Providing Total Quality Fundamentals: 1995 Workshops for the NASA Lewis Research Center's Technical Services Directorate

Paul Antczak, Gilda Jacinto, and Jimmy Simek
Lewis Research Center, Cleveland, Ohio

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Paul Antczak, Gilda Jacinto, and Jimmy Simek
National Aeronautics and Space Administration
Lewis Research Center
Cleveland, Ohio 44135

EXECUTIVE SUMMARY

The National Aeronautics and Space Administration's (NASA) agency-wide movement to cultivate a quality workplace is the basis for Lewis Research Center to implement Total Quality Fundamentals (TQF) initiatives. The Lewis Technical Services Directorate (TSD) introduced the Total Quality Fundamentals (TQF) workshops to its work force as an opportunity to introduce the concepts and principles of TQF. These workshops also provided the participants with the opportunity to dialogue with fellow TSD employees and managers.

This report describes, through the perspective of the Lewis TSD TQF Coaches, how the TQF workshop process was accomplished in TSD. It describes the structure for addressing the need, implementation process, input the TSD Coaches provided, common themes and concerns raised, conclusions, and recommendations.

The Coaches concluded that these types of workshops could be the key to open the communication channels that are necessary to help everyone at Lewis understand where they fit in the organization. TQF workshops can strengthen the participant's connection with the Mission, Vision of the Center, and Vision of the Agency. Recommendations are given based on these conclusions that can help the TSD Quality Board develop attainable measures towards a quality workplace.

I. INTRODUCTION

With the Quality movement taking hold in the National Aeronautics and Space Administration, Lewis Research Center decided to meet the challenge to provide a Total Quality (TQ) workplace environment. The Lewis senior management chose to begin using TQ initiatives on its Journey to Excellence and the Center Director selected 32 volunteer employees to serve as Total Qualify Fundamentals (TQF) Coaches.

A. Statement of Need

Following a senior management mini-retreat in April of 1993, each Directorate head met with the Coaches from their directorate to begin planning for TQF training and implementation. A Lewis Quality Council (QC) was also created as a result of this retreat. The Technical Services Directorate (TSD) decided that the first element of any comprehensive program would be to provide an understanding of Total Quality Fundamentals (TQF) for its staff, which would give them an opportunity to understand TQF concepts and principles in the workplace.

B. Purpose and Justification

The directorate developed a TSD Quality Board (QB) made up of Division chiefs and union representatives. This report was requested by the TSD QB in response to a suggestion from the TSD Coaches to make a wrap-up report. It is necessary in order to communicate the experience as feedback to the TSD QB and anyone else who might be interested (eg., as lessons learned).

C. Data Sources

This profile is based on actual workshop data such as evaluations, issues, survey information, and the personal experiences of the TSD Coaches.

D. Scope and Limitations

The major topics considered in this report are:

(1) The structure of addressing the need, workshop guidelines and curriculum established, and materials used

(2) The process of implementing TQF training, that is, the approach the Coaches took to accomplish the goals of TQF training, the various meetings held, logistics, topics covered, materials used, and how feedback was gathered

(3) Our input as TSD Coaches, and additional materials and activities used

(4) Common themes and concerns gathered from personal interactions between Coaches and employees and documented survey and evaluation results

Although only a snap-shot of a typical workshop can be provided here to help the reader fully understand the process, this paper is based on data obtained from over 34 workshops in the form of evaluations, workshop issues, survey information, and personal experiences of ours as TSD Coaches. We identified common themes, and major concerns using corporate knowledge, such as an understanding of Lewis and the TSD organization structure, culture, and attitudes, in putting this report together. We also included our conclusions and recommendations to the TSD/QB.

II. STRUCTURE OF ADDRESSING THE NEED

When the decision was made to implement TQF initiatives at Lewis, the Center's senior management began to involve themselves in TQF training. Internal consultants, called Coaches, were selected and developed for each directorate. This section identifies guideline criteria and materials for workshops used in the TSD Directorate TQF.

A. Internal Consultants/Coaches

The Lewis Center Director made a request for volunteers to be considered for selection as internal consultants (Coaches). Thirty-two employees were originally selected for this collateral duty assignment to support the Lewis TQF effort as Coaches. The Coach role was designated as critical to the growth and institutionalization of TQF at the Center.

A subcommittee of Coaches gathered all the information available to them on Total Quality and distilled the information into material that was applicable to Lewis. The Office of Human Resources Development (OHRD) developed a Lewis TQF training and peer review certification process that used these materials, which began in February of 1993 and went through October of 1993. OHRD was responsible for certifying that the Coaches were prepared to act as instructors and TQF advisors. The Coach

training process was designed to provide Coaches with the skills necessary to conduct TQF training, support TQF teams, and provide TQF consultation to Lewis personnel.

Additionally, the training process was designed to match the skills, abilities and interests of each Coach with the roles needed in the TQF effort. The following topics were incorporated into the development schedule for the Coaches: (1) empowerment, (2) total quality fundamentals, (3) systems thinking, (4) train-the-trainer, (5) presentation skills, (6) managing conflict, (7) group dynamics, (8) facilitation skills, and (9) advancing communication and teamwork.

Coach performance standards were designed along with a collateral duty statement which was agreed to and signed by each Coach and respective supervisor. The Coaches also had an obligation to participate in regularly scheduled Coach meetings, activities, and sub-committees. In April of 1993, this group created their charter and ground rules to support the TQF initiatives here at Lewis.

B. TSD TQF Directorate Coaches

Paul Antczak, Gilda Jacinto, and Jimmy Simek were nominated and selected to be the Coaches for the TSD Directorate. TSD decided to introduce TQF to all of its work force (or customers) by using their internal consultants, the Coaches. Thirty-four TQF workshops were presented in TSD from November of 1993 through October of 1994.

During the workshop, each Coach had a key role. When one Coach was presenting, the other two Coaches would take turns being a facilitator, time-keeper, and recorder. Each Coach had an area of expertise but was required to be able to provide each of the six modules, (1) journey to TQF, (2) customer focus, (3) cost of quality, (4) teamwork and empowerment, (5) continuous improvement, and (6) advance planning, in the workshop agenda if necessary. This ensured that the workshop could continue without interruption.

C. TQF Workshop Guidelines

A preliminary TQF workshop presentation was made to the TSD Directorate Management Council (DMC) with the following recommended guidelines:

(1) Mandatory attendance

(2) Two eight-hour day workshops, which normally ran from 8:00 a.m. to 4:30 p.m.

(3) Each Division's representative would be a focal point for scheduling, and notifying attendees of the workshop

(4) Managers should be present at each workshop attended by their employees

(5) Managers should participate as much as possible

(6) There would be 25 to 30 persons scheduled per workshop

(7) All workshops would be completed by September 30, 1994

A flow chart was introduced detailing the initial steps for beginning the workshops. We needed full support from the DMC to insure a successful TQF workshop endeavor and the DMC agreed that the Coaches should devote whatever time was necessary—90 to 100 percent, or more, of their time or whatever it would take to accomplish this training according to the schedule. The proposed plan (fig. 1) was approved.
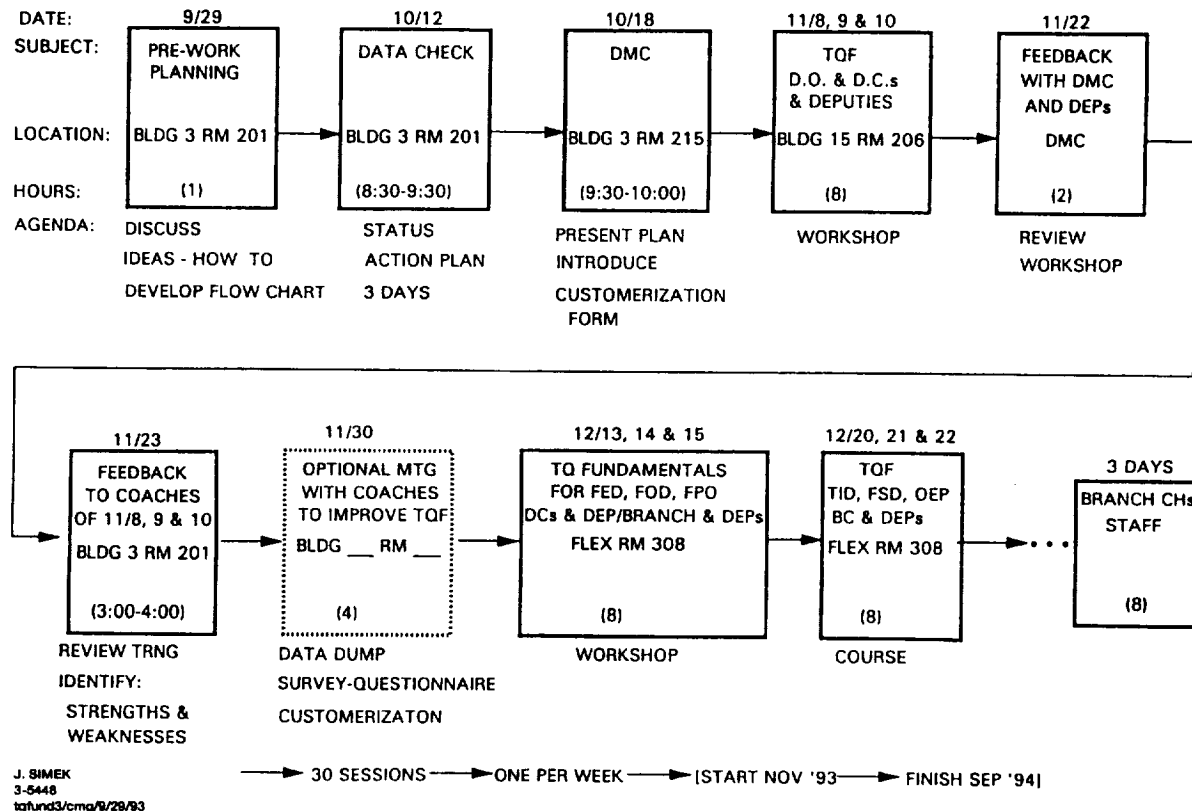

Figure 1.—Total quality fundamentals schedule for Lewis Technical Services Directorate implementation.

We created a master schedule of workshop sessions, which was sent to the DMC with an understanding that the division chiefs would schedule dates on a first come, first served basis for their division. The DMC then sent us their list of attendees who were scheduled based on the DMC guidelines.

D. TQF Workshop Sessions

The logistics for reserving the training locations and gathering all the materials required, were provided by the Coaches. The workshops were scheduled through September 1994.

It is important for us to communicate to the reader that it required at least two hours to set up before and after each workshop. One workshop totaled about a week of effort to insure its quality.

The materials used in the workshops were based on the Lewis TQF Coach Manual. This manual supported the Lewis TQF workbooks and was a guide for the Coaches to delivering the TQF workshops. The Lewis TQF Coach Manual provided suggested preparations and procedures for conducting all the activities in the workshops for the six modules in the workbooks.

The role of Coach was defined in the Lewis TQF Coach Manual as "someone who creates an environment in which people can direct their own learning." We kept that definition in mind as we developed the

agenda for the two-day workshop. We included the six modules from the workbook in the agenda, and used the suggested preparations and procedures from the Lewis Coach Manual for conducting the activities in the workbooks.

III. IMPLEMENTATION PROCESS

To start the cultural change in the way TSD does business, we began preparing for implementation of the TQF workshops. Several processes had to occur before we could begin. They were: a meeting with the Director of, preliminary meetings with managers, institution of feedback mechanisms, seeking the commitment of management to the philosophy of TQF, and organizing the workshop flow. We provided materials and activities in addition to those suggested in the Lewis Coach Manual, in order to enhance the workshops.

A. Meetings With Director

We requested a regularly scheduled weekly meeting with TSD Director David Poferl. These meetings were opportunities to share experiences, concerns, or other issues that needed his attention to insure the success of the workshops.

The agreed-upon process was to have us train all the Directorate's managers; then train the employees with their respective manager present at each workshop session. We requested and the DMC agreed, to provide clerical support in order to type data from each workshop. This was so that a historical record could be made for future reference.

B. Preliminary Meetings With Managers

We presented the TQF workshop to the DMC in order for them to see what the rest of the Directorate would receive. The DMC made recommendations based on various levels of need in their Divisions. As a result of this, we decided to meet with each manager before each workshop to gain the same type of information.

The function of the preliminary manager meeting (or pre-meeting, as it was called) was to clarify the roles and responsibilities of the manager regarding the workshops. The primary responsibility of the managers was to share their knowledge of TQF during the workshop sessions. In addition, the managers were asked to support the Coaches throughout the workshop by participating and helping to clarify any difficult issues. We also wanted the managers to provide us with an understanding of what might need to be emphasized and what examples could be used for their particular group in order to make the training more relevant. Hopefully, this would also reinforce the application of TQF tools.

We asked the managers what their expectations of the workshop were so that we could try to address those expectations during the workshop. A benefit of the pre-meeting was that it provided an understanding of the level of TQF awareness that already existed in that work group. Another benefit was that it gave us an indication of the level of support the manager would provide.

C. Workshop Flow

Each workshop started out with the Director of TSD answering the question, "Why are we here learning about TQF concepts?" He would explain why the Agency has adopted this philosophy and then pass the workshop over to the Division Chief, who would re-emphasize the concepts and introduce the Coaches.

Each workshop began with the group establishing their own ground rules and norms to follow. These were posted to help the group manage itself in order to accomplish the goals and objectives of the workshop, and to insure dialogue and participation. Equally important was informing the participants that we would be capturing recurring issues and concerns. This was the pattern we followed in opening each workshop with the Introduction module.

The flow of the workshop continued through the scheduled module topics: (1) journey to TQF, (2) customer focus, (3) cost of quality, (4) teamwork and empowerment, (5) continuous improvement, and (6) advance planning. Each module had it's own overview, objectives, key points, key topics, and summary. Various activities such as videos, exercises, presentations, and tools, such as flow-charting, were used in the workshop. The workbook was followed exclusively except for the teamwork and empowerment module which was modified per the DMC request.

D. Feedback

In a TQF culture, feedback is very important. We were proactive in establishing several metrics as feedback and measurement vehicles. The feedback vehicles we used were: written evaluations, which we created (fig. 2), expectations of participants, and Coaches' personal contacts. The evaluations were an indicator of how well the workshop was being delivered and received. By discussing everyone's expectations at the beginning of the workshop, we could understand the needs of each student. Our personal contacts with participants were also used as feedback, which enabled real-time improvements in the workshops. Feedback was an important step needed to continuously improve the workshop. All of the feedback was typed and provided to the division chiefs as empirical evidence from the workshops.

IV. INPUT OF TSD COACHES

As TSD Coaches we added information that we felt was relevant to the workshop in addition to applying our presentation techniques and skills learned during our Coach training. Our most important hope was to establish the workshop as a model for creating a TQF environment. We emphasized to the students that they could follow the flow of the workshop and use most of the tools and concepts being presented during the workshop, in their workplace. We incorporated exercises to help participants recognize diversity, and also used videos, created and used a Quality survey, made use of the "parking lot" device and endeavored to consider all expectations of the participants. It is beyond the limits of this paper to present a comprehensive list of everything we did as Coaches, to make the workshops a good learning experience. A discussion of these main contributions follows.

A. Providing/Creating a TQF Learning Environment

We made an effort to make the workshop environment comfortable for the attendees by providing extras, such as background music, coffee, and donuts. Additional materials such as handouts, extra videos, and local/national newspaper articles were incorporated to help participants comprehend that the concepts and principles being presented were not just Lewis' but worldwide.

B. Diversity

An important feature of the workshop was helping everyone to recognize diversity in the work place. Changing seating arrangements for various exercises moved participants out of their comfort zones and

7000 Directorate
Total Quality Fundamentals Workshop Evaluation

Date(s): _____ Name (Optional):

_____

Please rate the following: Excellent   Poor

- Quality of workshop materials: 5   4   3   2   1

- Overall, I consider the workshop content: 5   4   3   2   1

- Overall, I consider this workshop: 5   4   3   2   1

Comments: _____

_____

Please answer the following about the workshop:
- The workshop met my expectations: Yes   No
- I plan to use these concepts, tools and information: Yes   No
- I would recommend this workshop to others: Yes   No

- I would like to see more information/emphasis on:

_____

Things I liked the most: _____

_____

Things I liked the least: _____

_____

About the instructors:
Provide any specific comments about the instructors on the back of this sheet. It is important to provide the instructor's name and module.

Please offer any additional comments/suggestions/ideas on the back of this sheet. Thank you.

Figure 2.—TSD total quality fundamentals workshop evaluation.

allowed them to experience working with personnel, they were not accustomed to. This dynamically demonstrated diversity.

C. Videos

We employed several key videos throughout the workshops, <u>Quality or Else, Part 1: The Global Market Place</u>, and <u>Part III: How to Hit the Moving Target</u> produced by WNET, New York 1991. This video provided added value by reinforcing TQF principles being used globally. It is an excellent history of the Quality movement and includes real world examples, presenting views on quality from different people, and illustrating continuous improvement, and customer focus.

D. Survey

We used the <u>Creating a Quality View</u> survey (fig. 3) and applied it in several ways. One was to teach the tool and the methodology for analyzing survey data, another was to actually capture perceptions about the current TQF environment. On the survey it was stated that: "An important step in achieving goals and making changes is to have an idea of what an ideal Total Quality environment might look like. But what is equally critical is understanding what current reality looks like."

Creating a Quality View

An important step in achieving goals and making changes is to have an idea of what an ideal total quality environment might be like. But what is equally critical is understanding what current reality looks like.

Fill out the survey below[1] to determine your perception of the current environment in your

_____ at LeRC. Years of service at LeRC: _____. Org. Code _____

1.	Many different and often conflicting goals.	I—I—I—I—I—I—I 1 2 3 4 5 6 7	Common vision shared by everyone.
2.	Punishes mistakes, and hides or rationalizes problems.	I—I—I—I—I—I—I 1 2 3 4 5 6 7	Openly discusses problems and sees defects as opportunities.
3.	Rewards following established policies.	I—I—I—I—I—I—I 1 2 3 4 5 6 7	Rewards risk-taking and creative thinking.
4.	Lets short-term problems drive and dominate work activity.	I—I—I—I—I—I—I 1 2 3 4 5 6 7	Focuses on long-term continuous improvement.
5.	Relies on inspection to catch mistakes before the customer receives the product.	I—I—I—I—I—I—I 1 2 3 4 5 6 7	Improves work process to prevent mistakes from occurring.
6.	Management makes decisions for change from the top-down only.	I—I—I—I—I—I—I 1 2 3 4 5 6 7	Trusts and empowers employees to contribute to decision making.
7.	Tolerates turf battles as inevitable.	I—I—I—I—I—I—I 1 2 3 4 5 6 7	Facilitates and rewards cross-functional cooperation.
8.	Makes decisions arbitrarily.	I—I—I—I—I—I—I 1 2 3 4 5 6 7	Bases all decisions on objective data.
9.	Has negative or indifferent self-image.	I—I—I—I—I—I—I 1 2 3 4 5 6 7	Feels like a winner, achievements creating good morale.

[1]Verbal instructions were given to circle the "I" that best indicated where the participants' perception was in relation to the two ideas presented.

Figure 3.—TSD "Creating a Quality View" survey.

There are nine concerns on the Quality survey. Each one relates to a TQF principle. Each concern was discussed in the workshop while looking at the data points from the survey results (fig. 4). This gave the students an opportunity to see what the perceptions of other individuals in the larger group were. We demonstrated how qualitative survey results were converted to the quantitative data which measured the perception of each principle (using a check-sheet and histogram).
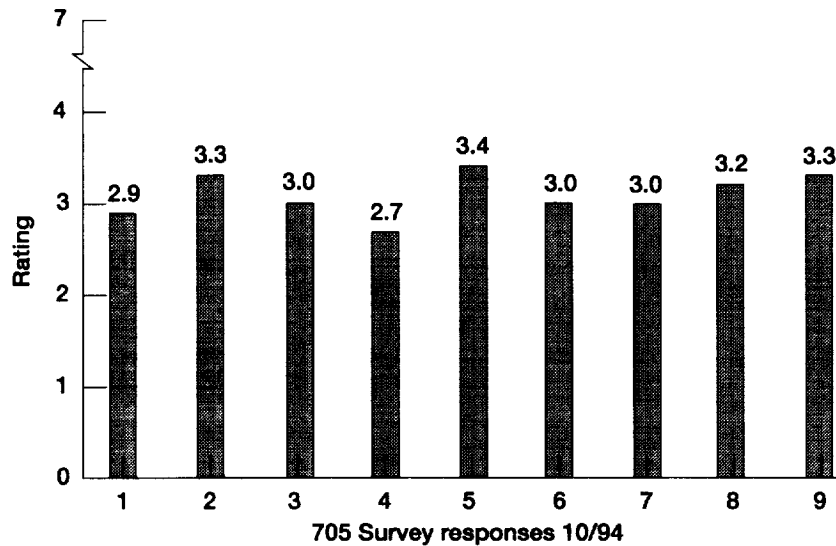
Figure 4.—"Creating a Quality Survey" results. (Lewis Technical Services Directorate average 34 workshops.)

By viewing their actual survey results everyone shared their data with each other. In a TQF environment every employee needs to actually see survey results. We reinforced as often as possible that everyone in an organization needs to be involved in understanding the customer survey results when requests are being made to meet customer needs.

E. Parking Lot

We designated one flip chart as the "parking lot" for issues that arose during the workshop sessions that could not be fully discussed at that time due to time or agenda constraints. The parking lot served as a reminder that these issues had surfaced and ensured that the concerns of the participants were validated. Each participant was strongly encouraged by the TSD Director to use the parking lot.

The Coaches requested that the Director of TSD or his designee address the parking lot issues. The Coaches and TSD Director decided that the parking lot would be discussed by the Director of on the second day of the workshop. By scheduling his calendar to attend all the workshops, the Director of showed senior management's commitment to TQF. If issues needed further attention, it was stated that management would address them at a later date.

F. Creating and Gathering Expectations

Expectations were also created by attendees at each table. The students were to answer the question, "What do you need to see happen in order for this workshop to be successful for you?" A flip chart was used to list their expectations and they were posted. Participants were asked to check off any expectations

that were met throughout the workshop. We also reviewed the expectations with the students at the end of the workshop to see which expectations were not met, and these were placed on the parking lot for management's review.

V. COMMON THEMES AND CONCERNS

Our observations as Coaches, from personal interactions and documented accounts such as the results from the evaluations along with unresolved expectations, provided the basis for the following common themes and concerns. We felt that these were the most important to bring to the TSD/QB's attention.

A. Quality Work or a Good Job?

One common theme heard throughout the workshops was that the staff felt that they were already doing a good job. Mandating attendance at these workshops implied to them that they had been judged as not doing quality work.

B. Where Do I Fit In?

When asked what their mission, vision, and objectives were, almost everyone had difficulty relaying them. This was evidenced in discussions and in results from the Creating a Quality View survey, and indicates a considerable misunderstanding of how people fit in the organization and what their mission is. This lack of constancy of purpose is also observed by W. Edwards Deming as the first of his "seven deadly diseases" and is commonly seen in many organizations as is the case here.

A common theme in several of the classes was that managers were doing their own customer surveys about the quality of the work of their own work groups. The concern here was that this information was not being shared with the people doing the actual work.

C. Structure

It became apparent that some people didn't like to be structured. Ground rules created for the group by the participants themselves were not followed consistently. When reminded of their ground rules they seemed not to be able to accept the reasons for creating them in the first place. A personal observation is that it became difficult to gain the attention and participation if attendees didn't accept the structure.

D. Management

Students noted that the managers weren't "walking the talk." The observation made by group members was that the managers had already attended these classes and therefore should already be practicing these techniques.

E. Customers

Another common theme from the parking lot was "why aren't our customers here in the class with us?" TQF philosophy puts a major emphasis on the customer. Since TSD workshop participants consider contractors, engineers, and other Lewis employees as their customers, they felt this was a prime opportunity to begin opening up communications with them.

Many people struggled with the term "customer." A common observation from the classes was that when you define someone as a customer, the customer begins to treat you in a demeaning manner by

labeling you the worker and themselves the boss. Some groups were convinced that their customer was not just their manager, yet others didn't even feel that their boss was their customer.

F. Why TQF?

The most common concerns were: "Why are we here in this workshop?" "What is TQF?" "Is this just another flavor of the month?" and "Is this really going to work here at Lewis?" These concerns were consistently raised during many discussions throughout every workshop.

G. Expectations

Following are concerns from the expectations lists that were not met during the workshops:
(1) Management needs to listen
(2) People need to commit themselves
(3) Buy-in to TQF is necessary from all levels of management.
(4) Engineers and researchers have to believe in TQF and also understand the limitations caused by manpower shortages in shops.

H. TSD Directorate Workshop Evaluations

Our evaluations showed that the overwhelming majority felt that the workshop met their expectations; they plan to use these concepts, tools, and information; and they would recommend this workshop to others (fig. 5).
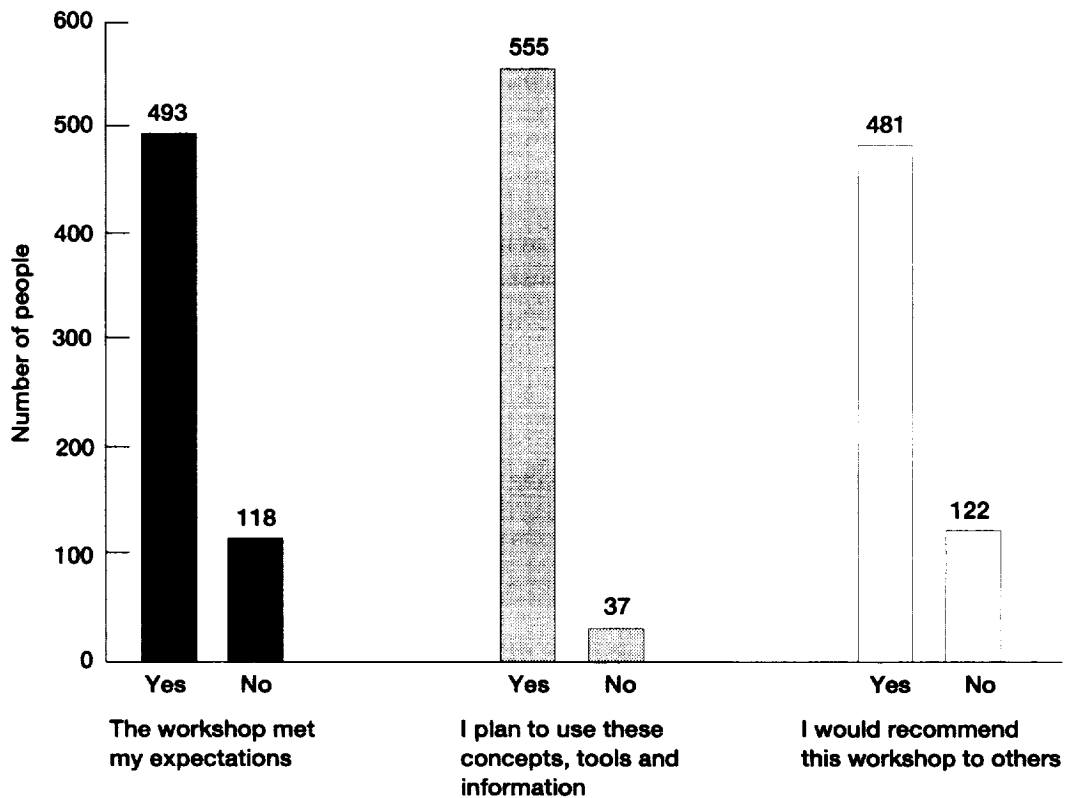

Figure 5.—Lewis Technical Services Directorate TQF workshop evaluation responses.

We asked participants what they valued the most and what they valued the least about the workshops. Various answers were given but an often repeated answer for what they valued the most was being able to dialogue with their managers, peers, and Director of.

Mandatory attendance was valued the least. Some participants felt that they couldn't talk as freely when their managers were present.

The majority of people appreciated that their managers were involved in their workshop, yet they expressed the concern that they had to be in this workshop sixteen hours and some of their managers were not in the workshop the full two days. Other manager behaviors that the employees commented on were: late arrivals, early departures, inattentiveness, nonparticipation, and making comments that this was just another flavor of the month. These behaviors, as well as others that indicated some level of negativity, were also exhibited by the employees.

In the pre-meetings, the managers were cautioned not to allow negative behaviors to continue. When these behaviors were not corrected, they caused unnecessary conflicts between the students and presenters.

VI. SUMMARY

In this document we began with an introduction explaining why TQF in TSD, purpose, scope and limitations and justification for this report. The major topics considered in this report were: structure of addressing the need, process of implementing the TQF training, Coaches input, and common themes and concerns. We also provided conclusions and made recommendations.

VII. CONCLUSION

TSD used the workshops to introduce their employees to the concepts and principles of TQF. They are at the beginning of formulating a comprehensive and systematic quality improvement process. These workshops provided the participants with the opportunity to dialogue with other TSD employees and gave them an avenue to ask all the questions they needed to help them understand the fundamentals of TQF.

It was evident from the workshop data that individuals want to contribute and need to participate in the decision-making processes that affect them. Improved communication will help everyone better understand their work processes and their connection with the Mission and Vision of the Center, and Agency. Mission and vision are strong elements in a TQF environment. With these thoughts in mind the TSD/QB can begin to set measurable goals for making progress towards a Quality workplace.

VIII. RECOMMENDATIONS

Our recommendations for the TSD/QB are based on our experiences in the TQF workshops. The TSD/QB could continue its Journey to Excellence by implementing the following:

(1) Develop a Quality strategic plan (QSP). The workshop information needs to be recognized as the link in adding value to creating a QSP.

(2) Assess the Directorate based on the Baldrige criteria. This can be done easily by using existing data, that is, results of surveys, evaluations, etc. that have been given to the employees since Lewis began this cultural evolution. Survey data that is being taken by an organization should immediately be shared with the work group(s) surveyed. Considering all past survey data in a directorate assessment and creation of a QSP will show employees that their input is valued.

(3) Redo the Creating a Quality View survey, within a year of the completion of the workshops, to discover if the staff's perception of the TQF environment in TSD has changed. The purpose for using this

survey, which contains nine areas of concern that relate specifically to TQF, was twofold: (1) to establish a baseline, and (2) to measure improvement. Data from the workshops discussed in this paper are located in the TSD Office in folders containing information from each individual workshop. This data is the TSD baseline data. Compare the two sets of data and develop a plan to focus on those areas where perception is low. These low areas should be prioritized and the QB can use TQF tools and techniques to improve the perceptions.

(4) Build better communication by analyzing the data from feedback vehicles such as the parking lot, flowcharts, evaluations, exercises, and evaluation comments from each workshop (located in the TSD workshop folders). The issues and concerns must be internalized by the TSD QB. The various TQF tools and techniques can help in recognizing and understanding the issues and concerns. For example, affinitize and prioritize the parking lot issues; then open up a dialogue session to address them with the respective work groups.

(5) Develop key result areas (KRA's) in the QSP by using the analysis from the workshop data (as suggested in recommendation number two). A good model for KRA's are the Key Business Factors in the NASA Continual Improvement External Assessment Evaluation Summary 1993–1994. KRA's are the principle intended accomplishments of an organization. They will serve to illustrate and clarify the intention by tracking performance against measurable indicators. KRA's must have a metrics point of contact and have specific timeframes for action and accountability.

(6) Include the work force in the development of the QSP and share the QSP with the work force. The intent of TQF is that all members be aware of vision, mission, goals and objectives, and use them to guide their efforts. When individuals see that they are being listened to and are a part of the process they will be more inclined to follow it. In that way everyone can align their activities with the overall mission of the organization.

(7) Hire a consultant when necessary, to assist the TSD/QB and all of the managers to fully under-stand the philosophies of a Quality culture and how it functions. This recommendation is based on our observation during and since the workshops that the managers and work force still need to comprehend the components of TQF, that is, customer, empowerment.

(8) Strengthen the linkages to the internal customers and integrate the many Quality activities throughout the Directorate, such as Process Action Teams and workgroups, and its external customers to the QSP.

(9) Recognize and reflect on the common themes, issues and concerns from the staff as a step towards better understanding the workplace and what could change and how to do it. By internalizing them the cultural change will continue in a positive manner.

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13. ABSTRACT (Maximum 200 words)

The National Aeronautics and Space Administration's (NASA) agency-wide movement to cultivate a quality workplace is the basis for Lewis Research Center to implement Total Quality Fundamentals (TQF) initiatives. The Lewis Technical Services Directorate (TSD) introduced the Total Quality Fundamentals (TQF) workshops to its work force as an opportunity to introduce the concepts and principles of TQF. These workshops also provided the participants with the opportunity to dialogue with fellow TSD employees and managers. This report describes, through the perspective of the Lewis TSD TQF Coaches, how the TQF workshop process was accomplished in TSD. It describes the structure for addressing the need, implementation process, input the TSD Coaches provided, common themes and concerns raised, conclusions, and recommendations. The Coaches concluded that these types of workshops could be the key to open the communication channels that are necessary to help everyone at Lewis understand where they fit in the organization. TQF workshops can strengthen the participant's connection with the Mission, Vision of the Center, and Vision of the Agency. Recommendations are given based on these conclusions that can help the TSD Quality Board develop attainable measures towards a quality workplace.

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