Redefining Competencies for Field Supervision

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The construction industry is finding it necessary to evaluate employees to increase productivity, provide feedback, and allow for promotion within a company. One large general contractor, with annual revenues over $1 billion dollars, recognized that the boom of the 90's and early 2000's was not sustainable. In response, they began a new strategic planning process to assess the overall company. The results revealed inefficiencies in employee promotion, position expectations, and training programs. This led to a complete restructuring of employee competencies. This paper outlines the development, implementation, and assessment of the field supervision (Labor Foreman, Carpenter Foreman, Superintendent, Senior Superintendent, and General Superintendent) competencies.

Keywords: Field supervision, construction training, construction industry; employee satisfaction

Introduction

According to the Bureau of Labor Statistics, "Construction, with 7.7 million wage and salary jobs and 1.9 million self-employed and unpaid family workers in 2006, was one of the Nation's largest industries" (Bureau, 2009). The construction industry is challenged to identify better ways to attract and retain those persons entering the construction management workforce (Johnson & Parker, 1987; Piper & Liska, 1999). One large general contractor (GC) recognized that a tougher economy was on the horizon. It all began in 2003 with a large change of key managers including both the president and chief executive officer (CEO) of this GC. With new direction and enthusiasm, a strategic plan seemed imperative to the future of the company. Over the next two years, goals and targets were developed to incorporate a new company strategic plan. One of the key areas of improvement identified was training programs, staff development, and employee competencies.

Prior to this initiative, training programs were developed as needed and employees were promoted with no defined requirements. As a need arose, training would be developed to introduce new skills. The entire system was reactive. Completion of training was recorded, but no clear path was made to show that an employee was being rewarded, or promoted, because of the training. Therefore, there were inconsistencies in the staffing of field positions. One Superintendent may have being promoted due to years of service, but not necessarily due to his/her knowledge or abilities. There were limited definitions for the job descriptions, training requirements, or expectations for promotion. It was quickly decided that the entire program needed to be reengineered from the ground up. By redefining all aspects of each position, new training programs, curriculum, and all aspects of employee development could be retooled. This would begin with defining competencies for each position.

A competency is something that a person can do well and that meets and even exceeds his or her job requirements (Badger, Bonanno, Sullivan, Wiezel & Bopp, 2009). In the area of human resource management, the belief is that the word "competencies" changes definition when different groups discuss it (Shippman, Ash, Battista, Carr, Eyde, Hesketh, Kehoe, Pearlman, Prien, & Sanchez, 2000; Zemke, 1982,) The most used definitions include:

- A mixture of knowledge, skills, abilities, motivation, beliefs, values, and interests (Fleishman, Westrogen, Uhlman, & Marshall-Mies, 1995)
- A written description of measurable work habits and personal skills used to achieve objectives at work (Green, 1999).
- A knowledge, skill, ability, or characteristic associated with high performance on a job (Mirabile, 1997).
- A combination of motives, traits, self-concepts, attitudes, values, content knowledge, cognitive skills, or other characteristic that can be measured and differentiate superior to average performance (Spencer, McClelland, & Spencer, 1994).

Methodology

The first step of the process was the development of a formalized company wide survey that sought opinions and feedback about the current training programs. Everyone in the company received an email with a link to complete the anonymous survey. Data was tracked by job classification in order to differentiate feedback by responsibilities. The following list included some of the subject headings of questions related to training:

- Timing at which training is given during career
- Time of day of training
- Subject matter of training
- Areas of needed improvement
- Location of training
- Handouts given in training
- Number of participants in classes
- Trainers from within the company (internal) versus outside of company trainers (external)
- Expectations for the training
- Accountability of the trainee

Once summarized, the majority of surveys had two similar themes:

1. The existing training is not being delivered at the right time in an employee's career.
2. Overall, the training currently offered was rated as mediocre.

During this review, it was easy to see that a clean slate would be the best place to start. The anticipated outcome of this program needed to be newly defined. Not what would the training curriculum be, but what skill set did our people need at specific points in their careers. In other words, what should a Carpenter Forman be able to do? What should a Senior Superintendent be able to do? What are the competencies for these positions?

The next step was the development of the competencies for each job assignment. This began by categorizing existing employees into four groups.

- Project Management
- Field Supervision
- Accounting, and
- Project Administrative.

These categories make up over 90% of the staff. These groups also mirror the promotion categories within the company. The remaining 10% fell into a category of support staff that has to be handled on individual cases because of their unique responsibilities. Each category was then delegated to a committee for establishing these skills. We would often relate it to the 1970's show *The Six Million Dollar Man.* In the show, they rebuilt the perfect man. In the company, we defined what the perfect employee would need to be perfect at their job.

Each task force was a cross discipline group of employees including: project managers, accounting staff, safety professionals, administrative assistants, and field supervisors. We intentionally did this to ensure the required skill sets crossed all company lines. Special care was given to include support services (accounting, and administrative help) due to their daily interaction with field staff. They often had a better understanding of the strengths and weaknesses of our people and programs. As we progressed through the development, they provided surprisingly constructive feedback to develop competencies.

Results: Competencies for Field Supervision

The team drafted for the field supervision competencies included the following job classifications and years of construction experience:

- 1 accountant – 9 yrs
- 1 project assistant – 22 yrs
- 1 superintendent – 22 yrs. ***
- 1 project manager – 9 yrs ***
- 1 project executive – 17 yrs ***
- 1 senior superintendent – 40 yrs. ***

- 1 senior superintendent – 35 yrs.
- 1 safety inspector – 15 yrs
- 1 superintendent – 20 yrs.
- 2 foremen – 15 yrs.
- 1 carpenter – 15 yrs.

**** Retention is very high for this company and many of the employees are "lifers". We felt it important to include participants who might have seen useful ideas at other companies. The names marked represented staff that had experience with competitors. Their insight was often called upon for comparison purposes.

Two main distinctions of skills were developed; technical and behavioral. Within each of these groups sub categories were created to relate to each work group. Characteristics specific to field supervisors included:

1. Technical = Safety, Quality, & Schedule
2. Behavior = Values, Personal Awareness, Communication, & Leadership

Next, traditional brain storming techniques were used to identify specific skills and attributes. All ideas were included, then documented and categorized. The process took several months to agree to a refined list. The developed categories include: Safety, Quality, Scheduling, Values, Personal Awareness, Communication, and Leadership. These items were developed into relatable competencies. A simple Excel sheet proved the most useful. Competencies were placed on the x-axis and the promotion track on the y-axis. Figure 1 shows the area of quality with two competencies of Quality (Documentation and Subcontracts). The y-axis identifies the different levels of the field supervision category; Labor Foreman, Carpenter Foreman, Superintendent, Senior Superintendent, and General Superintendent.

Figure 1: Example Competencies

Quality	Labor Forman	Carp Forman	Super	Sr. Super	General Supt
Documentation **-** Ability to identify, disseminate and record appropriate critical project issues.	N/A	☐	▫	■	■
Subcontracts - Understanding of PCC subcontracts, purchase orders for material and Self Perform Group contract agreement terms.	N/A	☐	■	■	■

In this example, Documentation is not applicable (N/A) or does not need to be introduced to documentation as a Labor Foreman. An employee wanting to be promoted to carpenter foreman must have proof of minimal training. Figure 2 gives the four definitions of the symbols used in the competencies chart. This was the final part of the process. There had to be definitions applied to the levels of development.

Figure 2: Definitions of Skill Levels

N/A – Not Applicable
☐ **Training** – Minimal understanding of competency. Relies on others for understanding and guidance.
▫ **Working** – General understanding of the competency. Minimal assistance needed. Able to offer assistance to others in many cases.
■ **Thorough** – Seasoned knowledge and full understanding of competency. Competent to assist and mentor other team members in the detailed understanding of the competency.

Reading from left to right on the chart is a promotion. It is clear that the higher you are promoted, the more proficient you need to be at that competency. For example, a superintendent should have seasoned knowledge and full understanding of subcontracts. To validate the document for user readability and understanding, focus groups from outside the development committees met to validate readability and understanding of the chart. The document was shared with employees and customers for their input on the merit in this tool. There were open discussions on the final document.   There was unanimous agreement that a useful document had been created.

Once complete, any employee was able to easily identify the level of skills expected for any given point in their career. Appendix A shows the full competencies for the superintendent and foreman positions. The full competencies make up a 3 page documents including a total of sixty-six competencies divided into the seven areas: Safety, Quality, Scheduling , Values, Personal Awareness, Communication , and Leadership. Table 1 shows the number and level of competencies for each position. It shows that progress across the levels of the company leads to the building of knowledge.

Table 1:
Summary of competencies per position

Skill level	Labor Foreman	Carpenter Foreman	Superintendent	Senior Superintendent	General Superintendent
Training	16	16	43	54	54
Working	18	32	16	8	8
Thorough	6	13	2	2	1
Total competencies for each position	40	61	60	64	64

The Labor foreman has the least amount of competencies. More competencies are required to be promoted. As more experience and training has been completed, the higher level positions are required to be thorough. There is minimal additional training required as a person is higher in the promotion process.

Conclusions

Armed with new competencies and an understanding of the end result, the next step was the development of training programs. The competencies were aligned with the training curriculum. If training existed, it was flagged to align with the competences, if courses were not assigned, they were deleted from the company curriculum. This is an ongoing part of the company training program. During the downturn of the market, this area of the company is being fine tuned. The newest budget for the company included training follow up as a line item in the budge. A valuable tool was created in producing the competencies, but the training programs are in need of continuous improvement review. This is the work that will be done in the near future.

While this process is continually being monitored and revised, there have been some clear improvements and beneficial results. These include:

1. An established career path for employees to understand the skills that are expected for promotion.
2. A set of competencies that have been applied and used in employee reviews for areas of improvement and goal setting.
3. A tool that helps a manager assess their employees for salary and bonus review.
4. Increased the value of the training.
5. Eliminated programs that are not valuable to employees.
6. Targeted training to be taken at the proper point in an employees' career.
7. Consistency among employees' skills at each level

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Appendix A
Superintendent / Foreman Competencies

Safety
Safety Leadership – Understanding and implementation of all PCC and project specific safety standards. Utilizes PCC safety manual in conjunction with the project specific plan and applies it to individual project situations.
Safety Job Start Up – The ability to prepare and implement PCC Site Specific Safety Plans and ensure that all subcontractor signed contracts, certificates of insurance, and site specific safety plans have been received prior to the subcontractor starting work.

Quality
Negotiation – Ability to work with internal and external customers to reach agreement.
Presentation Skills – Ability to prepare for and present information in a clear manner.
Sales Skills – Ability to maintain close client relations and effectively
Documentation **-** Ability to identify, disseminate and record appropriate critical project issues.
Subcontracts - Understanding of subcontracts, purchase orders for material
Owner/Subcontractor Insurance – Understanding of owner/subcontractor insurance process and basic requirements.
Owner Contracts – Knowledge of the various owner contract agreement
Union Labor Agreements – Knowledge of union labor terms and how they pertain to project
Payroll – Knowledge of payroll standards and procedures.
Document Review Interpretation – Understanding of the design intent of the documents as it relates to the constructability/feasibility of the overall project.
Permitting Process – Basic understanding of the permitting process and how it relates to the different municipalities.
Building Systems Construction – Knowledge of construction systems on project specific parameters i.e. structural systems, exterior façade systems, roof systems, MEP systems, etc.
Submittal and Shop Drawings – Ability to identify, review, coordinate and implement all submittal literature and shop drawings defined by the contract documents.
Subcontractor Coordination and Leadership – Ability to coordinate and lead daily activities and facilitate and document regular coordination meetings.
Construction Document Management – Ability to identify, analyze and manage drawing and specification conflicts throughout project.
Policies & Procedures – Basic understanding of company policies and procedures and the ability to identify and enforce company standards when necessary.
Budget & Detail Estimating – The ability to assist and collaborate with project management to take-off and quantify all aspects of a projects components utilizing past experience and subcontractor estimates to establish the complete cost of the work.
Quality Control – The ability to manage the quality control process that sustains a commitment to providing quality construction above the industry standard; insuring that the execution of the work is in strict accordance with the contract documents and all applicable building codes.
Field and Subcontractor Coordination – Ability to schedule, lead, facilitate and document Project Team meetings.
Blue Print/Specification Comprehension – Ability to read, interpret and understand the organization of construction drawings and project specifications.
Prioritization – Ability to analyze and organize project tasks, in order of importance, taking into account all variables that effect the overall outcome.
Building Systems – Knowledge of various construction systems and functionality options available through the industry and applied in pre-construction.

Scheduling
Job Management Systems – Understanding of the necessary management tools used for tracking project information to include Plans and Specs, Sure Trak and Lotus Notes.
Time Management – Ability to manage, organize and prioritize time, while managing an active schedule.
Planning and Logistics – The ability to prepare a job-specific logistics plan that
Project Start Process – Ability to develop an action plan including subcontractor coordination, safety planning, workflow sequence, material logistics and the necessary components to successfully start a job.
Labor Productivity Management – The ability to identify, analyze and implement labor productivity scheduling to optimize our field and subcontractor operations.
Short Interval Scheduling – Ability to identify, sequence, schedule & implement task specific activities that maintain the overall critical path construction schedule.
Constructability Analysis – The ability to identify and predict construction coordination issues associated with various trades, utilizing the construction drawings and project specifications.
Project Closeout – The ability to coordinate the final permitting inspections, subcontractor punchlist and owner training/commissioning, fulfilling all contract obligations in a timely manner.
Cost Control – The ability to assist in accurately tracking, identifying, projecting and analyzing all labor, material, equipment and schedule

Values
Integrity – Exhibits a trustworthy approach to all situations and is willing to accept responsibility for actions.
Valuing Diversity – Demonstrates a respect for varying backgrounds and perspectives.
Ethical – Applies personal integrity, balanced with the company values and industry standards to all situations.
Personal Awareness
Reliable – Can be counted on to fulfill commitments.
Self-Motivated – Ability to recognize objectives and maintain the focus and self-discipline to carry them out.
Patience – Ability to remain tolerant and calm in stressful situations.
Organizational Skills – Ability to structure tasks effectively.
Self-Awareness – Ability to recognize and understand personal strengths and weaknesses.
Open to Criticism – Willingness to seek direction and manage constructive feedback
Approachable – The ability to alter behavioral tendencies that may have a negative impact on others willingness to approach or communicate with you.
Self-Management – Commitment to make necessary adjustments to compensate for own weaknesses and capitalize on own strengths.
Thorough – Pays close attention to details and follows through to completion; ability to explore all options.
Flexibility – Ability to remain open to new ideas and methods;
Proactive – Ability to act in anticipation of future problems, needs and changes.

Communication
Communication Skills – Clear and effective communicator, both verbally and in writing; is an active listener that can deliver clear and concise messages.
Influencing – Effective at promoting an idea or vision and is able to motivate people to action.
Resourcefulness/Problem Solver – Ability to seek out and effectively utilize necessary resources to solve the problem and/or complete the task.
Customer Service Orientation – Ability to proactively identify and address customer's needs.
Managing Conflict – Addresses and manages conflict and confrontations skillfully.
Social Skills – Ability to interact in a friendly, sociable and pleasant manner.

Leadership
Cooperative Relationships – Ability to negotiate and manage work problems while maintaining team cohesion.
Decisive – Ability to make decisions and take action in a timely fashion.
Accountability – Ability to address a team member's inability to meet expectations and hold them responsible for previously defined commitments. Takes corrective action when necessary.
Leadership Stature – Is a good role model and strives to promote a positive attitude at all times.
Acting Systemically – Understands the political nature of the organization and works appropriately within it; effectively establishes collaborative relationships and alliances throughout the organization.
Compassion and Sensitivity – Ability to show genuine interest in others and sensitivity to their needs.
Team Building – Ability to create group synergy while pursuing collective goals.
Change Management – Uses effective strategies to facilitate organizational change initiatives and overcome resistance to change.
Delegating – Ability to effectively entrust responsibility; gives others control when they are ready and allows them to learn through their experiences