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IMPROVING MARINE CORPS FOOD SERVICE MANAGEMENT AND TRAINING

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PREFACE

The efforts described in this report on Marine Corps food service were in support of NM 83-17, Food Service Management Training/Development Program. Direction and coordination of the project were the tasks of the Behavioral Sciences Division (BSD) of the Science and Advanced Technology Directorate (SATD) of Natick Research Development, and Engineering Center (NRDEC), Natick, MA 01760-5020.

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Two persons requiring special recognition are WO-3 Louise Haebig and WO-1 Milton Peterson who coordinated project activities at MCB Camp Pendleton, CA and MCAS Cherry Point, NC, respectively.

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IMPROVING MARINE CORPS FOOD SERVICE MANAGEMENT AND TRAINING

I. INTRODUCTION

This report discusses the research and programs that were conducted for the U.S. Marine Corps in support of NM-17, the Food Service Management Training/Development Program. The main objective of this project was to produce programs and recommendations leading to more effective management in Marine Corps Food Service.

Procedure

The procedural paths undertaken to accomplish the project goals were:

(1) The current status of Marine Corps Food Service Management Training was assessed by interviewing food service managers at representative locations.

(2) The practices and policies identified with effective as well as ineffective management were determined by an extensive survey of food service workers and managers.

(3) The curricula of the Camp Johnson Food Service Schools were evaluated.

(4) A contract was awarded to provide training modules for the projected food service automated system.

Each of these procedures is fully described in the subsequent sections of this report, with the exception of the evaluation of the Camp Johnson schools. The evaluation of the schools was described in a separate technical report entitled "Survey, Evaluation of Marine Corps Food Service Schools at Camp Johnson, NC."¹

II. EVALUATION OF CURRENT STATUS OF FOOD SERVICE TRAINING

The current status of Marine Corps Food Service Training was investigated by interviewing a total of 102 food service personnel at Camp Lejeune, Parris Island, Camp Pendleton, and MCB Concord and Vallejo. These personnel included 46 cooks, 45 staff NCOs (most of whom were managers or assistant managers) and 11 food service officers/food technicians(FSO's/Techs).

The interview questions probed the following issues: (1) the most significant problems in food service management; (2) the status of

on-the-job training (OJT) programs; (3) the level of management most in need of training, and (4) the efficacy of the food management teams.

Problem Areas

The three major problem areas in Marine Corps food service according to the 102 personnel interviewed were, in rank order, a lack of communications skills, poor personal relationships, and lack of leadership abilities. While these interviewees also attested to a lack of technical skills, such as knowledge of food preparation/equipment and administrative procedures, they were emphatic that the lack of "people" skills was paramount in Marine Corps food service personnel.

According to 585 of the staff NCOs, the problems are precipitated, at least in part, by the fact that inexperienced personnel are often assigned as managers of dining facilities. Also, 36% of the staff NCOs and food service officers/technicians voiced the opinion that many food service personnel do not receive required training because assignments to the NCO and Staff NCO schools are merely attempts to fill quotas, which result in sending "expendables" for training while the more capable are kept on site because they are "needed".

When citing training deficiencies, 26% of the Staff NCOs and food service officers/technicians additionally expressed a concern about the quality of instruction at the Camp Johnson schools.

On-the Job-Training

Questions relating to OJT revealed the following: 83% of the cooks and 45% of the NCOs/food service officers reported that OJT was extremely weak, poorly organized, and often nonexistent at most Marine Corps food service facilities. A related finding is that personnel are not rotated adequately among the various jobs in a dining facility; this contention was upheld by 87% of the cooks and 69% of the staff NCOs/FSOs/techs.

According to 80% of the cooks, films or videotapes are virtually never used in CPT schools. Interviewees at Camp Johnson schools stated that the films/videotapes that are available are dated, and management-oriented films with no exclusive focus on food service are simply nonexistent.

Management Level Most in Need of Training

When asked which level was most in need of training -- cook, food service officer, food technician, chief cook, or dining facility manager -- all levels of personnel interviewed felt that the chief cook was most in need of help, with dining facility managers being a close second.

Food Management Team

The consensus as to the efficacy of the food management teams is that the teams perform well in training production-level personnel. This was the opinion of 65% of the cooks and 86% of the staff NCOs/food service officers/technicians. It should, however, be mentioned that some of these personnel maintained that the East and West teams taught "different things."

Automated Food Service System

One unsolicited finding that 32% of the interviewees volunteered is that there is a concern about the future availability of training materials for the proposed automated food service system.

Discussion and Recommendations

The fact that lack of fundamental management skills in both the technical and human relations spheres has been identified as the chief problem in Marine Corps food service will not surprise those who are familiar with the system. The fact that this lack has been now documented, however, will hopefully engender a broad-based plan of action.

To remedy all the training issues is a considerable task. It is a task, however, that must be attended to. The benefits of a food service system that is proficient and productive serves needs that go beyond the money and time spectra; a well-managed system that feeds efficiently and well contributes significantly to the "quality of life" the Marine Corps has to offer. These quality of life issues are significant in retaining a quality volunteer force.

The following measures are suggested as remedial actions to be taken if training levels and the concomitant managerial effectiveness are to be significantly upgraded:

(1) Camp Johnson schools curricula should be expanded and improved. This especially applies to curricula relating to human interactions and communication, but also applies to the technical sphere. An evaluation of the Camp Johnson schools was conducted as one of the project efforts and the findings are reported in a separate technical NRDEC report "Survey Evaluation of the Marine Corps of 1 Food Service Schools at Camp Johnson, NC." An executive summary of that report and a listing of recommendations is included in Section IV of this report.

A subject that was not addressed in the Camp Johnson survey, as the Natick team was not tasked to do so, was that of instructor quality. It is strongly urged that the Marine Corps study the selection process, training, and performance of its instructor personnel.

(2) All new food service personnel should receive comprehensive training - either at the Camp Johnson Basic Course, through civilian

schooling, or through a very structured OJT program. At this point universal training for new cooks is not the norm, and its importance cannot be overemphasized. Lack of, or inadequate, training is a two-edged sword: it decreases facility efficiency and can lower morale by engendering feelings of frustration in the worker because he feels incompetent. Compound this latter situation with the observation that many first-term Marines who are in food service do not want to be there and the components for pervasive morale and behavior problems are at hand.*

(3) A multifaceted, expanded program for teaching communication/human relations skills should be implemented. While technical skills are critical to job performance, they are meaningless if there is no positive interaction among the workforce members. NRDEC research has documented the urgent need for human relations/communication skills. Training in these areas needs to be incorporated in the Basic Course. NRDEC project personnel also feel that the Food Management Team (FMAT) mission can be expanded to include basic communications training.

(4) A programmed career path should be initiated. Present Marine Corps promotion policy helps create a food service dilemma: many personnel rapidly attain the rank that allows them to be designated as dining facility managers, but unfortunately this rapidity has not allowed them experience and/or training commensurate to the jobs. Management style for most of these personnel can at best be labelled "crisis management." Redress of this problem was not in the scope of the management project, but this situation strongly points to the need for centralized programmed career paths.

While obviously no one will recommend that the rank progression be slowed, it certainly is recommended that assignments as managers be dependent on experience and/or schooling backgrounds.

Lack of experience for managers stems from more than failure to be exposed to different dining facilities and other food service organizations. It has its roots in the fact that young cooks are not rotated adequately among the jobs in a given dining facility according to most of the personnel interviewed in the initial phase of this study.

*Although the project efforts did not include an examination of recruitment policy, recruitment of cooks is an area that also bears attention from the Marine Corps. People who are billeted in food service by default (i.e. cannot get into the billet they want) are not only unhappy, but they also have no idea of what food service holds as a career field. If there were active recruitment for food service personnel, this situation could be alleviated. The core issue here is that to be a Marine Corps cook has a negative image and attempts should be made to change that image.

A centralized program should mean eligibility for running a facility is based on more than a passive posting of an individual's assignments and school attendance. The program efforts are made to ensure that an individual is truly "developed", i.e., he must be led through timely schools/training and assignments that precede and prepare him for management positions.

As pointed out earlier, training deficits stem from many sources: only 50% of new cooks attend the Basic Course; there is no structured OJT or civilian courses program; and many assignments to the NCO and Staff NCO courses seem to be quota filling -- the managers are keeping their best personnel on hand because they are "needed" and sending the more "expendable" personnel for training.

A combination of inexperience and lack of training is a harmful combination for a new manager. A manager who lacks experience or training is often insecure and engages in short-sighted patterns of behavior. This is the type of manager who will not rotate his people because he is afraid to risk trying a person in a new job. This is the manager who is reluctant to send his competent people away to school. A manager's far-sighted approaches to training and providing experience for subordinate personnel come only with appropriate managerial development. A centralized approach with policies such as school selection, coordinated training/experience assignments and sound OJT programs would go far in providing a foundation for developing an able, effective managerial force.

(5) A structured OJT program should be developed and implemented. Data collected in the early phase of the project pointed to the fact that OJT programs in food service tend to be weak at best.

(6) The Food Management Teams' role should be expanded. According to interview data, the food management teams generally perform well, but NRDEC feels that the mission of the teams can be broadened to include human relations training and playing a role in supporting or monitoring OJT programs.

II. IDENTIFICATION OF MOTIVATIONAL TOOLS AND EFFECTIVE MANAGERIAL BEHAVIORS

An objective of this project was to produce recommendations for improving managerial effectiveness. This meant that factors which influence positive job performance had to be identified, analyzed, and translated into concrete plans of action or tools that could be readily applied.

A departure point for this effort was the commonly held assumption that positive job performance is a function of motivation and training. The logical flow was then to ask: (1) What motivates Marines in food service? and (2) What must be provided in way of training and how can it best be accomplished?

Present-day thinking subscribes to the theory that people work primarily to satisfy their esteem needs, that is, feelings of personal worth and competency coupled with the desires for recognition and admiration.^{2,3,4} This does not mean that other needs, such as the economic ones, have no relevance to the job, only that the overriding forces in job performance for most people are the personal worth needs.

Some commonly applied methods for appealing to personal worth needs are: (1) providing varied and challenging work, (2) allowing control or a sense of responsibility in performance of duties, (3) imparting a sense of achievement, (4) creating opportunities for advancement, and (5) recognizing the worker and good performance. Concepts such as these, which focus on an individual's sense of worth, have their roots in a management attitude that is committed to human resource development and reflect an awareness of the principles of successful human dynamics and communications.

Feelings of competency, which are inextricably linked to feelings of self-esteem, stem from training. The training referred to here does not refer only to technical training. While the importance of training in technical aspects of food service cannot be minimized, training that encompasses the human relations/communications sphere is also critical to the mastery/competency issues in successful job performance. In short, managers not only need to feel technically competent, they must also feel competent in their interactions with others if they are to be effective, successful, and motivated.

Survey Data

In order to examine the closely linked motivation/training/performance scenario, Natick project personnel administered three questionnaires to Marine Corps food service personnel at a number of bases. Some specifics that the questionnaires addressed included: (1) what constitutes effective managerial behaviors, (2) to what type of training are effective behaviors related, and (3) what types of motivators have the broadest appeal to a food service workforce.

Management Effectiveness Survey

The management effectiveness survey was administered at six Marine bases to a total of 273 Marine Corps personnel, who represented all ranks and billets in food service. This questionnaire listed twenty-five factors relating to managerial performance, and respondents were asked to rate how important these factors were to effective management. The results are presented in rank order in Table 1 and the ranking are means (averages) based on a five-point scale which ranges from "Not Important (0)" to "Extremely Important (4)".

TABLE 1. Ranking of Effective Management Factors by MC Personnel
(Survey No. = 273)

Rank	Mean(X)	
1	3.70	Communication between managers/supervisors and the workforce.
2	3.69	A sanitary, clean dining facility and kitchen
3	3.68	Managers knowing a lot about food service
4	3.65	Providing recognition to the cooks for work well done.
5	3.57	Managers knowing how to correctly prepare financial reports.
7.5	3.49	Customer satisfaction.
7.5	3.49	Managers knowing how to operate all equipment in the dining facility.
8.5	3.38	Managers helping workers under them with personal problems.
8.5	3.38	Management training for the dining hall supervisor.
10	3.36	Clearly defining the job each worker is to do.
11	3.23	A preventive maintenance program being provided for all food service equipment.
12	3.22	School training in food service being provided for cooks.
13	3.21	Food service training for the food service worker.
14	3.17	On-the-job training being provided for cooks.
15	3.16	Managers emphasizing portion control.
16	3.13	Work assignments that rotate workers among food service tasks.
17	3.10	Managers pointing out mistakes to the cooks.
18	3.05	Managers enforcing progressive cookery.
19	2.98	Having a dining facility with attractive decor (that looks nice).
20	2.97	Manager getting recognition for work well done.
21	2.91	Manager having higher rank than everyone who works for him.
22	2.86	Accurate and timely submission of reports.
23	2.82	Planning meetings which include the food service workforce.
24	2.66	A self-inspection/evaluation program for food service managers and supervisors.
25	2.58	Customers-food service personnel relations.

Scale used to rate the effectiveness of each factor:

- 4 = Extremely Important
- 3 = Very Important
- 2 = Moderately Important
- 1 = Slightly Important
- 0 = Not Important

Findings

The most striking finding is that "communication between managers and the workforce" is ranked the most important managerial behavior. This is all the more significant vis-a-vis the fact that lack of positive communications/human relations is the most problematic area identified by NRDEC in Marine Corps food service.

The second highest ranked factor "a sanitary, clean dining facility and kitchen" seems at first glance to be a very technical issue, but some further consideration of this highly ranked factor may be in order. While it is true that knowledge and enforcement of sanitation methods is important from a technical and health-related point of view, being able to maintain a spotless facility is also, from a psychological perspective, a testament to esprit de corps in the military community. Organizations displaying such esprit have good intragroup communications and relationships, and members derive a sense of importance being a member of such a group.

The positive relationship of sanitation to effective management has also been documented by a recent Air Force study which identified factors related to successfully run facilities. While the "why of this relationship has not been answered, its importance as an effective management indicator cannot be underrated, as this quality was apparent in all successful facilities studied.

Four other factors that are relevant to human relations/esteem issues also are in the top 10 rankings such as "providing recognition to cooks for work well done", "managers helping workers under him with personal problem", "customer satisfaction", and "clearly defining the job each worker is to do."

While there is also a cluster of factors indicating a demand for overall technical expertise, such as managers knowing "a lot about food service," "how to prepare financial reports correctly," and "how to operate all equipment in the dining facility," it must be pointed out that the 10 highest ranked factors contain six of the nine factors on the survey which can be construed as human relations/communication issues and thus relate to human esteem needs. That does not mean that technical considerations are unimportant; as pointed out earlier, expertise in human relations and technical spheres is simultaneously required for effective performance. In any event, the weight given to human relations expertise in managerial behavior by Marine Corps food service personnel is especially conspicuous considering the lack of this type of training.

Motivation Survey

A second survey that listed 14 motivational tools was also administered to the 273 food service personnel who filled out the management effectiveness survey. This survey's purpose was to obtain rankings of these concrete motivators. The results are listed in order of preference in Table 2.

TABLE 2. Ranking of Motivational Practices by MC Personnel
(Survey N = 273)

Rank	Mean(X)	
1	3.77	The chance to obtain food service certification in preparation for later civilian employment
2	3.46	The Marine Corps providing time and paying for courses toward a food service degree in a college or community college program, e.g. Johnson & Wales.
3	3.42	Manager taking good suggestions from the cooks seriously.
4	3.40	Awards for good performance on the job, such as: 3-day passes, tickets to events, cash, restaurant tickets.
5	3.22	Recognition for good performance on the job, such as: cook of the month, picture on the bulletin board, name mentioned in written newsletter, etc.
6	3.18	Allowing flexible work hours.
7	3.09	Written commendation from supervisor.
8	2.83	Feedback from customers that service is appreciated.
9	2.82	Short term (2,3, or 4 weeks) OJT in a good, high quality civilian restaurant.
10	2.79	Words of appreciation from supervisor.
11	2.48	Being included in planning and evaluating the food service operation.
12	2.07	Managers checking up on cooks to make sure they do things correctly.
13	1.92	Manager conducting daily inspection of the cooks.
14	1.74	Taking names and kicking ...

Scale used to rate each motivation factor:

- 4 = Extremely Effective Motivator
- 3 = Very Effective Motivator
- 2 = Moderately Effective Motivator
- 1 = Slightly Effective Motivator
- 0 = Not an Effective Motivator

Findings

The two most highly ranked motivators were "the chance to obtain food service certification in preparation for later civilian employment," and "the Marine Corps providing time and paying for courses toward a food service degree in a college or community college program."

Although it can be argued that these motivators are directed toward satisfying monetary needs, it can be more reasonably argued that they are related to esteem and competency needs. Becoming certified or taking steps to obtain college degrees are concrete evidence of mastery. These steps bring feelings of accomplishment and, in turn, prompt positive performance.

The third, fourth, and fifth ranked factors involve recognition issues, e.g., the "manager taking food suggestions from the cooks seriously," "awards for good performance on the job, such as three day passes, tickets to events, cash, and restaurant tickets," and "cook-of-the-month, picture on the bulletin board, name mentioned in a written newsletter, etc."

All of the top five rankings are in sharp contrast to the three lowest ranked motivators: "managers checking up on cooks to make sure they do things correctly," "managers conducting daily inspection of the cooks," and "taking names and kicking..."

These rankings indicate that a highly autocratic approach to motivating the workforce is not a preferred approach. However, it must be pointed out that the lowest ranked motivator which is "taking names and kicking ..." is nonetheless perceived as providing slightly to moderately effective motivation. This perception is not reflective of sound management practice.

USMC Food Service Workers Survey

The USMC Food Service Workers Survey (Appendix A) was administered to a total of 47 food service personnel at the two test sites. This survey was administered as part of the battery used to gather baseline data, a routine process that is carried out by NRDEC at any military installation chosen as a test site.

A particular questionnaire that was part of the battery seemed to warrant special attention in terms of this project. This questionnaire contained queries which could be grouped into the categories (training, experience, motivation, job satisfaction and quality of service) for which a relationship could be statistically probed.

As the questionnaire was not specifically designed for probing these variables, the analyses could not be as comprehensive as would be desired. However, since the data related to a military environment, the analyses were nonetheless conducted to see if they provided support for the assumption that job performance is a function of motivation and training.

Findings

Subsequent analysis of the questionnaire showed that motivational level and training were moderately good predictors of job satisfaction and job performance.

A detailed description of the analysis will not be presented here because of its statistical complexity; it is, however, presented in Appendix B.

Discussion and Recommendations

The results of the Management Effectiveness Survey and Motivation Survey reflect high ratings for many factors that related to personal worth issues, i.e. is correct, competence, recognition and effective communications/relationships. The Motivation Survey especially highlighted the desire for competency in that the two highest ratings were school-oriented. Factors on both surveys that relate to inspectorial, autocratic management styles were not perceived to be effective or desirable.

These findings all attest to the premise that a meaningful involvement on the job in today's world is primarily related to a sense of personal worth. This means that management style becomes of paramount importance. Managers have to accommodate their style to today's workers' needs if they want to elicit their maximum performance: i.e., motivate them. The heavy-handed, autocratic styles generally will not accommodate personal worth or esteem issues.

What kind of management, then, is needed to inspire today's Marine? What are the techniques that elicit desired behavior?

Effective management is based on sound leadership principles and effective communication. These concepts are widely accepted by the military work. They are described in detail in FM22-100, Military Leadership, a basic leadership manual, and are as relevant to food service managers as they are to troop commanders. These are also the same management principles that facilitate success in business.

These principles are predicated on the manager's recognition of the personal worth and dignity of the subordinate. They demand that a leader or manager* has a knowledge of the human dimension which includes, among other things, knowing how to motivate by linking his subordinates' personal interests with professional goals and being able to communicate in such a way so as to build bonds of mutual trust, confidence, respect, and understanding.

While these principles are compatible with Marine Corps ideology, the fact remains that the existing research indicates leadership and communication skills are deficient among food service workers.

In short, to manage effectively and motivate, the following are recommended: (1) human relations/communications/leadership training should be introduced very early in the career path and integrated with every level of technical training. (The principal responsibilities for this training fall to the Camp Johnson schools and potentially to the Food Management Teams); (2) Technical training at Camp Johnson should be augmented by structured OJT programs and possibly by civilian schooling; (3) Present

*The terms manager and leader will be used interchangeably here as their overlapping meanings are the focus of this discussion.

management has to be encouraged, or even required, to establish reward and recognition policies in dealing with their subordinates.

One comment in regard to the issue of civilian schooling should probably be made at this point. It is perceived by some senior officers that formal training leading to degrees and/or certification can pose a dilemma for the Marine Corps. These officers believe that such training results in people leaving the Marine corps, and Marine Corps investment is then wasted. However, a few points should be considered: (1) The marine Corps food service personnel must be competent if they are to complete their mission of feeding Marines well. Being fed well is an important variable in determining the "quality of life" in the Marine Corps and must be effectively addressed. (2) If the Marine Corps is meeting the needs of its food service members in the "quality of life" issues and their job satisfaction needs as well, a significant rise in attrition rates need not be anticipated on the basis of providing civilian schooling. People do not enlist in the Marine Corps for monetary reasons. They are seeking other satisfactions. They fail to reenlist when the "other satisfactions" are not met.

In any event, if providing or facilitating civilian schooling is not viable, there should at least be military certification and documentation of skills learned (this especially refers to OJT). Documentation/certification would instill feelings of competency that are, in themselves motivational tools as they provide concrete goals for which to strive.

If a productive, motivated food service workforce is desired, structured technical training has to be a focal point, personnel must be taught human relations principles and communications techniques, and recognition and reward systems must be emphasized.

IV. CAMP JOHNSON SCHOOLS EVALUATION

As Marine Corps food service training is provided primarily by the food service schools at Camp Johnson (the Staff NCO Course, the NCO Course, and the Basic Course), the Marine Corps requested that a validation study be made of the respective curricula. It was asked that this be accomplished by going into the field and determining if graduates of the schools were demonstrating the expertise that proper knowledge of the curricula would imply, and also to ascertain if the skills required in the field were all covered by the curricula.

The volume of information acquired in the evaluation required that it be published as a separate Natick Technical Report. Therefore, just an executive summary of the evaluation findings will be presented here.

Executive Summary

An evaluation of the Marine Corps Food Service Schools at Camp Johnson (Food Service Staff NCO Course, Food Service NCO Course, and Basic Food Service Course) was conducted in May/June 1983 by Natick Research, Development, and Engineering Center personnel at the request of

Headquarters Marine Corps. This was accomplished by surveying food service personnel (N=66) at various Marine Corps bases to determine their opinions of the schools' training programs and by interviewing food service personnel at Camp Lejeune, NC, and Camp Pendleton, CA.

Two surveys were developed. One was given to food service officers who attended the Staff NCO Course. The other survey was given to dining facility managers who assessed training received by their respective personnel who were graduates of one or more of the Camp Johnson schools. Each questionnaire listed the individual skills taught at the pertinent schools and the respondent assessed each skill on the following three dimensions: (1) the adequacy of training; (2) the frequency with which the skill is used in dining facility operations, and (3) extent to which the skill should be emphasized in the school program.

The food service officers' questionnaire regarding managers' training at the Staff NCO Food Service Course investigated individual components of leadership ability, administrative skills, and technical skills required for managing a dining facility, pastry shop/bakery, and consolidated food service program. Results indicated that adequacy of training was generally low, while the skills had to be used relatively frequently. In the food service officers' opinions, all aspects of the training program required greater emphasis.

The managers' survey evaluation of the Basic Food Service School covered three areas: dining facility fundamentals, the function of a cook on watch, and preparation of meals under field conditions. Taken together, results indicated that overall quality of training was somewhat inadequate, the requirement to use the skills taught is high, and all aspects of the training program needed greater emphasis. Some of the more obvious needs were for such basic skills as recipe conversion, completing the cooks' worksheet, and the use of standard food service equipment. The area reported as the most inadequately trained was field preparation of meals, but it was also perceived as the least used skill. Interviews strongly indicated that training should also be more comparable to conditions commonly encountered in dining facilities.

Manager assessment of the Food Service NCO Course indicated that training was generally adequate, the skills were utilized very frequently, and that all aspects of the program need to be emphasized more. All program aspects were seen to require greater emphasis: service support NCO management, administrative and supervisory functions, chief baker duties, cookery techniques, and field operations. Field operations and support management were the only two areas seen as somewhat inadequately trained, and it was felt that field operations skills were rarely needed.

The managers' evaluation of the Food Service Staff NCO Course, showed that the level of training was adequate for two of four evaluated areas: SNCO management and managing a dining facility. It was, however, somewhat inadequate for the other two areas: managing a centralized pastry shop/bakery and managing a consolidated food service system. Frequency of usage was high for managing a dining facility and low for centralized

pastry shop/bakery and consolidated food service system. All four areas were regarded as needing greater emphasis.

Comments in regard to all the Camp Johnson training made on the questionnaire indicated that greater emphasis should be placed on practical skills at all levels of training. Leadership and supervisory skills should be more developed, and actual participation and observation in dining facilities should be incorporated in the courses. Less overlap should exist between courses, and the courses should be longer. Also, the length of time between training and assumption of duties should be shortened.

V. TRAINING PROGRAMS IMPLEMENTED AT TEST SITES

This section is devoted to a discussion of training modules and managerial tools that were provided in response to documented deficiencies and problems encountered in Marine Corps food service management. They include basic training courses taught by a civilian institution, communications seminars, an OJT methodology, the production of training videotapes as well as the provision of other civilian and military videotapes, and a customer feedback system.

CIVILIAN CULINARY TRAINING

It was felt that one viable answer to food service training needs would be to augment the formal military training available with civilian instructional programs. To this end, Natick contracted for the services of an accredited institution of higher learning that maintains a nationally approved culinary arts program. That organization was tasked to provide pilot modules of instruction in basic culinary arts and management at the two test sites for entry-level cooks.

It was felt that the benefits to such training would be multiple. Not only would modules provide some desired basic skills, but also the cook's exposure to a culinary institute and awareness of programmed courses would expand his perception of food service as a career field. The efforts make him aware of the potential for development and opportunity food service provides. These factors in turn lend motivational impetus to job performance; personnel who are technically proficient and who feel that their job has substance and meaning are more likely to develop professional self-esteem and want to perform well.

Contractor Pilot Module

The institution which was awarded the contract to produce and conduct a pilot training module to be taught at both test sites was Central Texas College, Killeen, Texas. The college is an accredited, public, two-year institution, is a member of the National Institute for Food Industries, and is listed in the Food Service Manager Training and Certification Program.

The school is very conversant with military needs and objectives, and it offers associate degree programs in food service management and hotel/motel management at military bases throughout the continental United States and overseas. It also provides many Military Occupational Specialty

(MOS)-improvement courses that can be tailored to the specific needs of the bases it serves.

The Marine Corps' module was a short, intense program of instruction. It provided 64 hours of training spread over a two-week period and conferred three semester hours of credit upon successful completion. The course was especially designed for the Marine Corps test bases and was comprised of elements from the College's "Food Preparation and Serving" and "Supervision" courses. The course curriculum included: management structure and function, personnel management, food preparation, sanitation, menu planning, equipment, and food classification and merchandising.

The modules were conducted in the test sites' dining facilities and limited to 20 students. Military equipment and provisions were used, but the contractor provided books and all other educational materials. Both classroom instruction and laboratory "hands-on" training were provided. The contractor also monitored and evaluated students. Posttest measures were criterion-referenced, performance-based instruments.

The hours of instruction were determined by dining facility managers and any aspects of the curriculum could be emphasized or de-emphasized according to respective needs. In short, accent was placed on meeting workplace needs without compromising academic standards.

Participants, Results, and Course Feedback

A total of 29 novice cooks from the two test sites attended the course. All successfully completed it, with 19 students receiving an "A," 7 receiving a "B," 1 receiving a "C" and 2 receiving a "D" (see Table 3). Student questionnaire feedback was generally positive (see Table 4). Twenty-four respondents felt the course would greatly aid them in the performance of their duties and 19 respondents indicated that the ideas learned in the course would greatly improve the quality of food in their assigned duty stations. No student felt that the course was incompatible with military rules and 11 actually indicated interest in pursuing their education in the hospitality industry as a result of the course. Fifteen cooks thought the course should be longer, and no one thought it should be shorter.

Students' open-ended comments on the questionnaire attested to the high quality of instruction. They also had positive comments to make about the field trips to other food service institutions. Not only were the trips enjoyable, but they lent a broader perspective to the food service field. One negative note was that students did not like having classes held in the dining facility itself. Classes were subject to interruption, and the facilities did not offer a traditional classroom atmosphere.

There were a few differences in participants' reactions that emerged due to different circumstances at the two test sites. One site was on the two-watch system, and the other was on the three-watch. Comments from the

two-watch class indicated the need for more time to practice and the feeling that class hours should be shorter. Also, the overall grade average was lower for the two-watch class, 2.8 as opposed to 3.8 for the three-watch class (4=A, 3=B, 2=C, 1=D). This difference would seem to reflect a lack of time for adequate class preparation and possibly even a lack of sleep.

The managers of the respective test sites viewed the course favorably. The manager of the site with the two-watch system however, also acknowledged that such an intense course was difficult in a two-watch situation. The training NCO of the three-watch site recommended that the course be given twice a year for E-4's and below and that a two-week course be established for E-5 and above, also to be given twice a year.

TABLE 3. Rank and Final Grade of Students Attending Food Service Management Course (FSM6-1300) Taught by Central Texas College

Test Site 1			Test Site 2		
Student #	Rank	Final Grade	Student #	Rank	Final Grade
1	E-3	A	17	E-4	B
2	E-3	A	18	E-3	A
3	E-2	A	19	E-6	B
4	E-2	B	20	E-2	A
5	E-3	A	21	E-4	A
6	E-2	A	22	E-3	C
7	E-4	B	23	E-4	A
8	E-3	A	24	E-2	D
9	E-2	A	25	E-2	A
10	E-3	A	26	E-2	A
11	E-2	A	27	E-3	B
12	E-3	B	28	E-3	B
13	E-4	A	29	E-2	D
14	E-4	A			
15	E-4	A			
16	E-3	A			

Class average* = 2.8

Class average* = 3.8

* (average assumes A=4, B=3, C=2, D=1)

TABLE 4. Student Feedback to Food Service Management Course (FSM6-1300)

		Responses (N=29 total)					
		Agree		Neutral		Disagree	
		F*	%*	F	%	F	%
(1) Course will aid in the performance of duties	Site 1	14	88	1	6	1	6
	Site 2	10	77	0	0	0	0
(2) New ideas learned will improve quality food in my duty station	Site 1	10	63	3	19	3	19
	Site 2	9	69	1	8	0	0
(3) Upon completion, supervisor will encourage use of some of the course ideas	Site 1	8	50	6	38	3	19
	Site 2	4	31	6	46	0	0
(4) This course was compatible w/military rules	Site 1	10	63	3	19	2	13
	Site 2	6	46	3	23	0	0
(5) As a result of this course, I am interested in continuing my education in hospitality industry	Site 1	7	44	6	38	3	19
	Site 2	4	31	6	46	0	0
(6) The text book I received was very useful. I will continue to use it as reference.	Site 1	14	88	2	8	0	0
	Site 2	10	77	-	-	-	-

*Responses are given in frequencies (number of responses per category) and percentages by site.

TABLE 4. Student Feedback to Food Service Management Course (FSM6-1300)

	Site 1		Site 2	
	F*	%*	F	%
(7) If I were designing this course, I would like to see more concentration on the following:				
a. terms and concepts	3	19	0	0
b. recipes and measurements	1	6	0	0
c. seasoning, flavoring,spices and herbs	3	19	1	8
d. sauces	0	0	0	0
e. vegetables, rice and pasta	0	0	0	0
f. fish cookery	0	0	0	0
g. meat cookery	6	38	2	13
h. breakfast cookery	0	0	0	0
(8) Suggest that the course be changed as follows:				
a. longer	12	75	3	19
b. shorter	1	6	0	0
c. improve instruction	4	25	0	0
d. upgrade hands-on instruction	6	38	4	30
e. shorter school hours	0	0	5	38
f. provide more instructors (chefs, lectures, etc.)	7	43	4	30
g. provide more field trips	3	19	2	15

*Responses are given in frequencies (number of responses per category) and percentages by site.

Discussion and Recommendations

Contracting for civilian culinary courses is a workable answer to upgrading food service skills. Such courses could narrow the training gap considerably, especially in light of the fact that presently many new cooks assigned to a dining facility have not been to the Camp Johnson Basic course. Even if attendance were 100% at Camp Johnson, there is still a need for upgrading skills at regular intervals or providing "refresher" courses. Costs for this particular effort were not prohibitive in terms of culinary education. Broken down by credit hour the cost was approximately \$107.00, and that amount included educational materials. Courses being taught on-site also preclude Temporary Additional Duty (TAD) costs, do not necessitate family separations, and allow cooks to stand their watches in the three-watch system.

College credits enhance promotional opportunities and, therefore, provide motivational impetus - not to mention the increased self-esteem that follows increased competency levels. These same benefits would also apply in the case of noncredit MOS training.

There are other avenues that can also be explored for civilian educational opportunities. One is to enlist the help of local community colleges. With a relatively guaranteed student population, most colleges would be more than happy to add or expand a food service curriculum.

Another approach which the U.S. Navy has employed is the CAMP program (Culinary Arts Military Program). Johnson and Wales College, a noted culinary institution, located in Providence, RI, has set up courses on an on-going basis in Norfolk, VA which can lead to an associates degree. The course scheduling is designed to accommodate Navy personnel work hours and cycles (afloat). Johnson and Wales services are not under contract. The school has in essence set up an "off campus" program, as do many institutions of higher learning. Personnel attending courses have costs offset by either tuition aid or VA assistance, depending on eligibility.

On-Site Training

On-site training includes methods such as coaching ("hands-on training"), job rotation, internships, lectures, audiovisual techniques, and automated or individualized methods. These methods are all popularly referred to as OJT, but technically speaking they break down into two categories: on-the-job techniques which include the audiovisual and automated or individualized methods that are usually directed towards specific aspects of the job.

In response to the recognized need for on-site training, NRDEC investigated two tools for Marine Corps potential use and further development: the Job Qualification Requirement (JQR) and videotapes.

Job Qualification Requirement (JQR)

On-site training is generally perceived to be carried out haphazardly and the Marine Corps is no exception, as has been previously documented. The JQR offers a methodology for a structural "hands-on" approach that not only provides technical job expertise, but also has the potential for encouraged job rotation. It also documents skill level, which is an important motivational factor.

The version of the JQR discussed here is a modification of a program for certifying cooks at the E-3 and E-4 level that NRDEC developed and subsequently tested for Navy food service personnel. In order to obtain certification a cook must demonstrate that he can successfully prepare 60 items, and a baker 47 items. These items were carefully selected from the master menu and their preparation elicits the gamut of skills required for that level in terms of food preparation techniques, use and care of equipment, safety measures, and sanitation methods (see Appendix C).

The system for documenting the cook's or baker's knowledge of the individual items is principally a six-step "show and tell" operation that proceeds as follows: (1) the chief cook or other qualified person designated by the supervisor prepares the item with the student observing; (2) the student prepares the item alone, and in a quantity of help; (3) the student prepares the item alone, and in a quantity of at least 50 portions; (4) the other instructor signs off; (5) the supervisor signs off; and (6) a quality rating based on standards set by the respective dining hall personnel is assigned (see Appendix C).

The advantages to this system are many: (1) The training is exceedingly relevant - no concerns need exist that the training is too idealized as is often the accusation in the case of formal training. (2) Production demands continue to be met, i.e., the training can be integrated with menu items that are being produced as part of the menu-cycle. (3) The training can be conducted during the cook's normal duty hours and does not impose more demands on his time off. (4) The program encourages job rotation. Once managers are aware that their cooks can handle more than one aspect of food preparation, they will be less reluctant to assign them to other tasks. (5) The JQR is easy to implement and monitor. It simply requires scheduling relevant classes and tracking a student's progress by making check marks on very simple forms. And since the check marks involve only the documenting of item preparation, and not the documentation of work hours, it is indeed an easy system to track.

Because completion of the JQR attests to a particular level of job competency, the program has inherent motivational qualities. As a goal it has all the prerequisites that will make people strive toward completion: it is clear, it is specific, and progress toward it is measurable. Finally, there is that sense of achievement when all items are successfully completed. Also, the importance of awarding a certificate upon completion cannot be underrated; it is concrete evidence of accomplishment and therefore has motivational impact.

Recommendations and Conclusions

It is recommended that the Marine Corps mandate a structured OJT program in its dining facilities. On-site training is a much needed medium for upgrading skills at the present time in the Corps and it has been demonstrated that current OJT programs are extremely weak at best.

Managers need help in implementing on-site training for their personnel. A manager's desire to have an on-site program does not equate with the ability to design or implement one. He must be provided with specific tools and given guidelines for their use.

It is further recommended that the JQR be used as a base for on-site programs for cooks at the E-3 to E-4 level. It exists as an operational tool requiring only the setting of qualification standards by the dining facility manager.

The JQR is one tool that can readily meet managerial and Marine Corps needs: it is easy for a manager to implement and monitor and will result in a better trained food service cadre for the Marine Corps.

Although the JQR is operational as it now stands, that does not mean it cannot be modified or improved as the Marine Corps sees fit. For instance, it could be expanded into training modules by incorporating standard test questions for each item in a paper and pencil format. Also, qualification could be standardized by tasking Camp Johnson schools to provide objective norms. In sum, the JQR is a flexible, workable prototype that can help with meeting present needs, does not impose a difficult burden on a manager, and can be expanded or updated as needed.

Test Bases and the Job Qualification Requirement

Although the JQR was introduced to each test base, it was not implemented. The personnel at each site did view the tool positively but did not utilize it for their novice cooks for diverse reasons. The manager at one base was inexperienced, had many managerial problems, and was ultimately relieved of his duties. He also had no set training program for his personnel - a situation which seems to be a hallmark of an incompetent manager. Although promises were made for initiating the method, his priorities did not permit such. It is often the case that the dining facilities that need the most help have the poorest or nonexistent training programs, a situation which necessitates the need for mandated programs.

The other test site was precluded from implementation due to an unexpected field exercise, which required a long absence of the training personnel at the time when the JQR was scheduled for testing.

Videotapes

Audiovisual techniques such as films, slides, and television (live or videotapes) enjoy widespread use today as a training medium in many organizational and institutional settings. While experts do not consider them effective as a sole learning vehicle, they can serve as a useful adjunct to lectures or other training media.

On the plus side, audiovisual techniques permit very dramatic illustration of information and can serve as a fairly inexpensive substitute for expert instruction when the latter is unavailable. In many instances, a carefully planned film featuring a competent and stimulating lecturer is preferable to a live presentation by a less knowledgeable, less exciting local instructor.

On the negative side, audiovisual techniques are one-way communications. While live instructors get student feedback, which means they can modify material to suit the particular group needs, a film is fixed and cannot be modified as the occasion demands. This inflexibility points to the need to have audiovisual media that meet the mark - the subjects must be as relevant as possible to the target audience. This requires careful planning, selection, and organization of content, not to mention composition and editing.

At this point, military food service managers' training films that are available tend to be out-of-date and of poor quality.

NRDEC opted to investigate how viable videotapes were as a training medium for food service and took the following actions: (1) available commercial videotapes were reviewed and three that were considered appropriate for a military environment were purchased for the two test sites; (2) a number of military food service videotapes were obtained and sent to the test sites for review and training purposes; (3) two pilot videotapes were produced at the Marine Corps' test sites to determine "in-house" capabilities of the Marine Corps for producing their own training videotapes; (4) acceptability data were collected at the test sites to determine food service worker attitudes toward videotapes and (5) each test site was supplied with a videotape recorder (3/4" U-matic), a monitor receiver, studio camera (B&W) and a stand to facilitate viewing within the test sites. Also, the camera allowed opportunities for videotaping training segments on any subject a test site desired - whether it be a canned lecture or live presentation.

Commercial Videotapes

The review of food service videotapes or films commercially available (see Appendix D) failed to uncover more than a small number of items that were applicable to Marine Corps food service operations. While of good quality, most depicted food service subjects appropriate for restaurant item preparation and production, the market on which they are focused. Three relevant films were found, however, and purchased. Two were sent to one test base and the third to the other for review and use. The topics

were: kitchen safety, creative hamburger cookery, and basic management. Management personnel who received these films were positive in their comments.

Military Food Service Films

At this point, there is no widespread use of audiovisual media as many military food service training films tend to be out of date and of poor quality. However, project personnel tried to select the best that were available to send to the test bases. The intentions here were to provide training tapes that could at least be somewhat helpful and to obtain feedback on their utility.

The topics of the tapes selected included:

- (1) Coffee Urn (15-gallon)
- (2) Coffee Urn (8-gallon)
- (3) Soups, Sauces & Gravies
- (4) Personal Hygiene, Health, & Sanitation
- (5) The Food Preparation Worksheet
- (6) Basic Nutrition
- (7) Food Poisoning
- (8) Pastry & Pies

Air Force Food Service Pilot Training Films

Three Air Force food service videotapes were also distributed to the test sites. These films were pilot videotapes produced in conjunction with the Air Force Food Service Management Program, which was simultaneously underway at NRDEC. They were in color, had music, and used Air Force personnel as "actors". The tapes were highly thought of by Air Force personnel who reviewed them as well as by members of one of the Marine Corps food management teams who happened to be present at one of the test sites when the tapes were introduced. The only negative feedback was that the "actors" were not Marines.

Marine Corps Food Service Pilot Training Films

If relevance is a criterion for the effectiveness of a training film it is self-evident that no film could be more relevant than one made by Marines and with Marine "actors" who explain or perform subject tasks concerning Marine Corps food service.

As the Marines maintain their own audio-visual services, it seemed reasonable to determine if it were possible to tap this "in-house" capability for the production of pilot videotapes instead of contracting for audiovisual production. Discussions with the audiovisual personnel at each test site revealed that it was indeed feasible and production was begun. Each of the two bases involved made one food service videotape.

It was decided that the target audience for each tape would be the mess attendants, as they rotate on a 30-day basis and represent an on-going, repetitive, time-consuming training need that the dining facility managers must meet.

The tapes were produced in color, had background music; and the scripts were written with as much imagination as the subject matter would allow. One film concerned use and care of the dishwasher and the other was an orientation tape that outlined an attendant's duties and stressed the importance of personal hygiene. The latter tape used a cartoon format at intervals to explain details relating to bacteria and personal hygiene topics - an effective format seldom encountered in military food service training films.

The videotapes were generally well received by test site personnel and NRDEC personnel. As of time of publication of this report, no feedback has been received from Headquarters Marine Corps.

Videotape Questionnaire

A questionnaire was administered to a total of 30 food service personnel at the test sites to determine their feelings toward videotapes in general and elicit some feedback in regard to food service tapes they had seen (see Appendix D).

While it was expected that many other methods would be cited as being preferable to videotapes, more than half the respondents also indicated that the tapes they had seen were nonetheless learning experiences, and that they would like to have more training tapes available. The fact that many desired to have more training tapes available is especially noteworthy considering that many they had seen were not top quality. This would seem to indicate that the attendees' desire for training is strong enough that they accept being bored. This fact does not give license, however, to accepting inferior tapes for a training program! The observation was made only to illustrate that the desire to be competent is a strong motivational force.

Discussion and Recommendations

Videotapes are a practical method for on-site training in Marine Corps Food Service. They should be adjunctive, i.e., they should be used in support of a solid, structured OJT program. Their use should also be monitored; a tracking system should be used to make sure all personnel see all films relevant to their job demands. It is also felt that facilities should possess their own videotape equipment. It was observed at many bases that although equipment was available at audio-visual facilities, the effort to borrow it was very seldom made.

The most effective film library, of course, would be to have Marine Corps videotapes featuring Marine Corps food service techniques. It has been demonstrated that the Marine Corps has the capability to produce useful films, even at the base level. With command impetus and support

from Camp Johnson schools, the potential certainly exists for building a videotape library of at least basic food service skills.

A second path for obtaining Marine Corps training videotapes would be a contract effort. How difficult this effort would be would depend on availability of funds and stringency of regulations.

Commercial and military videotapes are also available. While careful selection is required, they can offer a positive contribution to training efforts. Some sources for videotapes are:

Commercial

- 1) National Educational Media, Inc.
21601 Devonshire St., Chatsworth, CA 91311
(technical and management topics)
- 2) Culinary Institute of America
Hyde Park, NY 12538
(technical topics)
- 3) McGraw-Hill Training Systems
P.O. Box 641
Delmar, CA 92014-9990
(management topics)

Department of Defense

- 1) Naval Education and Training Support Center, Atlantic
Building W-313
U.S. Naval Station
Norfolk, VA 23511
- 2) Naval Photographic Center
Washington, DC 20374
- 3) Defense Audiovisual Agency
Washington, DC 20374

Videotapes, whether they are produced "in-house" or purchased, can also be part of a module, i.e., material in the form of study guides, tests and discussion guidelines can supplement them.

COMMUNICATION SEMINAR

The major problems identified by NRDEC project personnel in Marine Corps food service management were ineffective communications skills, interpersonal relations, and lack of leadership ability at all levels of management. While it is recognized that technical and administrative skills are essential to successful management, they do not suffice when "people" skills are lacking.

One step NRDEC took to address the communications problem was to

construct a pilot training seminar that emphasized the development of skills and techniques that are basic to the human communications process.

The seminar structure is a four-session, sixteen-hour program conducted by two facilitators over a week's time. It was conducted at both test sites and was directed at first level managers, as this level was the one identified as needing most help. The seminar material, however, is appropriate for any management level with minor modifications.

Little time in the course of the seminar was expended on lecture. It was felt that active participation by the students was of paramount importance for any success to be achieved in acquiring communications skills and eliciting the positive interpersonal dynamics demanded by a seminar of this nature. For this reason, class size was kept to a maximum of 14.

All seminar exercises and structured scenarios were specific to the food service arena and not only reflected sound communications techniques, but also dovetailed with leadership skills outlined in FM 22-100, Military Leadership.

Although the course emphasized practical skills, enough theory was presented to provide a rationale for the communication techniques as well as to stimulate interest.

Participants were also required to do outside reading - both nonmilitary sources such as "The One-Minute Manager" by Kenneth Blanchard, Ph.D. and Spencer Johnson, and military sources, such as the previously mentioned FM 22-100, Military Leadership. This requirement added one to two hours of outside work per session. The reading material was chosen not only for its relevance, but also because the reading level required was appropriate for the seminar population.

The main thrust of the seminar material was to convey the idea that successful managerial behaviors and communications are those based on an awareness of workforce self-esteem. That is, they are achieved by using concrete techniques that bolster self-esteem, or at least do not erode it, in the negative situations with which a manager must sometimes deal. These techniques motivate better performance, maintain performance that is already up to par, or, conversely, discourage undesirable performance.

The psychological concepts central to the techniques, such as perception, motivation, self-esteem, and defense mechanisms, were explored, but as stated earlier, were not the focus of the seminar and did not consume a lot of seminar time.

The following is a brief course outline. The specifics in both subject content and exercises used can be supplied by request.

Seminar Outline

Session I

1. Orientation
 - Ground rules of seminar
2. Perception
 - How it affects human behavior and communications
3. Motivation
 - What factor(s) elicit desired job performance behaviors, e.g., appeal to self-esteem needs such as achievement and recognition
 - Class exercises on managerial communication and behaviors that increase worker self-esteem
 - Factors that erode job motivation, e.g., threats to self-esteem, defensive behavior
4. Special Verbal Techniques
 - Performance specific communication - communication designed to focus on worker behavior, not attitude or personality, thus, less threatening to esteem
 - "Active" listening - a response technique which has as its goal to get a person to cooperate or produce by establishing rapport and minimize defensive reactions in difficult situations

Session II

1. Mechanics of Communication
 - Verbal/nonverbal
 - Importance of parallelism in message, content, and a dialogue for meaningful communication to occur
 - Barriers to communication
 - Class exercises in effective communication

Seminar Outline (Cont'd)

Session III

1. Behavioral Modification Techniques
 - How to shape and maintain (reinforce) desired behavior and how to eliminate undesirable behavior
2. Goal Setting
 - Defined in terms of managerial responsibility
 - Motivational impacts
 - Characteristics of "good" goals, i.e., they must be: specific, clear, measurable, challenging, and mutual
3. Leadership Obligations
 - How to do the job (includes training obligations)
 - Information to do the job
 - Authority and independence to do the job (discuss delegation, balance between under- and over-supervision)
 - Importance of knowing personnel
4. Management of Diversity (e.g., proper management of minority populations)
 - Discussion of how organizational effectiveness is impaired when diversity is not properly managed
 - Suggested remedies for managing diverse populations and examination of checklist for assessing managerial awareness of job-related problems encountered by minority populations

Session IV

1. Role Playing
 - A positive performance appraisal
 - A poor performance appraisal
 - Handling the dissatisfied worker
 - Handling worker conflicts
 - Handling formal corrective actions

As outlined above, Session IV, the last session, was devoted to role-playing food service manager/worker scenarios. This meant that the students took manager or worker roles and acted out situations encountered in food service. They had to use the knowledge and skills that they had acquired up to this point, such as (1) the motivators of positive job performance, (2) behavioral modification techniques, and (3) communications techniques. They also had to create the dialogues for the specific scenarios.

Participants Data and Seminar Feedback

A total of 24 persons attended the seminar - twelve at each site. The majority (68%) were E-5's and serving a second enlistment term. Over half (54%) were intending to make a career of Marine Corps food service. Less than half (36%) had been exposed to any previous management training courses.

When asked via post-seminar questionnaire if they felt that the seminar would help them to deal more effectively with others, 96% responded "yes." This same percentage also felt that training of this type should be included at food service schools and that higher levels of management (E-7 to E-9) should receive this type of training.

An open-minded question "What do you think could be done to improve this seminar?", prompted a response of "make it longer" by 63% of the participants.

Discussion and Recommendations

A seminar of this nature can be a first step in the managerial training of food service personnel. It outlines the scope of a supervisor's obligation to, and responsibilities for, his personnel; and most importantly, it imparts communication tools that are basic to successful manager/worker interaction.

The importance of a seminar approach to this type of training cannot be overemphasized. Human relations/communications skills are not acquired merely by reading about them or attending lectures devoted to them. They require practice, and a seminar allows for it. Moreover, students often feel awkward in first attempts at applying new techniques, and they need the support and encouragement that positive group dynamics in a seminar can provide.

It is recommended that seminar training of this type be included at Camp Johnson schools, as early as the Basic Course. It is also recommended that the role of the Food Management Team be expanded to incorporate this type of training at food service facilities.

Although the leaders of the pilot seminars were psychologists with training in human communications, leading this seminar does not require a college degree, an extensive knowledge of psychology, or any specialized

expertise. Leading requires only minimal training and the ability to interact effectively with others.

NRDEC has the personnel qualified to train others in the communications/human relations sphere and can also develop seminar packages that are appropriate for personnel already possessing basic skills. If Natick's assistance is required, the point of contact is the Marine Corps joint Technical Staff representative at NRDEC.

There are also commercial organizations that conduct seminars and can train leaders. They are however, very expensive and often have no knowledge of military procedure. Therefore, if this avenue is explored, the firm should be carefully evaluated.

CUSTOMER FEEDBACK SYSTEM

To date little has been done, in both public and military sectors, to systemize the collection and use of customer data; thus, many of the potential benefits of customer feedback have not been realized. Food service personnel need to know when they are doing well; they also need to know when improvements are in order. Customers need to know that their preferences and opinions count.

The Customer Feedback System, which was implemented at both test sites, is a method for obtaining this valuable feedback. It not only measures satisfaction, but also provides a base for constructive dialogue among managers, workers, and patrons. This system and its variants have been used in military and civilian food service operations and have been found reliable.

In its function as a communications tool the system can reinforce desirable behavior, provide an objective criticism, which can be the basis for a constructive manager/worker dialogue, and enhance customer morale. For example, a good rating for an entree can be communicated to the cooks who prepared it. This gives them the objective pat on the back that they deserve. Praise is an effective motivator of continued good performance.

A negative rating can also have positive consequences. For instance, a manager can bring a less than optimum rating to a staff/workforce meeting and ask for the workforce's ideas for solving the problem. Effective communications and positive group dynamics can be established in this way. Performance measures that a worker has had a voice in are more motivating than goals or measures that are arbitrarily assigned.

Customers often feel that their wishes are not considered and this can have a detrimental effect on their morale. Responses to them via this system - even if they may not be reflective of desired changes or what customers would like to hear about various aspects of the dining facility operation - will still tend to have a positive influence, simply because they feel they are being heard.

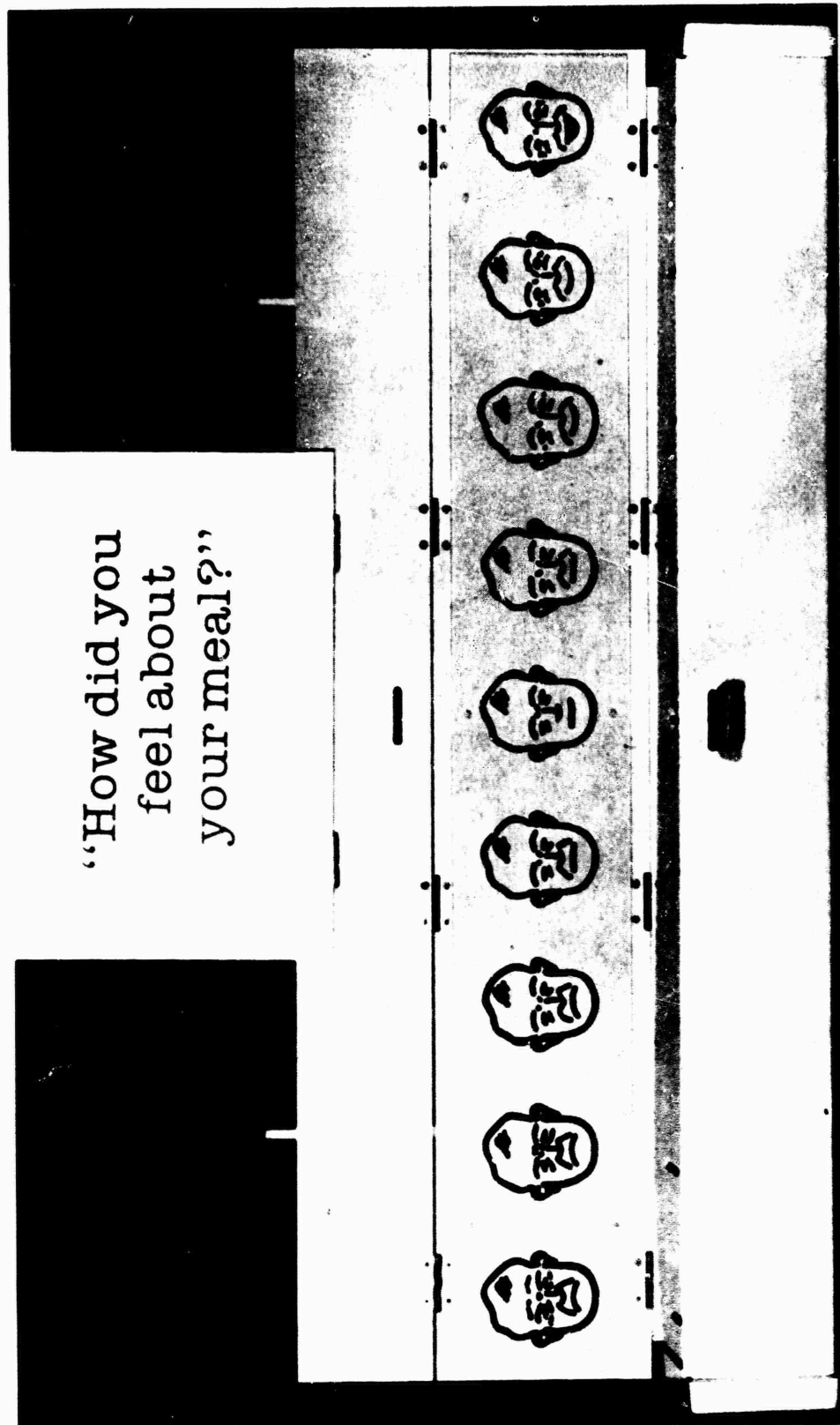


Figure 1. Customer survey system box showing hedonic facial scale.

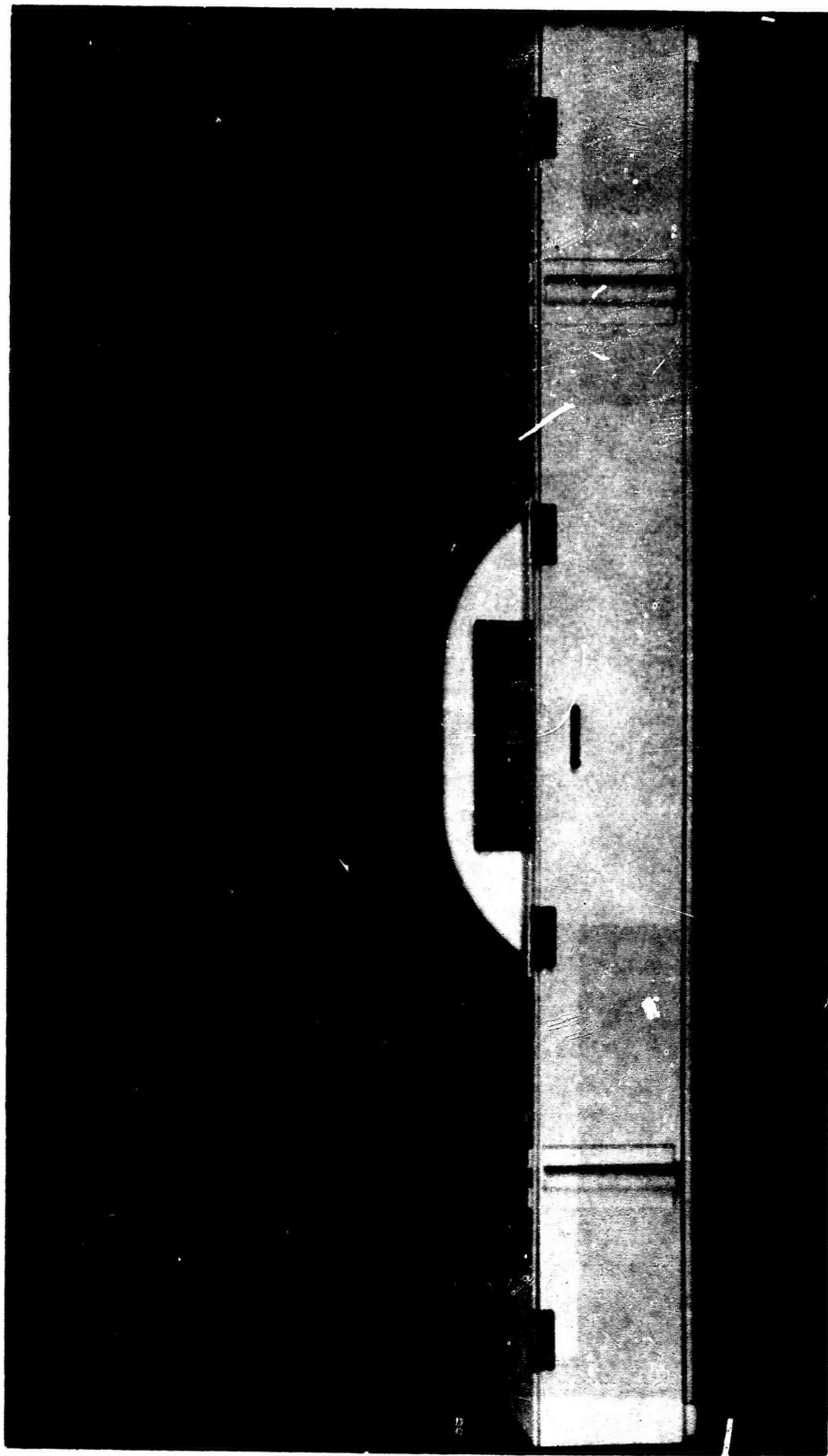


Figure 2. Customer survey system box in closed position.

System Components

1. Collection Box

The collection method is not a traditional pencil and paper approach; it is a "ballot box", making it very easy to use for both patrons and dining facility personnel. The box is narrow and rectangular (approximately 36" long, 7" wide, 7" deep) with nine compartments. The top opens to show faces which line up with the nine compartments and show graduated levels of pleasure and displeasure. The middle face is neutral. The compartment below each face has a slot. Each customer participating in a survey is given a chip, which he places in the slot underneath the face that matches his degree of pleasure or displeasure with the meal (or any other issue that is being questioned). The system is portable and can be secured during and after data collection with a pin and lock so as to preclude any tampering with the data (see Figures 1 and 2).

2. Survey Signs

Two signs which read "How do you feel about your dining facility?" and "How did you feel about your meal?" were provided with the system. They are made of heavy poster paper and were approximately 10" x 14". They attach to the open box with clips (see Figure 1). The signs are easy to fabricate and therefore it is possible to have a whole repertoire of survey questions at hand if a manager so desires.

3. Calculation/Tracking Forms

Prototypical forms for calculating customer response and for tracking performance were also designed and provided to test sites. The form for determining the average, or mean, response to a survey question is analogous to the forms banks provide for balancing a checking account: it provides an easy step-by-step process (see Figure 3).

Progress in regard to a particular survey question can be monitored with a tracking form which was developed for the system (see Figure 4). This form is designed to record three responses over time to the same survey question, and progress can be tracked two ways - by recording the means in the box on the top left of the form and by filling in the grid with the distribution percentages of the survey responses. These percentages are obtained from Column IV on the forms used to calculate the means and are entered as color-coded columns on the grid. The grid depicts trends in response distribution, e.g., if an entree steadily improves, the columns that represent smiling faces (6-9) will get increasingly higher each time the survey is taken while the columns that represent the frowning faces (1-4) will get progressively smaller (see Figure 4).

4. Customer Response Sign

An 8x10 sign which can be used to depict customer opinion in regard to a survey question and the manager's response to that opinion has also been provided (see Figure 5). This customer response sign is partially formatted with lines and a face without a mouth, and has a transparent,

QUESTIONS _____ DATE _____ TIME _____

		COLUMN I (Description of chips per face)	COLUMN II Face #	COLUMN III (Multiply Col I by Col II)	COLUMN IV 2
1		<input type="checkbox"/> 0	<input type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/>
2		<input type="checkbox"/> 0	<input type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/>
3		<input type="checkbox"/> 0	<input type="checkbox"/> 3	<input type="checkbox"/>	<input type="checkbox"/>
4		<input type="checkbox"/> 0	<input type="checkbox"/> 4	<input type="checkbox"/>	<input type="checkbox"/>
5		<input type="checkbox"/> 0	<input type="checkbox"/> 5	<input type="checkbox"/>	<input type="checkbox"/>
6		<input type="checkbox"/> 0	<input type="checkbox"/> 6	<input type="checkbox"/>	<input type="checkbox"/>
7		<input type="checkbox"/> 0	<input type="checkbox"/> 7	<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/> 0	<input type="checkbox"/> 8	<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/> 0	<input type="checkbox"/> 9	<input type="checkbox"/>	<input type="checkbox"/>
		COLUMN I TOTAL		COLUMN III TOTAL	MEAN (COLUMN I)

FORM 2-1

- (1) ENTER NUMBER OF CHIPS PER FACE IN CORRESPONDING SQUARE IN COLUMN I.
- (2) WHEN THE NUMBER OF CHIPS FOR EACH FACE HAS BEEN ENTERED IN THE APPROPRIATE BOX, MULTIPLY EACH NUMBER BY THE NUMBER NEXT TO IT IN COLUMN II AND ENTER EACH PRODUCT IN THE CORRESPONDING BOX IN COLUMN III. (IF THERE ARE NO CHIPS FOR A FACE, ENTER A ZERO IN THE CORRESPONDING COLUMN III BOX).
- (3) ADD THE FIGURES IN THE NINE BOXES IN COLUMN I AND ENTER THE TOTAL IN THE BOX AT THE BOTTOM OF THIS COLUMN.
- (4) ADD THE FIGURES IN THE NINE BOXES IN COLUMN III AND ENTER THE TOTAL IN THE BOX AT THE BOTTOM OF THIS COLUMN.
- (5) DIVIDE THE COLUMN III TOTAL BY THE COLUMN I TOTAL. ENTER THE RESULT IN THE BOX LABELED "MEAN." THIS IS THE AVERAGE.
- (6) TO FIND THE PERCENTAGE FOR EACH FACE ON THE SCALE, DIVIDE THE FIGURES IN EACH COLUMN I BOX BY THE COLUMN I TOTAL.

Figure 3. Form for Calculating Mean (Average) Response to Survey Question

	GENERAL FOODSERVICE
	BREAKFAST
	LUNCH
	DINNER
	EVENING MEAL
	() FOOD ITEM
	() OTHER
	() OTHER
	() OTHER
	() OTHER

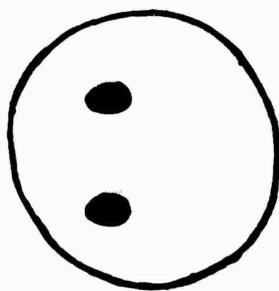
WHAT OUR CUSTOMERS SAY ABOUT

		DATE		N		MEAN \bar{X}	
A							
B							
C							
%RESPONSES TO SAMPLE							
	1	2	3	4	5	6	7
%	A B C	A B C	A B C	A B C	A B C	A B C	A B C
20							
19							
18							
17							
16							
15							
14							
13							
12							
11							
10							
9							
8							
7							
6							
5							
4							
3							
2							
1							

1 FORM X-6

Figure 4. Form for Tracking Response Distributions in Percentages

Our Customers Said



about our _____
we say _____

Figure 5. Customer Response Form

erasable overlay. The overlay is used to fill in a frown or a smile on the face which reflects customer opinion.

5. Survey Methodology Instructions

Instructions for collecting customer responses were also provided as part of the feedback system as it is very important that survey responses are acquired in a manner which ensures obtaining a valid sampling of the dining hall population (see Appendix F).

Discussion and Recommendations

NRDEC provided some assistance in the initial collection efforts at the test sites in the data calculations and interpretation. Dining facility personnel found the system relatively easy to use, but some explanation was required in a few cases in regard to the form used to calculate the mean and use of the tracking form. Baseline data were gathered in the test facilities for meals and the dining facility in general. The involved dining facility personnel felt that they were getting valid feedback and reported that they did communicate the findings to the cooks. Two components of the system, however, the tracking form and the customer feedback sign, were not used more than a few times.

Although the system is two-pronged, in that it provides customer opinion and facilitates communications, the system warrants implementation on the customer opinion feature alone. Attention to "quality of life" issues, of which food is a primary feature, requires focusing on customer opinion. At this juncture, however, managers unfortunately have no mandated accountability in terms of customer satisfaction. If used as a management tool, it can only be as effective as managerial style will permit. Managers who lack human communications skills and who interpret good leadership to be an autocratic style of operating will not recognize the system's merits in the communication sphere. In other words, used as a communications technique, the system requires that a manager possess at least fundamental skills in interpersonal communications that motivate positive performance; he must also be aware of the needs that must be met in the workforce. It is hoped that improved human relations skills will facilitate recognizing the effective communications potential the system affords.

Some components of the system, such as the survey box, customer feedback sign, and survey methodology instructions seem to be very workable in their present state. It seems, however, that some modifications to the mean calculation form might be in order (see Figure 3). For instance, the form should be reformatted so that the mean (average) is not a part of Column IV. Also, more explicit instructions as to the use of Column IV should be written.

VI. TRAINING FOR THE AUTOMATED FOOD SERVICE SYSTEM

A contract was awarded to Kinton, Inc., in Alexandria, VA to produce video cassettes and interactive software packages (i.e., computer

diskettes) to train personnel on the proposed automated food service system. This contract was a joint U.S. Air Force, Navy and Marine Corps expenditure, as the other two services were also in the process of automating food service, and many of the training needs overlapped. Unfortunately, the contractor experienced significant cost overruns before any products were delivered to the Marine Corps and Marine Corps representatives decided the contract could be funded no further.

VII. SUMMARY AND CONCLUSIONS

This technical report documents an effort by Natick Research Development and Engineering Center to improve Marine Corps food service operations through enhanced management effectiveness. Marine Corps personnel who initiated the project had recognized a need to improve the training and development of food service personnel and sought Natick's assistance in pursuing this goal.

The technical plan prepared by Natick, and subsequently approved by the Marine Corps, targeted some specific areas in food service to investigate and analyze, provided for pilot programs designed to train food service personnel, and sought the development and/or identification of effective management tools and practices.

The first significant undertaking was to identify and document the most important training - related problems in food service management. This effort revealed that both technical and human relations skills were significantly lacking. These deficiencies stemmed from several factors:

- (1) technical training, especially at the basic level, is insufficient;
- (2) the training at Camp Johnson schools needs to be upgraded and broadened;
- (3) OJT programs are weak;
- (4) effective communications/human relations training is lacking, especially at the lower management levels, and
- (5) there is no career management program.

Effective management behaviors and motivational tools relevant to the Marine Corps food service environment were ranked and analyzed to shed light on prevailing attitudes and needs, and to help direct efforts to provide effective training methodologies and tools. It was found that personnel gravitate toward motivators that enhance their self-esteem, especially in the spheres of recognition and achievement. Effective managerial behaviors were identified predominantly as those that recognize self worth in subordinates and an awareness of effective human dynamics principles.

Knowledge of problem areas in Marine Corps food service incorporated with an awareness of performance and motivational factors in managerial

behavior shaped a number of Natick project undertakings at the two test sites: (1) Basic food service courses were taught through the contracted services of a college oriented to military food service needs, (2) a basic communications seminar module constructed for first level managers was conducted, (3) the methodology for a structured OJT program was suggested, (4) two pilot food service training videotapes were produced, (5) videotapes from commercial sources were provided to augment training along with prerequisite audiovisual equipment; and (6) an easy-to-use customer feedback system was implemented to obtain customer satisfaction levels and to operate as a communications tool.

The extent to which these programs and the recommendations in regard to training policies will be adopted by the Marine Corps for service-wide use is not known. Therefore, it is impossible to speculate as to the impact the project will have. It is hoped that Headquarters Marine Corps personnel will carefully review and consider the Natick efforts, as project personnel feel that a set of guidelines and tools have been proffered that have potential for improving food service management.

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APPENDICES

- A. USMC Food Service Worker Survey
- B. Analysis of USMC Food Service Worker Survey
- C. Cook and Baker Job Qualification Requirement (JQR) Items
- D. Videotape Questionnaire
- E. Review of Food Service Training Films
- F. Customer Feedback System Orientation and Survey Instructions

APPENDIX A

USMC FOOD SERVICE WORKER SURVEY

The USMC Food Services Office is trying to improve the training and development of food service workers. In order to help us better understand what your problems and needs are, we have developed several questions. If you can take the time to answer these questions for us, we will be able to do a much better job of recommending improved training and development programs for you and the USMC cooks of the future.

1. How would you describe your present job? (PLEASE CIRCLE THE MOST APPROPRIATE NUMBER)

- 1. Dining Facility Supervisor
- 2. Assistant Supervisor
- 3. Staff NCO
- 4. Chief Cook
- 5. Cook
- 6. Storeroom
- 7. Baker
- 8. Other (please specify) _____

2. Please write in the number of your present grade. E- _____

3. Do you plan to reenlist in food service when your present enlistment ends? (CIRCLE THE APPROPRIATE NUMBER)

- 0. No, I am retiring
- 1. Definitely no
- 2. Probably no
- 3. Undecided
- 4. Probably yes
- 5. Definitely yes

4. How would you compare the food service in this dining facility to other dining facilities in which you have worked? (CIRCLE ONE NUMBER)

This dining facility is:

My First Dining Facility	MUCH WORSE	SOMEWHAT WORSE	SLIGHTLY WORSE	NO BETTER OR WORSE	SLIGHTLY BETTER	SOMEWHAT BETTER	MUCH BETTER
0	1	2	3	4	5	6	7

PLEASE USE THE FOLLOWING SCALE FOR THE NEXT TWO QUESTIONS:

VERY BAD	MODERATELY BAD	SOMEWHAT BAD	NEITHER BAD NOR GOOD	SOMEWHAT GOOD	MODERATELY GOOD	VERY GOOD
1	2	3	4	5	6	7

5. We would like you to rate each factor below on HOW GOOD OR BAD each is in terms of the PRESENT FOOD SERVICE OPERATION on this base. Please use the scale above.

a. The food preparation skills of the USMC cooks	1	2	3	4	5	6	7
b. Supervision from your Chief cook	1	2	3	4	5	6	7
c. Supervision from the dining facility supervisor	1	2	3	4	5	6	7

d. Supervision from the Staff NCO's	1	2	3	4	5	6	7
e. Support and cooperation among cooks	1	2	3	4	5	6	7
f. Interest and support of the food service officer	1	2	3	4	5	6	7

g. Interest and support of the unit commander(s)	1	2	3	4	5	6	7
h. Customer satisfaction	1	2	3	4	5	6	7
i. Maintenance of equipment	1	2	3	4	5	6	7

j. Amount of paperwork you have to do	1	2	3	4	5	6	7
k. The mess attendants	1	2	3	4	5	6	7

6. Using the same scale as the last question, please rate each factor below on HOW GOOD OR BAD you feel it is in your kitchen and serving line area.

a. Type and amount of equipment to do the job	1	2	3	4	5	6	7
b. Sanitary conditions in the kitchen	1	2	3	4	5	6	7
c. How easy to get at supplies	1	2	3	4	5	6	7

d. Size of the kitchen	1	2	3	4	5	6	7
e. Noise	1	2	3	4	5	6	7
f. Lighting in the kitchen	1	2	3	4	5	6	7

g. Lighting on the serving line	1	2	3	4	5	6	7
h. Bumping into other cooks while working	1	2	3	4	5	6	7
i. Temperature in the kitchen	1	2	3	4	5	6	7

j. The kitchen <u>OVERALL</u>	1	2	3	4	5	6	7
-------------------------------	---	---	---	---	---	---	---

7. Please tell us how satisfied or dissatisfied you are with the following aspects of your present job. (PLEASE CIRCLE ONE NUMBER FOR EACH ASPECT, USING THE SCALE BELOW)

	VERY DISSAT- ISFIED	MODERATELY DISSAT- ISFIED	SOMEWHAT DISSAT- ISFIED	NEUTRAL	SOMEWHAT SATISFIED	MODERATELY SATISFIED	VERY SATISFIED
	1	2	3	4	5	6	7
a. The number of hours a week you work					1	2 3 4 5 6 7	
b. How your weekly work hours are scheduled					1	2 3 4 5 6 7	
c. Recognition for doing good work					1	2 3 4 5 6 7	
d. The attitude of the customers					1	2 3 4 5 6 7	
e. Your co-workers					1	2 3 4 5 6 7	
f. The opportunity for promotion					1	2 3 4 5 6 7	
g. Your supervisors					1	2 3 4 5 6 7	
h. The actual work you do					1	2 3 4 5 6 7	

8. Please read each of the following statements and decide how much you agree with it. Then indicate your current feelings about each statement by circling the number corresponding to the words of your choice on the scale below. For example, if you strongly agree with the statement, "I frequently get praised for a job well done," you would circle "7".

	STRONGLY DISAGREE	MODERATELY DISAGREE	SOMEWHAT DISAGREE	UNSURE	SOMEWHAT AGREE	MODERATELY AGREE	STRONGLY AGREE
	1	2	3	4	5	6	7
a. I frequently get praised for a job well done					1	2 3 4 5 6 7	
b. I have long work shifts					1	2 3 4 5 6 7	
c. I have a good chance to learn more about cooking through USMC training					1	2 3 4 5 6 7	
d. I frequently get criticized for mistakes					1	2 3 4 5 6 7	
e. Sometimes I don't understand what my supervisor is trying to say					1	2 3 4 5 6 7	
f. The dining facility supervisor doesn't treat me fairly					1	2 3 4 5 6 7	
g. I don't like cooking					1	2 3 4 5 6 7	
h. I have no say over my work hours					1	2 3 4 5 6 7	
i. There's a large difference between Camp Johnson training and real USMC cooking					1	2 3 4 5 6 7	
j. The dining facility supervisor really knows a lot about food service.					1	2 3 4 5 6 7	
k. The dining facility supervisor doesn't know how to treat people					1	2 3 4 5 6 7	
l. The dining facility supervisor plays favorites					1	2 3 4 5 6 7	

9. Training in your dining facility is given (CIRCLE ONE NUMBER)

- 0. There is no training done at all
- 1. Very low priority
- 2. Moderately low priority
- 3. Medium priority
- 4. Moderately high priority
- 5. Very high priority

10. The training done in this facility takes (CIRCLE ONE NUMBER)

- 1. Much too much time
- 2. Somewhat too much time
- 3. Slightly too much time
- 4. Just about the right amount of time
- 5. Slightly too little time
- 6. Somewhat too little time
- 7. Much too little time

11. How often do you have group training (e.g., lectures, films, demonstrations) in this dining facility? (CIRCLE ONE NUMBER)

- 0. Never
- 1. Almost every day
- 2. Two or three times a week
- 3. About once a week
- 4. About twice a month (every other week)
- 5. About once a month
- 6. Less than once a month

12. When is group training MOST OFTEN done in your facility? (CIRCLE ONE NUMBER)

- 1. It is never done in my facility
- 2. During your work time
- 3. During your own time

13. How often do you have individual training while you are actually working in the kitchen or pastry kitchen in your dining facility? (CIRCLE ONE NUMBER)

- 0. Never
- 1. Almost every day
- 2. Two or three times a week
- 3. About once a week
- 4. About twice a month (every other week)
- 5. About once a month
- 6. Less than once a month

14. Did YOU have any experience in civilian food service before joining the Marine Corps? (PLEASE CHECK ALL THAT APPLY TO WHERE YOU WORKED)

☐ Fast Food Franchise
☐ Bakery
☐ Restaurant
☐ Coffee Shop

☐ Cafeteria
☐ Delicatessen
☐ None

15. Was any of this civilian food service experience working as any kind of cook? (CIRCLE ONE)

Yes

No

16. Did you have any training in food service before joining the Marine Corps? (PLEASE CHECK ALL THAT APPLY)

☐ Courses in High School

☐ Vocational-Technical School

☐ Junior College Courses

☐ College Courses

☐ Correspondence Courses

☐ Food Service Institute

☐ On-The-Job Training (specify where: _____)

☐ None

17. Have you had any training in civilian food service since joining the Marine Corps? (PLEASE CHECK ALL THAT APPLY)

☐ Courses in High School

☐ Vocational-Technical School

☐ Junior College Courses

☐ College Courses

☐ Food Service Institute

☐ On-The-Job Training (specify where: _____)

☐ None

18. Have you worked at all in civilian food service since joining the Marine Corps? (PLEASE CHECK ALL THAT APPLY TO WHERE YOU WORKED)

☐ Fast Food Franchise

☐ Bakery

☐ Restaurant

☐ Coffee Shop

☐ Cafeteria

☐ Delicatessen

☐ None

19. Since you have been a USMC cook, have you taken ...

a. Military Food Service Correspondence Courses Yes No

b. Civilian Food Service Correspondence Courses Yes No

20. Please place a check mark next to EACH piece of equipment you feel you know how to use and sanitize well enough to show someone else how to use and sanitize it.

<input type="checkbox"/> Griddle	<input type="checkbox"/> Deep fat fryer
<input type="checkbox"/> Steam jacketed kettle	<input type="checkbox"/> Steamer
<input type="checkbox"/> Deck oven	<input type="checkbox"/> Convection oven
<input type="checkbox"/> Range	<input type="checkbox"/> Broiler
<input type="checkbox"/> Bench mixer	<input type="checkbox"/> Vertical mixer
<input type="checkbox"/> Roller/sheeter	<input type="checkbox"/> Slicer
<input type="checkbox"/> Proof box	<input type="checkbox"/> Tilting frying - braising pan
<input type="checkbox"/> Dough divider/rounder	<input type="checkbox"/> Carbonated beverage dispenser
<input type="checkbox"/> Soft serve ice cream machine	

21. Please place a check mark next to EACH work station at which you have worked in the last year.

<input type="checkbox"/> Steamers	<input type="checkbox"/> Griddles
<input type="checkbox"/> Deep fat fryers	<input type="checkbox"/> Steam jacketed kettles
<input type="checkbox"/> Pastry kitchen	<input type="checkbox"/> Butcher shop
<input type="checkbox"/> Vegetable prep	<input type="checkbox"/> Short order line
<input type="checkbox"/> Cashier	<input type="checkbox"/> Ovens and ranges
<input type="checkbox"/> Storeroom	<input type="checkbox"/> Alert facility
<input type="checkbox"/> Flight kitchen	<input type="checkbox"/> Crash kitchen
<input type="checkbox"/> Main serving line	<input type="checkbox"/> Tilting frying - braising pan
<input type="checkbox"/> Base food service office	
<input type="checkbox"/> Dining facility office	

22. Which of these topics was covered in one of your dining facility training sessions in the LAST 3 MONTHS? (PLEASE CHECK EACH TOPIC COVERED).

<input type="checkbox"/> There were no training sessions in the last 3 months	
<input type="checkbox"/> Equipment operation	<input type="checkbox"/> Safety
<input type="checkbox"/> Recipe conversion	<input type="checkbox"/> Sanitation
<input type="checkbox"/> Record keeping	<input type="checkbox"/> Menu planning
<input type="checkbox"/> Customer relations	<input type="checkbox"/> Portion control
<input type="checkbox"/> Garnishing	<input type="checkbox"/> Military subjects
<input type="checkbox"/> Supply and procurement procedures	
<input type="checkbox"/> Other (please specify) _____	

23. In this question we are interested in your feelings about your work in Marine Corps food service. Please read each item carefully and CIRCLE THE NUMBER that BEST describes your current feelings.

- a. On most days on your job, how often does time seem to drag for you?
 - 1. About half the day or more
 - 2. About 1/3 of the day
 - 3. About 1/4 of the day
 - 4. About 1/8 of the day
 - 5. Time never seems to drag
- b. Some people are completely involved in their job -- they are absorbed in it day and night. For other people, their jobs are simply one of several interests. How involved do you feel in your job?
 - 1. Very little involved; my other interests are more absorbing
 - 2. Slightly involved
 - 3. Moderately involved; my job and my other interests are equally absorbing
 - 4. Strongly involved
 - 5. Very strongly involved; my work is the most absorbing influence in my life
- c. How often do you do some extra work for your job which isn't really required of you?
 - 5. Almost every day
 - 4. Several times a week
 - 3. About once a week
 - 2. Once every few weeks
 - 1. About once a month or less
- d. Would you say you work harder, less hard or about the same as other people doing your type of work in this dining facility? (CIRCLE ONE NUMBER)
 - 5. Much harder than most others
 - 4. A little harder than most others
 - 3. About the same as most others
 - 2. A little less hard than most others
 - 1. Much less hard than most others

APPENDIX B

ANALYSIS OF USMC FOOD SERVICE WORKER SURVEY

A number of items on the Marine Corps food Service Worker Survey (Appendix A) were selected to examine the relationship of training, experience, and motivation, to job satisfaction and quality of service. Motivation was measured using items 23A to 23D: i.e., time drags, work involvement, extra work, and amount of work compared to others. Each item was rated on a five-point scale. Training and experience were measured with four variables: type of food service training and related experiences (item 14,16,17, and 18); the pieces of equipment the employee was trained to use (item 20); the number of stations worked in the last year (item 21); the number of topics covered in the dining facility training sessions (item 22).

The items measuring quality of service were subdivided into two sections. The first 11 items measured how good or bad the food service operation was (items 5A to 5K) while the next section contained 10 items pertaining to the kitchen and serving line (items 6A to 6J). Eight items measured job satisfaction in general (items 7A to 7H) and 12 items focus on relations with the supervisor (items 8A to 8L). All quality of service and job satisfaction items were rated on a seven-point scale. The intercorrelations among the 21 items measuring quality of service and the 20 items measuring job satisfaction were examined as a basis for combining these items into scales. The measures of training, experience, and motivation were then entered into a stepwise regression analysis to predict job satisfaction and quality of service.

Also examined were differences among these variables by the employee's rank, which included specialists, cooks, chief cooks and supervisors. In addition, the relationship of both the training/experience variables and the job satisfaction scale was compared with intent to re-enlist and variables pertaining to effective management.

Results. Examination of the intercorrelations among both the quality of service items and the job satisfaction items indicated high intercorrelations among the 11 items concerning the food service operation, items 5A to 5K and items 7A to 7H, which measured job satisfaction. The other measures of job satisfaction and quality of service were not consistently intercorrelated. Therefore, two scales were formed by summing the eight job satisfaction items into a scale ($\alpha = 0.86$) and the eleven quality of service items into a scale ($\alpha = 0.80$). Also, the item rating "The Kitchen Overall" was retained as a measure of quality of service.

Each of these three variables was tested for mean difference among the enlisted ranks. The only significant mean difference which emerged was for job satisfaction ($F(3,43) = 3.67$ $p = 0.02$). To take account of this difference among ranks in the subsequent prediction of job satisfaction, rank was entered into regression equations before the training and motivation variables. All other variables used to predict job satisfaction

were selected using an incremental stepwise procedure. The stepwise procedure was the sole basis of item selection in the two regressions on the quality of service items.

Prediction of all three dependent variables was moderately good. For job satisfaction, the multiple $R = 0.61$; for quality of service, $R = 0.57$; and for the kitchen overall, $R = 0.66$. In general, job satisfaction was predicted somewhat better by the motivational items and quality of service somewhat better by the training/experience items (see Table 5). Both motivation and training, however, were predictive of all three dependent variables.

Spearman's Rho was computed to examine the relationship of job satisfaction and quality of service with the variables measuring effective management. The only significant finding was between "Planning meetings which include the food service workforce" and job satisfaction ($Rho = 0.24$, $p = 0.05$).

Approaching significance was the relationship of job satisfaction with rotation among food service tasks ($Rho = 0.22$, $p = 0.07$) and the kind of equipment trained to use with rotation among food service tasks ($Rho = 0.21$, $p = 0.07$). Also, intent to re-enlist correlated significantly with job satisfaction ($r = 0.30$, $p = 0.02$) but was uncorrelated with training and work experience.

TABLE B-1

Prediction of Job Satisfaction and Two Quality of Service Ratings
from Motivation and Training Experience

Variable:	Step	R	r
JOB SATISFACTION			
Rank	1	.38	-.38
Equipment Worked	2	.49	-.32
Training-Experience	3	.57	.16
Time Drags	4	.61	.21
NOT ENTERED:			
Equipment Known			
Equipment Trained			
Job Involvement			
Extra Work			
Work as hard as others			
QUALITY OF SERVICE			
Time Drags	1	.42	.42
Equipment Worked	2	.57	-.32
Extra Work	3	.57	.21
NOT ENTERED:			
Job Involvement			
Work as hard as others			
Equipment Trained			
Training-Experience			
Equipment Known			
THE KITCHEN OVERALL			
Time Drags	1	.42	.42
Training-Experience	2	.59	-.34
Job Involvement	3	.64	.39
Extra Work	4	.66	.32
NOT ENTERED:			
Work as hard as others			
Equipment Worked			
Equipment Known			
Equipment Trained			

APPENDIX C.
COOK AND BAKER JOB QUALIFICATION REQUIREMENT (JQR) ITEMS

COOK JQR
(JOB QUALIFICATIONS REQUIREMENTS)

NAME _____

DINING FACILITY _____

RECIPES	1	2	3	4	5	6
	Teacher Shows & Tells	Student Shows & Tells	Practice Teacher On Call	JQR QUALIFICATION		
	Teacher Sign Off	Super Sign Off	Quality Rating			
<u>SOUPS</u>						
1 New England Clam Chowder-----P-13-1						
2 Knickerbocker Soup-----P-8-1						
<u>BREAKFAST EGGS</u>						
3 Fried Eggs to Order-----F-10						
4 Omelet-----F-11						
<u>CEREAL, FLOUR & PASTE PRODUCTS</u>						
5 French Toast-----D-22						
6 Pancakes (Griddle Cakes)----D-25						
7 Hot Oatmeal-----E-2						
8 Baked Macaroni and Cheese---F-1						
<u>BEEF</u>						
9 Grilled Steak-----L-7						
10 Roast Beef-----L-5						
11 Pot Roast of Beef-----L-10						
12 Veal Parmesan (cutlets)----L-103						
13 Chicken Fried Steak-----L-12						
<u>PORK</u>						
14 Roast Pork Loin-----L-81						

COOK JQR
(JOB QUALIFICATIONS REQUIREMENTS)

NAME _____

DINING FACILITY _____

RECIPES	1	2	3	4	5	6
	Teacher Shows & Tells	Student Shows & Tells	Practice Teacher On Call	JQR QUALIFICATION		
				Teacher Sign Off	Super. Sign Off	Quality Rating
15 Sweet and Sour Pork-----L-82						
16 Pork Adobo-----L-33						
17 Bar-B-Q Spare Ribs-----L-92						

POULTRY

18 Fried Chicken-----L-137						
19 Roast Turkey-----L-143						
20 Baked Chicken-----L-125						
21 Chicken Cacciatore-----L-130						
22 Chicken Vega-----L-127						

FISH

23 Fried Scallops-----L-118						
24 French Fried Fish-----L-108						
25 Baked Fish-----L-106						

STEWES AND EXTENDED MEATS

26 Lasagna-----L-25						
27 Meatloaf-----L-35						
28 ElRancho Stev (Beef Stev)---L-23						

COOK JQR
(JOB QUALIFICATIONS REQUIREMENTS)

NAME _____

DINING FACILITY _____

RECIPES	1	2	3	4	5	6
	Teacher Shows & Tells	Student Shows & Tells	Practice Teacher On Call	JQR QUALIFICATION		
				Teacher Sign Off	Super. Sign Off	Quality Rating
29 Chili Con Carne-----L-51						
30 Turkey Pot Pie-----L-132						
31 Shrimp Creole-----L-120						
32 Enchiladas-----L-105						
33 Pizza Burgers-----N-31-3						
34 Yakisoba (Beef & Spaghetti) L-100						

SHORT ORDER SANDWICHES

35 Cheeseburger-----N-29-2						
36 Hot Turkey Sandwich w/Gravy-N-33						
37 Submarine Sandwich-----N-19						
38 Grilled Ham & Egg w/Cheese--N-37						
39 Grilled Ham and Cheese-----N-6(2)-3						
40 Western Sandwich-----N-18						
41 Egg Salad Sandwich-----N-10						
42 Hot Reuben Sandwich-----N-20						
43 Fishwich-----N-32						

COOK JQR
(JOB QUALIFICATIONS REQUIREMENTS)

NAME _____

DINING FACILITY _____

RECIPES	1	2	3	4	5	6
	Teacher Shows & Tells	Student Shows & Tells	Practice Teacher On Call	JQR QUALIFICATION		
	Teacher Sign Off	Super. Sign Off	Quality Rating			
44 French Fried Potatoes-----Q-45-1						
45 Hash Brown Potatoes-----Q-54						
46 Mashed Potatoes-----Q-57						
47 Baked Potatoes-----Q-44						
48 Franconia Potatoes-----Q-50-1						
49 Lyonnaise Potatoes-----Q-54-1						

RICE

50 Spanish Rice-----E-9						
51 Fried Rice-----E-7						

VEGETABLES

52 Buttered Whole Kernel Corn--Q-1,2,3						
53 Fried Cabbage-----Q-12						
54 Collard Greens-----Q-29-1						

SALADS

55 Tossed Green Salad-----M-47						
56 Cole Slaw-----M-8						
57 Potato Salad (Cold)-----M-41						
58 Waldorf Salad-----M-50						

COOK JQR
(JOB QUALIFICATIONS REQUIREMENTS)

NAME _____

DINING FACILITY _____

	1	2	3	4	5	6
	Teacher Shows & Tells	Student Shows & Tells	Practice Teacher On Call	JQR QUALIFICATION		
RECIPES				Teacher Sign Off	Super. Sign Off	Quality Rating

SALAD DRESSINGS

59. Thousand Island-----M-70						
60 French Dressing-----M-58						

BAKER JQR
(JOB QUALIFICATIONS REQUIREMENTS)

NAME _____

DINING FACILITY _____

RECIPES		1	2	3	4	5	6
		Teacher Shows & Tells	Student Shows & Tells	Practice Teacher On Call	JQR QUALIFICATION		
					Teacher Sign Off	Super. Sign Off	Quality Rating
COOKIES							
1	Chocolate Chip ----- H-20						
2	Peanut Butter Brownies --- H-2-2						
3	Quick Fruit Bars ----- H-7-1						
QUICK BREADS							
4	Baking Powder Biscuits --- D-1						
5	Corn Bread ----- D-14						
6	Cherry-Nut Quick Coffee Cake ----- D-37-1						
7	French Quick Coffee Cake - D-37-1						
8	Cake Doughnuts ----- D-18						
CAKES							
9	Pineapple Upside Down Cake ----- 6-29-1						
10	Yellow Cake ----- 6-33 Cocoa Fudge Frosting ----- 6-44						
11	Devil's Food Cake ----- 6-12 Chocolate Frosting ----- 6-27-1						
12	Lemon Pound Cake ----- 6-21-2						
13	Jelly Roll ----- 6-18						

BAKER JQR
(JOB QUALIFICATIONS REQUIREMENTS)

NAME _____

DINING FACILITY _____

RECIPES	1	2	3	4	5	6
	Teacher Shows & Tells	Student Shows & Tells	Practice Teacher On Call	JQR QUALIFICATION		
				Teacher Sign Off	Super. Sign Off	Quality Rating

PIES

14 Apple Turnovers -----	I-6-4 I-53					
15 Peach Cobbler -----	I-6-5-2 I-32					
16 Blueberry Pie -----	I-16					
17 Apple Pie -----	I-11					
18 Cherry Crumble Pie -----	I-27					
19 Pumpkin Pie -----	I-45					
20 Lemon Meringue Pie -----	I-33-1					
21 Chocolate Cream Pie -----	I-29-1					

PUDDINGS, FRUIT DESSERTS

22 Crunch Apple Crisp -----	J-1-2					
23 Pineapple Crunch -----	J-27					
24 Dutch Apple Bake -----	J-5					
25 Fruit Gelatin -----	J-7-3					
26 Bread Pudding -----	J-16					
27 Chocolate Cake Pudding -----	J-19					

BAKER JQR
(JOB QUALIFICATIONS REQUIREMENTS)

NAME _____

DINING FACILITY _____

RECIPES	1	2	3	4	5	6
	Teacher Shows & Tells	Student Shows & Tells	Practice Teacher On Call	JQR QUALIFICATION		
				Teacher Sign Off	Super. Sign Off	Quality Rating
28 Cream Puffs ----- J-26						
29 Soft Serve Ice Cream ----- J-24						

BREADS AND ROLLS

30 French Bread ----- D-4						
31 White Bread ----- D-8						
32 White Bread ----- D-9						
33 Hoagie Rolls ----- D-21-1						
34 Hot Rolls -- D-6-6(1) - 2 -- D-33						
35 Hot Dog Rolls D-6-6(1) - 3 -- D-33						
36 Hot Rolls -- D-6-6(1) - 4 -- D-33						

SWEET DOUGH

37 Apple Coffee Cake ----- D-17 D-53						
38 Danish ----- D-17 D-55						
39 Raised Doughnuts ----- D-17 D-55						
40 Praline Rolls - D-36, D-6-7(1)-2, D-52-2						
41 Cinnamon Nut Rolls - D-36, D-6-7(1)- 3, D-42, D-52-3						

NAME _____

DINING FACILITY _____

59

APPENDIX D

VIDEOTAPE QUESTIONNAIRE (N = 30)*

1) The videotapes presented at least some information I didn't already know.

Agree = 17 Unsure = 5 Disagree = 6

2) I would like to have more training videotapes available.

Agree = 15 Unsure = 8 Disagree = 5

3) If you agree with #2, could you suggest some food service topics on which you would like to see more videotapes?

food preparation = 2
food service management = 4
garnishing = 4
cakes and pastry = 2
portion control = 1
sanitation = 1

4) I think these other training techniques are better than videotapes.

<u> </u> none are better	<u> </u> 5 laboratories
<u>14</u> group discussion	<u>11</u> observations
<u> 7</u> role-playing	<u> 4</u> film strips
<u>21</u> on-the-job training	<u> 3</u> slides
<u> 2</u> computerized instruction	<u> 3</u> games & simulations
<u> 2</u> independent reading	<u> 6</u> lectures

5) What are some of the strong points of the videotape training technique?

demonstrations precise and clear = 11
can keep you up-to-date on techniques = 1
can keep your attention = 1
can be repeated = 1
properly prepared end product = 1

6) What are some of the weak points of the videotape training technique?

can't do "hands-on" with it = 3
boring = 6
out of date = 5
scheduling inconvenient = 1

7) Any other comments on use of training videotapes - how they could be improved, etc.?

keep them up-to-date = 1
should use MC tapes, not Army and Navy = 1
should be made more available = 1

* Numbers indicate frequency of response. Although 30 subjects filled out questionnaires, not every subject responded to every question, especially the open-ended questions.

APPENDIX E

REVIEW OF FOOD SERVICE TRAINING FILMS

Behavioral Sciences Division personnel have recently identified and reviewed food service training films (videotape format) available from commercial and military sources for purposes of augmenting food service training programs.

One commercial source of films is National Educational Media (NEM) and many of their films have now been reviewed by Behavioral Sciences Division. The Culinary Institute of American (CIA) also boasts an extensive film catalog. While CIA's topics are primarily devoted to gourmet efforts and restaurant production, a few of their films may be appropriate and are included in the attached film listings.

Other military services have also produced food service training films, and as Behavioral Sciences Division has recently acquired a number of U.S. Navy films they also have been included in the review listing. While military training films tend to lack artistic merit, they can still serve as training aids.

Other potential sources for films are fast food or restaurant chains, as many of them have produced films for their respective training programs. One Marriott film has been reviewed to date, and although it was completely inappropriate for military food service training, that does not preclude the possibility that more appropriate topics are available.

The attached is an annotated listing of the films discussed above which includes catalog numbers and film times, if available. While this listing is by no means exhaustive and while other sources yet remain to be identified, it can serve as a starting for the acquisition of new films for food service training programs.

Review of Food Service Training Films

May 1984

SOURCE

National
Educational
Media (NEM)

Eye of the Supervisor (M301; 12 min)

Basic management principles are presented. The emphasis is on the necessity of the manager knowing his employees and the importance of soliciting reasons for undesirable work behaviors. The manager is encouraged to seek self-improvement and regularly self-evaluate his performance. Of the management films available from NEM, this is the only one that could be considered appropriate for military viewing as the topics are relevant to any work environment.

NEM

Sandwich Preparation and Presentation (FS 107; 10 min)

Demonstrates artistry and techniques of making high quality sandwiches using such delicacies as beef tartar and smoked salmon. These, as well as some other included topics, are considered too exotic to have broad application to military populations.

NEM

Care & Cleaning of Kitchen Equipment (FS 147; 12 min)

An overview on proper use, cleaning, inspection and routine servicing of equipment is presented. Guidelines given were very general. It is felt that a more detailed approach would be more appropriate for a military audience.

NEM

Preventing Machine Injuries (FS 111; 10 min)

An effective analogy is made between machine safety hazards and the claws and teeth actions of live zoo animals. It is appropriate for military audiences and is being shown in pilot programs in the Navy and Marine Corps.

NEM

Creative Hamburger Sandwich Preparation (FS 158; 10 min)

Demonstrates imaginative ways to prepare and present this popular short order item. Special emphasis is given to use of cheeses, garnishes, and alternative accompaniments. Two of these films were purchased for use in Navy and Marine Corps management programs.

NEM

Short Order Cookery (FS 137; 10 min)

Illustrates the operation and care of the grill as well as how to prepare many types of food simultaneously. Emphasizes personal appearance required for cooking in the public eye. While short order cooking in a military environment does not require the "juggling" that a civilian environment does, the film's treatment of grill maintenance and use are thorough and appropriate.

SOURCE

NEM

Stopping Food Service Waste (FS 161; 10 min)

A dramatic presentation that encourages employees to avoid wasteful habits in regard to food, dishware, and utensils. Only a few of the examples used, however, apply to military situations.

NEM

Sanitation and Hygiene: Basic Rules (FS 154; 10 min)

Points out hazards in regard to poor personal hygiene and improper treatment of food. Pest control methods are also illustrated. The film is targeted at an unsophisticated audience and the subject matter is appropriate for the military food service environment.

NEM

Portion Control: A Team Effort (FS 142; 12 min)

Demonstrates techniques for measuring, weighing, preparing and serving foods in a restaurant setting. Few, if any, examples can be related to a military food environment.

NEM

Give Your Eggs a Break (FS 102; 10 min)

Shows how to prepare six egg dishes: omelet, scrambled, boiled, fried, poached and shirred. The care and handling of eggs is also described. Much time is devoted however to the preparation methods that the military does not use. Also, the kitchen equipment used for demonstration is not suitable for quantity production.

NEM

Vegetable Preparation (FS 133; 10 min)

Demonstrates how to cook vegetables while maintaining color, taste, texture, and nutritive values. While some attention is directed toward preparing frozen vegetables, the main emphasis is on fresh vegetables.

NEM

Profile of a Manager (M 313; 14 min)

Focus is on management of "critical incidents," such as worker conflict, becoming a superior to former peers, and answering to a dissatisfied boss. The professional executive environment depicted here is not seen as broadly appropriate for, or relevant to, military food service.

SOURCE

Culinary Institute of America (CIA)	<p><u>Sandwich Preparation</u> (VT 26; 20 min)</p> <p>Displays methods for making eight types of sandwiches: Monte Cristo, Reuben, turkey, beef, club, cheeseburger, hot dog, and grilled cheese. Tips on plating and garnishing are offered. (Not reviewed by Natick R&D Center)</p>
CIA	<p><u>Vegetable Carving</u> (VT 36; 33 min)</p> <p>The "how-to" of making vegetables such as turnips, carrots, scallions, and squash into flowers like gardenias, tiger lilies, roses, and daisies is demonstrated. (Not reviewed by Natick R&D Center)</p>
US Navy	<p><u>Basic Meat Cookery</u> (22 min)</p> <p>Comprehensive presentation of dry heat/moist heat methods of meat preparation.</p>
US Navy	<p><u>Soups, Sauces, & Gravies</u> (24 min)</p> <p>Fundamentals of preparing these items are explained. Soups are subdivided into light, heavy, and creamed categories.</p>
US Navy	<p><u>Food Service Equipment - Part I</u> (20 min)</p> <p>Shows operation and care of food mixer, electric, griddle, oven, steam-jacketed kettle, and deep fat fryer.</p>
US Navy	<p><u>Food Service Equipment - Part II</u> (18 min)</p> <p>Shows operation and care of vegetable peeler, vegetable cutter and slicer, and rotary toaster.</p>
US Navy	<p><u>Food Preparation Worksheet</u> (20 min)</p> <p>General information is presented along with a discussion of item choice prediction, cost reductions, and work scheduling. Specific examples are given.</p>

APPENDIX F

CUSTOMER FEEDBACK SYSTEM ORIENTATION AND SURVEY INSTRUCTIONS

The importance of customer opinion is recognized by civilian and military food service managers. Unfortunately little has been done to systematize the collection and use of customer data, thus many of the potential benefits of customer feedback have not been realized. Food service people need to know when they are doing well; they need to know when improvements are in order. Customer opinion is a major, largely untapped, source of such information.

The customer feedback system described here can provide the food service manager (and his workforce) with a valid report on customer satisfaction. The system has been used in a variety of military and civilian food service operations and found reliable; of course, whether or not the system is put to a useful purpose depends on how it is implemented by managers, and how its data are interpreted and perceived by the workforce.

The Hedonic Face Scale* is the principal data collection component of the system. There are advantages to having a customer drop a chip in a slot to indicate his opinion, as compared with a paper and pencil approach, not the least of which is the minimum time and inconvenience to the customer. Ease of data summary and interpretation are also important positive features of the system.

The Natick R,D, & E Center Project Team will provide assistance to managers in using the Customer Feedback System; however the experimental aspect of using the system is its use by the military food service manager. The system has been sufficiently tested in military dining halls, but exclusively by NRDEC researchers. The Model Dining Service Program provides an excellent opportunity for the new system to be used by military personnel. To this end we describe procedures and benefits as follows, but also encourage the foodservice manager to innovate whenever the situation seems appropriate.

Instead of the traditional pencil-and-paper approach, the facial scale uses a "ballot box" form. It consists of a narrow rectangular box with nine compartments. Above the compartments are faces which show graduated levels of pleasure and displeasure. The middle face is neutral. The compartment below each face has a slot. Each customer participating in a survey is given a round chip which he places in the slot underneath the face that matches his degree of pleasure or displeasure with the meal or any other issue which is being questioned. A sign which poses the survey question is attached to the box above the faces.

*Hedonic scales measure degree of liking.

How The Scale Can Help

Use of the scale along with any necessary follow-up procedures can provide managerial assistance in a number of areas. It can:

- * improve customer/workforce/management relationships -- Patrons are quick to state their gripes, but not as free with their praise. Obtaining a favorable response to a meal through a survey is one way of acquiring a "pat on the back" for cooks. Praise is an effective motivator and cooks do not usually receive what they deserve in this regard. Surveys also make the customer feel important because his opinion is being sought. They also provide a communication medium for workforce/management.
- * help define problems areas -- For instance, a manager may assume that customer dissatisfaction centers around food and try to remedy the situation to no avail, while investigation could reveal that customers are objecting to long lines. A problem cannot be solved until it is identified.
- * track progress -- Once a problem has been defined, subsequent surveys can indicate the effectiveness of remedial or other measures.

How To Collect Data

There are a number of factors that must be considered if meaningful information is to be obtained from any survey, including this ballot box type. The most important factor is ensuring that survey responses represent a true cross-section of the dining facility patrons. If responses are obtained from only males over 35, or females under 20, the survey data may be meaningless. A small group can only speak for the whole group when it is representative of the whole group.

For all practical purposes, the best way to collect data in a dining facility is to ask for responses at intervals as patrons come off the line. This can be done systematically by taking the projected head count for a meal, divide by the number of responses being sought, and then use that number to determine who will be asked to participate. For example, if the projected head count is 500 and 50 responses are being sought, every 10th person who comes off the line ($500/50=10$) should be asked.

Another way would be to distribute chips at intervals over the meal time to all parts of the dining facility. Seat and tables should be chosen that assure relatively even distribution; that is, the survey effort should not be confined to one area of the dining facility nor to persons sitting in a group.

Care should be taken that responses are not sought from inappropriate patrons. For instance, a person eating a short-order item should not respond in regard to the main entree, nor should visiting cadets respond to questions pertaining to the operating hours.

Other very important aspects of conducting surveys concern influencing the customers and customer response anonymity. The former means that the person or persons who conduct the survey should never make any comments, gestures, or facial expressions that are other than neutral, even if they are in jest. The latter means that the boxes should be placed so that the customers' responses are visible to as few people as possible. Also, the person(s) conducting the survey and other dining facility personnel should try to remain out of the vicinity of the response boxes as much as possible.

Surveys should be taken on a typical work day. Paydays, holidays, and weekends are poor times to collect data, unless information is being sought in regard to such times or unless extensive data are being gathered.

For any survey question approximately 50 responses should be collected in order to obtain meaningful information. When attendance permits, it would be beneficial to acquire 100 responses. Not all customers who agree to respond actually will. If 50 chips are distributed, 3 or 4 will probably not be returned.

Not all customers approached are willing to participate in a survey. These patrons should not be pressured in any way to change their minds. Replies to them should be courteous and neutral.

Data Analysis

Once the chips have been collected, the next step is to record the responses and analyze them. A data sheet has been provided that facilitates calculating the average, or "mean" (as the statisticians call it), of the responses. The sheet will also show what is termed the distribution of these responses. The distribution will indicate whether the customers tended to respond as a relatively unified group or if there were different points of view represented.

Once the average is calculated according to instructions on the data sheet, its significance can be interpreted. In general, a rating of 6 or higher indicates approval or acceptance. A rating of below 5 indicates disapproval or nonacceptance. A rating of 5 is considered unacceptable for food items, whereas for nonfood ratings, it is considered a "so-so," or neutral response.

To be more specific in regard to food ratings, research has shown that ratings should be high 6's or 7's to show acceptability for entrees and desserts. Starches should also merit 7's and vegetables should earn 6's for good acceptability levels. These numbers, however, do not always have to be considered absolutes. For instance, an entree that is rated a 6 after previously being rated a 4 can certainly be considered acceptable. The overall picture must always be assessed.

As mentioned earlier, the data sheet shows the distribution of the responses. It is found in column I; that is, it is the number of chips recorded for each face. In most cases, the responses will "cluster," that

is, most of the chips will fall among sequential numbers such as 3 through 6. Six through 8, etc., and the average will often be one of these numbers within the cluster. This shows that the average typifies majority opinion.

Sometimes, however, the distribution will show more than one distinct cluster. When the average is calculated for this distribution it may not fall in either cluster, and so the average cannot be considered a typical value for this set of responses. Such a situation may occur, for instance, in the case of highly seasoned chili. Patrons who like their chili bland will probably give the chili low marks, whereas those who like it spicy will rate it favorably, thus, producing two clusters of customer responses. In this distribution, the average probably will fall between the two clusters and does not indicate a general opinion of the chili.

How To Begin

Some suggestions for implementation and follow-up are now in order. Conducting some meal surveys would be a good starting point, as this type of information can be used to serve a number of purposes, and concerns everybody who is in any way involved in the facility.

Initially it would be worth the effort to collect as much data as possible in order to establish a baseline from which progress or maintained quality can be monitored. This means that a number of breakfasts, noon meals, and evening meals should be surveyed over perhaps a period of a month. The meals surveyed should be representative; that is a proportionate number of popular and not-so-popular entrees. A survey investigating how the patrons feel about their facility overall is also in order during this time period.

Once the data have been gathered and the averages calculated, the next step is to look at the meal ratings generally. Breakfast ratings are normally higher than those of the other meals, so it is often better to look at noon and evening meal ratings for more valid indication of customer food acceptance.

If the surveys show ratings below a 6, it is time to look for causes. Two very good sources that can help identify the reasons for dissatisfaction are the customers and the workforce. Meetings are a good communication method for allowing the cooks to have input in regard to problem areas and for allowing suggestions for their remedy. Effective communication can improve management/workforce relationships as well as giving the workforce an added sense of importance. NRDEC's experimental form FSM X-2 can be used at these meetings to display the ratings. More feedback can be sought from the customers either through the facial scale or by composing appropriate pencil-and-paper surveys.

The issues discussed thus far indicate some directions to take when ratings are low. What should be done if ratings are high?

The answer is not to put them in a folder and file them. They are praises and should be communicated. They are good for morale and could spur even better performance.

In the case of mixed ratings, it is especially important to emphasize the positive ones for the reasons mentioned above even though it is recognized that attention must also be paid at the same time to deficient areas. Communicating and emphasizing high customer ratings also benefits workforce/customer relationships; the workforce will be made conscious of the fact that not all customer feedback is negative.

If answers to the survey question "How do you feel about your dining facility?" reveal overall dissatisfaction, follow-up procedures are obviously in order. The contributing factor(s) must be identified, and again, help can be sought from customers and the workforce. More survey questions that investigate physical and operational characteristics of the dining facility are included in the system, which can be used along with specific food quality questions.

When the problems that contribute to general dissatisfactions are identified, a good psychological approach would be to remedy at least one situation quickly. When this is accomplished, the improvement should be actively communicated to the customers. This type of positive action should improve the customers' attitudes as they will feel their opinion matter; that is, their preferences or wishes have been heard and acted upon.

Depending on resources and talents available in the dining facility. Communication to customers can take many forms; fliers, posters, notes on bulletin boards, etc. NRDEC's experimental FSM Customer Response Form can also be used for this purpose.

It was mentioned previously that the facial scale can be used to track progress. Once a baseline has been established, subsequent surveys should be taken to determine whether and how much progress is being attained. This information should then be conveyed to those concerned and displayed in some form. A graphic method for displaying progress is also included in this system which can be used with the other methods.

The facial scale used in conjunction with the follow-up procedures described comprises the Customer Feedback System. It can be a valuable tool in the establishment or maintenance of customer/workforce/management relationships. It can provide visible evidence of progress or maintained quality. It must be remembered however, that no number should be considered the final work on an issue, and no number will ever be a substitute for good judgement.

At this point it might be worth the reminder that there is no way to make everybody happy. No matter how excellent a dining facility is there will be people who use dining facility hall surveys to express dissatisfaction in their lives, and dining facilities halls make convenient targets. This does not mean that there is no point in striving for excellence. Excellence is always the goal, and success is measured by progress toward the goal, not simply reaching it.