and delivery methods.

6.2.10 *Modular Units*

Unit 1: Great Western's Internal Systems

This unit will cover Great Western Manufacturing's internal systems. The training will begin with this unit, as it is common company information necessary before any sales activities can occur. This unit will be the shortest of all units and most likely the easiest to retain for employees as most individuals have some experience with these internal systems. This unit will include some of the following items:

- Internal organization structure, roles and functions
- Where to find information

- How to use software
 - Macola- ERP system
 - Dictation devices
- Creating proposals and quotes
 - Foreign versus domestic
- Phone systems

Roles and Responsibilities:

Currently, a sales associate and the Director of HR are charged with the set up and maintenance of the companies main ERP system, Macola. As a team, these individuals will develop a schedule and curriculum for unit 1.

Work plan:

The above individuals will determine the final program. As a team, they will determine the best delivery methods and schedules for the training, though it is assumed the following work activities will be included:

- Timeline/schedule for training and assignments
- Write ups and documents for common software/phone system functions and where to find certain information
- Scenario based questions to reinforce training

- Company directory with roles and functions

Unit 2: Technical Equipment Training

This unit will cover the technical aspects of the equipment Great Western manufactures. Due to the amount of information and complexity of the information within this unit, it will include both hands on and formal training.

Most new sales employees begin their career with taking parts orders. This helps employees to acquaint themselves with the equipment, gives a starting point for taking customer calls, and allows the employee to become familiarized with where sales and pricing information is found. This part of the training is less judgment and experience based, and therefore, an easier place to begin training.

This unit will include some of the following items:

- Sifter anatomy
 - Drives
 - Compression systems
 - Material flow
- Anatomy of other equipment
 - Agitators
 - Stream Dividers
 - Sampl-sifters

- Equipment changes over time
 - Drive changes
 - Guard changes
 - Material changes
- Types of Sifters
 - Benefits and compromises

Roles and Responsibilities:

The Production Manager of the Final Assembly area is the best resource for this training as he has been the main technical mechanic for Great Western equipment for over twenty years. The assistant maintenance technician was recently promoted to the Sales Department. Therefore, a team of these two individuals will be formed to determine the necessary information for this unit, schedules, and methods of delivery.

Work plan:

The individuals determined above will agree upon the final program. As a team, they will determine the best delivery methods and schedules for the training, though it is assumed the following work activities will be included:

- Timeline/schedule for training and assignments
- Write ups and documents to aid in memory retention

- Scenario based questions to reinforce training
- Presentation
- Hands-on-Training schedule and curriculum for Final Assembly

Unit 3: Sieves and Flows

Unit 3 of the training program will focus on the unique characteristics and anatomy of sieves and sifter flow diagrams. This unit will not deliver the analytical aspect of designing flows, but will focus more on understanding the architecture. Once complete with this unit, the employee should be able to quote most products Great Western sells. The employee will also be able to aid other sales employees in costing and proposal write-ups.

This is a logical third unit as it is usually more complex than the previous two units yet does not require the industry knowledge, experience, and analytical skills the next few chapters require. Unit 3 requires hands on training for stacking sieves. This unit will include some of the following items:

- Types of sieves
 - Differences
 - Benefits
 - Standards
 - Reasons for selecting different sieve types
- Anatomy of sieves

- Screens
 - Types
 - Benefits/ disadvantages of the different types
 - Glued on screens versus stapled on screens
 - Reading a screen chart
- Costing and quoting sieves and flows
- Stacking sieves

Roles and Responsibilities:

There are two production areas involved with sieve construction: Sieve Assembly and Screening. Therefore, the managers of these areas along with the Sales Manager will work together to form the project team for developing Unit 3. The Sales Manager has many years of expertise in designing flow diagrams while the Production Managers are experienced in the stacking and anatomy of sieves.

Work plan:

The above individuals will agree upon the final program. As a team, they will determine the best delivery methods and schedules for the training, though it is assumed the following work activities will be included:

- Timeline/schedule for training and assignments

- Write ups and documents to aid in memory retention
- Scenario based questions to reinforce training
- Presentation
- Hands-on-Training schedule and curriculum for stacking sieves

Unit 4: Industry Information and Other Milling Equipment

Unit 4 of the training program will focus on the different industries Great Western caters to with a major focus on the flour milling industry. Different industries have unique requirements that affect sifter selection and the anatomy of the sifter. For example, the plastics industry requires sifters and parts to withstand extreme temperatures. Though meeting product specifications is important, they do not have to follow the strict Federal Drug Administration regulations that companies dealing with food products must meet.

This unit will also provide information on the other milling equipment found in milling facilities. Though Great Western does not supply this equipment, such equipment can greatly affect the performance of the sifters and equipment that Great Western does sell. For example, a leaking air lock beneath a sifter can cause material flow issues within the sifter.

Once complete with this section, the employee will have the analytical skills to design sifter flows and assess problems. This unit will include some of the following items:

- Flour industry
 - American Institute of Baking (AIB) standards

- Types of Flours
- Stock and flow basics
- Applications and sifter selection
- Main customers

- Other industries
 - Corn, chemicals, spices, plastics, etc.
 - Sifter selection
 - Mill characteristics
 - Main customers

- Other Industry Equipment
 - Airlocks, hoppers, conveyors, cyclones, etc.
 - Affects on sifter

- Resellers

Roles and Responsibilities:

This unit requires much time and expertise in areas other than Great Western equipment. The Sales Manager has been in the industry for many years with an expansive amount of industry knowledge. The Assistant Sales Manager has worked in numerous mills and has extensive

knowledge in other milling equipment. Therefore, the project team for Unit 4 will be comprised of these individuals.

Due to the amount of non-sifter specific information, in the past, Great Western has relied on outside educational programs through Kansas State University (KSU) to deliver portions of this curriculum. It is assumed that these outside classes will remain a large part of the instruction for this unit.

Work plan:

The individuals described above will agree upon the final program. As a team, they will determine the best delivery methods and schedules for the training, though it is assumed the following work activities will be included:

- Timeline/schedule for training and assignments
- Write ups and documents to aid in memory retention
- Scenario based questions to reinforce training
- Presentation
- Hands-on-Training schedule through KSU
- Hands-on-Training schedule for mill visits

Unit 5: Competitor's Equipment

Unit 5 of the training program will focus on competitor's equipment and familiarize the employee with the different aspects of this equipment. It is important to know competitor's equipment when replacing them with Great Western sifters. It is also important to know when Great Western equipment is not appropriate for an application and when a competitor's product may be more appropriate. When selling sifters, it is imperative to know the advantages of Great Western equipment over the competitor's.

The sales staff is frequently asked to fabricate screens and parts for other manufacturer's equipment. This unit will help employees better understand these requests. Unit 5 will not provide complete expertise on other manufacturers but more of an overview. This unit will include some of the following items:

- Sieves
 - Differences and similarities
- Sifters
 - Differences and similarities
- Benefits and disadvantages
- Historical information on past sifter manufacturers and equipment

Roles and Responsibilities:

The Sales Manager and Assistant Sales Manager have both worked in the milling industry for many years and have formal educational backgrounds in the milling industry. They have each worked for other sifter manufacturers as well. Therefore, the program team for Unit 5 will be comprised of these individuals. The Sales Manager and Assistant Sales Manger will be the main interface for information and knowledge while another sales associate will actually accumulate and organize the information.

Work plan:

The individuals described above will agree upon the final program. As a team, they will determine the best delivery methods and schedules for the training, though it is assumed the following work activities will be included:

- Timeline/schedule for training and assignments
- Write ups and documents to aid in memory retention
- Scenario based questions to reinforce training
- Presentation
- Hands-on-Training through trade shows

7 SUGGESTIONS FOR ADDITIONAL WORK

While creating this project, there were multiple areas that were identified for additional work. Some areas to consider for additional work would be the creation of performance support materials or systems, the creation of a method of evaluation for the effectiveness of the program, and the expansion of the program to other departments.

One area of performance support that has been identified as an interest by management would be the creation of a Sales Training Manual. This manual would be used as a performance support document after the completion of training. It could be a web based or paper based manual. It could include a summary of the training program along with example scenarios and checklists. A manual would also allow employees to better retain the information learned and give a means for documenting areas of the training that do not allow for continuous repetition because the information is rarely used. As the literature review suggested, employees have a difficult time retaining information that is not given adequate repetition. This document would help mitigate this problem.

Once the training program has been established, it will be necessary to evaluate its effectiveness and make changes where necessary. The evaluation of the program should include the assessment of the materials within the program, the format of the program, and the retention level of the employee. The trainee's peers and manager should be involved with assessing the effectiveness of the training program. Once the program has been evaluated, it is important to make the necessary improvements to the programs that are deemed essential by the evaluation.

If the program proves to be a success, it would be beneficial to create structured training programs for the other departments within Great Western Manufacturing. These programs would, of course, differ from that of the Sales Department, as they would be geared towards a different employee population with different learning preferences. Much of the same procedures could be used to determine the best delivery methods and materials needed within the training. Questionnaires could be created and meetings with supervisors could be arranged in order to determine the most critical areas to focus training.

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9 APPENDIX A: SALES STAFF TRAINING NEEDS ASSESSMENT QUESTIONNAIRE

1. How does the Sales Department directly affect your manufacturing area?

2. Thinking of how the Sales Department directly affects your manufacturing area, what are some aspects you would like to see included in a Sales Training Program? Please be as specific as possible.

3. How do you feel these improvement areas would be best taught?
 - Hands on training
 - Classroom style training
 - Creating a write up or manual
 - Web-based training
 - Other

4. Thinking of how the Sales Department directly affects your manufacturing area, what areas do you find cause the most manufacturing problems, rework, and defects? These could include aspects like order description problems, lack of order documentation, etc.

5. If it is necessary for your new hires to know this information, how do you teach *your* new employees this information?

10 APPENDIX B: VETERAN AND NEW EMPLOYEE ASSESSMENT OF NEW EMPLOYEE TRAINING NEEDS

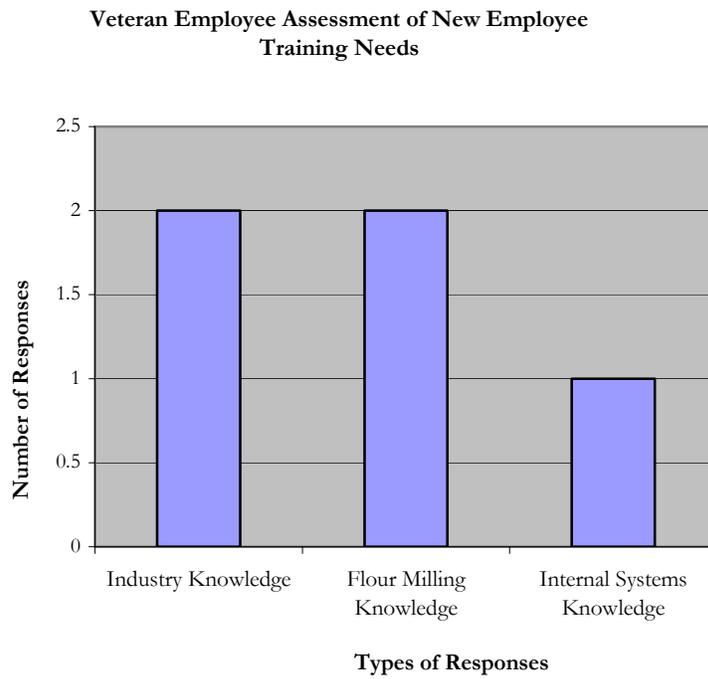


Figure 2: Summary of veteran employee assessment of new employee training needs
New Employee Assessment of New Employee Training Needs

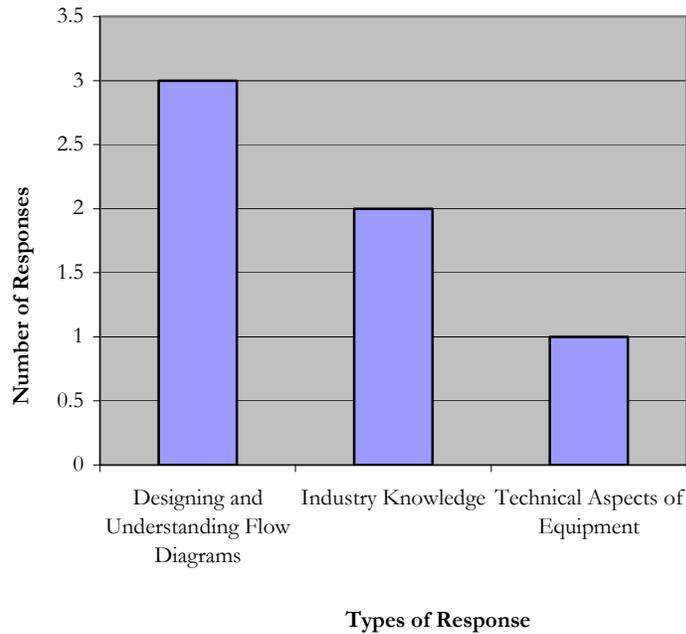


Figure 3: Summary of new employee assessment of new employee training needs

11 APPENDIX C: PRODUCTION STAFF TRAINING NEEDS ASSESSMENT QUESTIONNAIRE

1. How long have you worked in the Sales Department of Great Western Mfg?
2. As an established employee, what are some areas you would like to see addressed in a Sales Training Program for new hires? In other words, where do you see the greatest deficiencies in new hires? Please be as specific as possible.
3. As a new employee or newer employee of the sales department, where do you feel you struggled the most? For example, creating flows, technical aspects of the sifters, knowing where to find the correct information, etc.
4. How would you like a training program to be delivered?
 - Hands on training
 - Classroom style training
 - Creating a write up or manual
 - Web-based training
 - Other
5. Do you feel training would be best delivered in a scheduled format or on your own time as your schedule allows or a combination of both?
6. Further comments that may be of use in developing a training program:

12 APPENDIX D: PRELIMINARY SCHEDULE

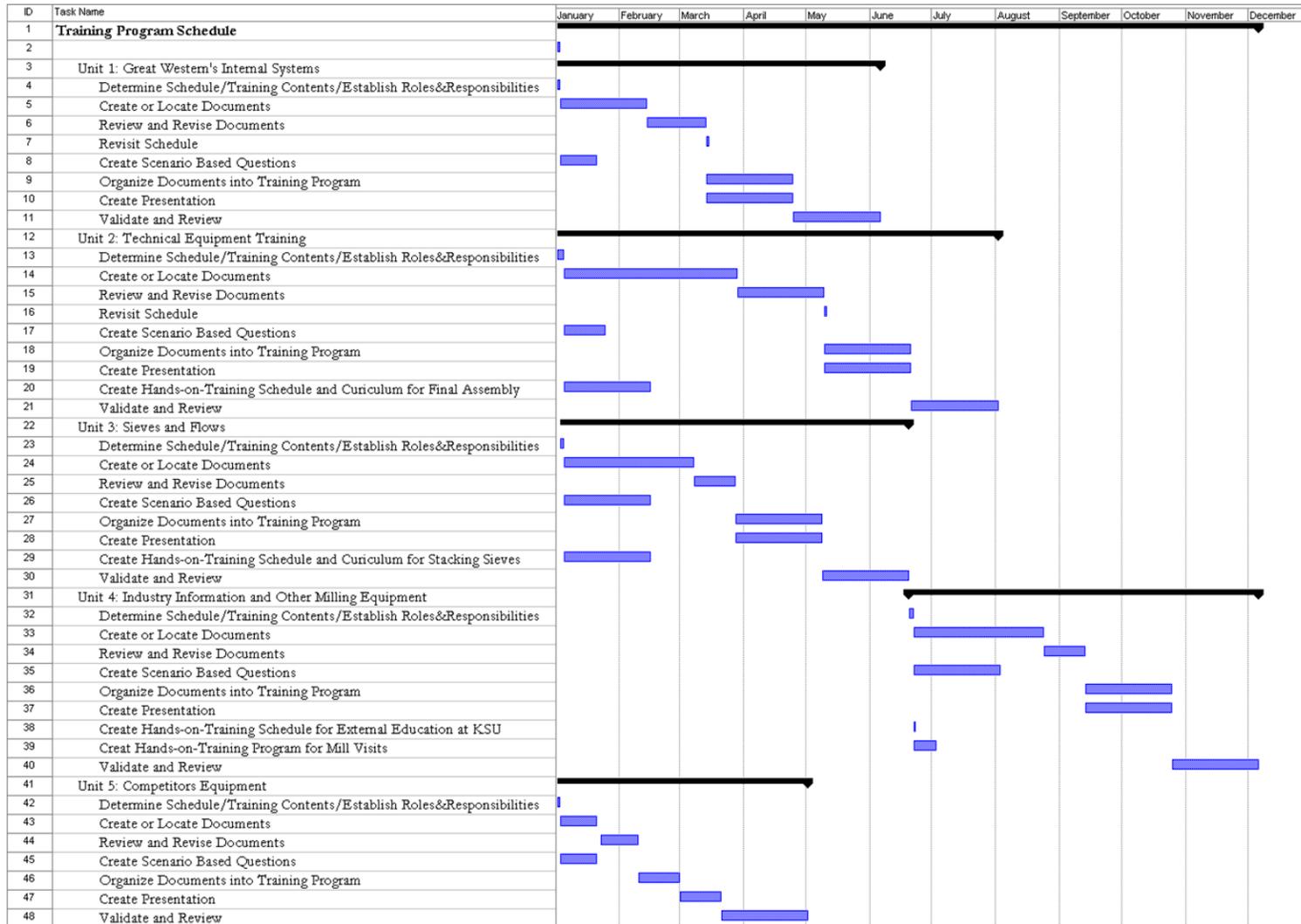


Figure 4: Preliminary sales training program project schedule