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Performance Teams: A Participative Approach to Productivity Improvement

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ABSTRACT

The Performance Team program's purpose is to increase the productivity of the organization. The program's concepts are based on participative management, top-down involvement, objective setting, and analytical problem solving.

The Performance Team program has the potential to:

1. Increase the involvement of production personnel in the labor management process.
2. Improve the supervisor's analytical problem solving skills.
3. Identify and improve work methods and productivity.
4. Develop an improved rate structure.
5. Improve communication between functional departments.

This paper explores the development and implementation of the Performance Team program at National Steel and Shipbuilding Company. The application of the Performance Team concepts should be of interest to all production management interested in productivity improvement.

BACKGROUND

Various factors led to the development of the Performance Team idea.

Production Experience. Assignment to the Transportation/Rigging and Electrical Departments, as Staff Engineer, led to a new and broadened perspective of production: The production supervisors were able to take the information fed to them from various departments, and make it work. With whatever problems arose, it remained their task to finish the job, and they did.

Training. Assignment to the Electrical Department began to focus on the development of schedules which led the department to improved scheduling techniques. My experience was coupled with the experience of others, to develop scheduling training classes for all production foremen, as requested by management. These training classes presented techniques for both long and short term scheduling. As a follow-on to the scheduling training classes, management requested the focus turn toward training the supervision in labor management skills. Production foremen needed new skills to be involved in the process.

Industrial Engineering Techniques. The training focused on methods improvement, rather than rate development. Finding a more efficient way to do the job was expected to provide more immediate results than rate development.

Work sampling was chosen as a technique which could provide the foremen with the ability to measure, monitor, and improve their productivity.

Performance Teams. The idea of Performance Teams developed as the labor management training progressed. Placing the responsibility on the foremen was going to require support from all levels of management, a common focus, and open communication. A program which incorporated these philosophies was required. Initial ideas for the program development grew from the works of D. Scott Sink, PhD. The Performance Team program included concepts of participative management, Management by Objective, and top-down involvement.

PROGRAM STRUCTURE

Purpose. The purpose of the program is to decentralize the responsibility for cost improvements and increase the productivity of the organization, to more actively involve the supervisory levels of production in labor management practices.

Goals. The program established the following goals as the primary targets for all subsequent objectives and activities:

1. The establishment of proactive budgeting practices.
2. The identification and improvement of work methods.
3. The increased ability to measure performance.
4. The development, improvement and validation of a productivity rate structure.

5. The increased involvement of salaried supervision in the Labor Management process.

Management Involvement. Management involvement is critical to the program structure. Without management support, the strength of the program would be limited. The levels of management with full responsibility for the success of the Performance Teams were identified to include Senior Vice President Operations, Directors, Superintendents and the salaried supervisors on the Teams themselves.

The management components considered critical to the success of the program are defined as:

- **Hard Work**—Each level of management needs to devote time and effort to document their own understanding of current rates and methods in order to responsibly provide leadership to the other management levels.
- **Involvement/Participation**—Emphasis needs to be given to understanding and integrating the insights and recommendations of each management level.
- **Innovation**—As abilities and motivations increase, suggestions for change and improvements are likely to evolve. New ideas and creative suggestions must be viewed with openness and realism. Where opportunities for improvement make sense, all management levels must be willing to take the risk necessary to innovate success.
- **Directionality**—The structure, emphasis, and actual follow through of this program depends greatly on the direction and climate set by each management level participant. Directionality was particularly influenced by the program's objective setting process.

Objective Setting—To maintain a common focus, the Performance Team program is based on an objective setting process. This process is to allow each level of management to set objectives for their level of responsibility. A “planning form” was developed to formalize the objective setting process.

During the program start-up, the Performance Teams were to propose initial objectives to their Superintendent and Director. The Superintendent and Director were then responsible for identifying their own expectations for the Performance Team, and discussing these objectives with the Team. The Superintendent, Director, and Sr. Vice President Operations would then meet to review and accept the objectives. The review process was intended to maintain communication between management levels.

Planning Form. The purpose of the Performance Team Planning Form (see figure 1) is:

1. To prepare for discussing the primary target, objectives, and action steps that are relevant to the Performance Team Program.
2. To document the target, objectives and action steps agreed upon in the management review process.

Specific instructions given to the teams, to complete the forms included:

- **Readiness Level**—Readiness assessment guidelines have been established to assess a Performance Team's readiness. Identify the team's level based on the two major components of readiness, ability and motivation.

**FIGURE 1**

Participants. Each Performance Team should consist of:

- **Leader**—typically an Assistant Superintendent or General Foreman in the designated trade area.
- **Assistant**—typically a foreman or staff person in the designated trade area
- **Members**—the salaried supervisors in the designated trade area.

Leaders and assistants were chosen from various departments to participate in the program. Activities involved in pursuing the objectives of this program were considered to be a normal function of the supervisor's job.

**IMPLEMENTATION**

Certain factors were predicted to have possible effect on the implementation of the Performance Teams. Each of these issues were addressed up front:

**Management Support.** As the Performance Team program was developing, management support was continually sought. Clearly, the support of each level of management was critical to the success of the program. If the participants of the Performance Teams felt that management were not in support of the program, they would be less likely to give their cooperation to the program.
The Senior Vice President, Operations was extremely supportive of the program, and was willing to "champion" the efforts. The Directors and Superintendents were kept continually involved in the program development. They previewed all training material, prior to the Performance Teams' training sessions. These review sessions were important for more than the involvement; they provided a means for acclimating this level of management to the principles on which the Performance Teams were based.

Although there were some reservations toward the program, management support appeared to be sufficient for the success of the program.

Union Support. Since the Performance Teams would be involved in measuring the productivity of the work force, union cooperation was critical. To prevent any problems as the program began, union representatives were invited to a presentation. This presentation gave an overview of the Performance Teams, and explained the importance of the program. They were informed that the foremen would be measuring the productivity of the work force, but that this in no way reflected on the individual workers. Instead, it was a reflection of the foreman's supervisory abilities.

The union representatives were very responsive to the program, and understood that improving productivity was critical to the success of the company.

Common Understanding of the Program Goals. The goals to the program were clearly stated to all levels of management. Even more clearly understood than the goals was the underlying thought that productivity improvement was essential to the company's operations.

Production Supervision's Problem Solving Abilities. The training sessions were developed to improve production supervision's abilities. Work sampling was emphasized as a technique to be used for measuring and improving productivity. A 'questioning attitude' was stressed as an integral part of their daily activities.

Awareness of Short and Long Term Results. As the program began, there was a desire for overnight changes. It was essential to portray that the program could not provide such an impact. In the short run, observing productivity improvements should be considered significant. In the longer run, effecting future bids, and developing more accurate work rates were reasonable goals. It was unfeasible to expect the development of rates as a short term goal.

The importance of not rushing for results was accepted, although there was a continued desire for a more rapid approach.

TRAINING

Performance Team training material was developed primarily to improve the participants' analytical and problem solving skills. The training material provided production supervisors with the tools to study their methods and measure productivity. This was to give production supervision the ability to:

1. Identify productive and non-productive time.
2. Reduce non-productive time.
4. Improve predictability of meeting schedule and manhour allowances.
5. Develop more meaningful historical data.

Many factors contributed to the development of the training material. The Methods Engineering Workshop for the Shipbuilding Industry, published by SP-8, provided a basis for development. The training classes provided "the basics", with follow-on training as the Performance Teams continued to progress.

The initial training was broken into five sessions. All Performance Team leaders and assistants were required to attend the training sessions. The following is an outline of the sessions:

- Performance Team Objectives/Operations
- Performance Team Organizational Structure
- Objective Setting
- Performance Team Operations
- Start-up Sequence

Overview

- Need for Work Measurement
- Need for Methods Improvement
- General Terms and Definitions

Data Collection

- Methods Improvements
- Process Charts
- Work Sampling

Data Analysis

- Work Content Identification
- Self Logging
- Work Rate Development

Data Utilization

- Classification
- Application
- Performance Measurement

As the sessions began, it appeared too much information was being presented at one time. The Data Utilization session was withheld from the training until a later date. The training continued to focus on work sampling and methods improvement. Observing the training with hind-sight, some of the training material and presentation of the material might be changed for a future application.

RESULTS

All elements appeared to have been set in place for the progress of the Performance Team Program. Each team received specific task assignments to begin their investigations. Their tasks included:

1. Identify current budgets.
2. Discuss rates being used with Planning and Estimating.
3. Conduct a work sampling to identify current productivity.
4. Identify areas for improvement.

As time passed, it became obvious that each team would progress at a different pace, and in various directions. These factors had an effect the Performance Teams' performance.

Varying Workload. During the time period in which the Performance Teams began their efforts, the production workload was diminishing. With an atypical workload, productivity could not be effectively measured.

Management Support. Active participation by management was not perceived by all Performance Team participants. A ques-
the week. The information gathered by this team was used to affect
though the foremen had previously recognized some of their ineffi-
ciencies, the work sampling made the information more tangible.
Pipe On-Block. This team was also able to complete a work sam-
pling and identify areas for improvement. They also began to ana-
lyze their productivity from various perspectives; time of day, day of
the week. The information gathered by this team was used to affect
their future bidding factors.
Electrical On-Board. This team was able to progress further than the
other teams. Their success was attributable to:
1. An enthusiastic leader.
2. A positive departmental attitude.
3. Additional direction from the Performance Team ‘facilitator’.
This team began their activities by conducting a work sampling. Al-
though the foremen had previously recognized some of their ineffi-
ciencies, the work sampling made the information more tangible.
Method changes were made on the basis of the work sampling
findings.
The team continued their activities into the area of self-logging. Elec-
tricians were approached and asked to participate in the self-loggings
their participation was optional. The results from the self-loggings
were helpful in identifying problem areas, but more direction would
be required to have gained more accurate time-keeping through the
use of this technique.
The team identified ‘hook-up’ as an area for significant improvement
in method and productivity improvements. One of the team mem-
bers had a background of industrial engineering training, and was
able to conduct time studies. The results of these studies provided
information for the team members to identify method improvements.
The information was also used to develop input for budgeting and
estimating.
The team had begun their activities by identifying their current wor-
kates being utilized by the Estimating and Master Planning Depart-
ments. As the team developed information to effect these rates, they
began to discuss this information with the other departments. They
had been able to develop information which significantly affected
departmental budgets and estimates.
Another output from the team was the development of an evaluation
form. This evaluation form was used to open lines of communica-
tion between the workers and their supervisors.
Steel Erection. Although this team was affected early by the declin-
ing workload, they were able to complete a work sampling and iden-
tify areas for improvement. The participants of this team expect to
continue this type of problem solving at the onset of the next con-
struction cycle.

The following are examples of three Performance Team’s results:
1. Steel Erection. Although this team was affected early by the declin-
ing workload, they were able to complete a work sampling and iden-
tify areas for improvement. The participants of this team expect to
continue this type of problem solving at the onset of the next con-
struction cycle.
2. Pipe On-Block. This team was also able to complete a work sam-
pling and identify areas for improvement. They also began to ana-
yze their productivity from various perspectives; time of day, day of
the week. The information gathered by this team was used to affect
their future bidding factors.
3. Electrical On-Board. This team was able to progress further than the
other teams. Their success was attributable to:
1. An enthusiastic leader.
2. A positive departmental attitude.
3. Additional direction from the Performance Team ‘facilitator’.

The team had begun their activities by identifying their current wor-
kates being utilized by the Estimating and Master Planning Depart-
ments. As the team developed information to effect these rates, they
began to discuss this information with the other departments. They
had been able to develop information which significantly affected
departmental budgets and estimates.
Another output from the team was the development of an evaluation
form. This evaluation form was used to open lines of communica-
tion between the workers and their supervisors.

The feedback loop and increased involvement has begun. The depart-
ment is certain they will continue their involvement in the labor
management process.

LESSONS LEARNED

Production Involvement. Performance Teams can effectively involve
production supervision in the labor management process. Production
supervisors are willing and able to be more involved.

Training. Specific emphasis should be placed on work sampling. The
production supervisors were able to grasp this technique, using it
to measure productivity, improve methods, and develop workrates.

Guidelines for conducting a work sampling should be clearly defined.

As the Performance Teams progressed, the guidelines issued by Rear
Admiral Horne were discussed and utilized by some of the teams.
Having all teams progressing on similar guidelines would provide a
basis for comparison.

Training material should be presented in segments. As the teams pro-
gress, more information should continue to be presented.

Structure. More emphasis needs to be placed on monitoring team
performance, follow through is essential. Continued involvement by
management is vital.

Industrial Engineering Support. The program requires continued
training and guidance, outside the classroom sessions. The addition
of more industrial engineers as trainers/facilitators/assistants would
provide a significant improvement to the program efforts.

Implementation. A feasible timeline should be developed. Abbreviat-
ed training and start-up time will not foster the program’s growth.

FUTURE IMPLEMENTATION

Participative management leads to improved productivity, as the Per-
formance Team program indicates. The programs results validate the
process of developing analytical problem solving skills to increase
involvement in the labor management process.

The benefits of the Performance Team program are universal to all
manufacturing environments. With industrial engineering support and
top-down involvement, the program should lead toward the desired
productivity improvements.
REFERENCES


