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To the Graduate Council:

I am submitting herewith a thesis written by Martha Ruth Pearman entitled "Attitudes as Affected by a Training Program for Hospital Dietary Employees." I recommend that it be accepted for nine quarter hours of credit in partial fulfillment of the requirements for the degree of Master of Science, with a major in Institutional Administration.

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ATTITUDES AS AFFECTED BY A TRAINING PROGRAM FOR
HOSPITAL DIETARY EMPLOYEES

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the Graduate Council of
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ABSTRACT

Attitude changes were evaluated for thirty-two semi-skilled dietary employees of a one hundred and ninety bed hospital and nursing home.

A subjective pretest was given before the introduction of a training program consisting of slides and a commentary related to the duties and responsibilities of the participants. The posttest, identical to the pretest, followed the training program as an indication of retention of knowledge.

Expressions of changes of attitude of the participants were compared before and after a training program using an attitude questionnaire. Questions with discriminative value were determined.

The participants were classified by levels of education and periods of employment. Within the subgroups having completed grade school and high school, there were more positive than negative changes in attitudes. Within the subgroups based on periods of employment, ranging from one day to six months, and two years to five years and eleven months, more positive than negative attitude changes were indicated.

The mean scores of the pretest and the posttest given after the training program indicated a retention of knowledge.

Ten questions of the attitude questionnaire indicated discriminative values. Six questions of the subjective test had discriminative value.

As a result of the structured interview the participants expressed interest in the training program. The program was considered useful to their job assignments and worthwhile.

From this study both changes in attitude and retention of knowledge were shown to be the result of the training program.

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CHAPTER I

INTRODUCTION

Individual attitudes and feelings of the employees affect organizational climate (Byham, 1968). One characteristic of an organization as a human enterprise is that it has attitudinal dimensions and motivational characteristics (Likert, 1961). The basic motivational forces drawn upon in using the efforts of its members and the degree of favorableness or unfavorableness of attitudes and loyalties toward the organization are its component parts and its members. Job attitudes were noted by Herzberg et al (1957) to possibly affect productivity, labor turnover, absenteeism, frequency of illness, and the number of grievances or complaints. The assessment of employee's attitudes and feelings reflect how an individual responds to any particular situation depending upon his abilities, attitudes, skills, desires, understandings, and habits (Gilmer, 1961; Bruner, 1958).

Employee opinion surveys could indicate training needs as an input for managers in the organizational climate. One application of personnel research in training is the use of employee opinion survey results as a means of motivating supervisors and managers (Byham, 1968). An attitude

questionnaire may be used as a two-way communication tool in evaluation of the concepts of a situation. The extent to which training is geared to developing every aspect of an employee's work life is a measure of the quality of the organization (Heffner, 1967).

There is a continual need for training dietary employees. Bass and Vaughan (1966) suggested that employees must engage in training programs to upgrade themselves for more skilled positions and to familiarize themselves with new processes and production techniques. According to Baden (1967), reasons for establishing training programs include availability of efficient equipment, certification for Medicare benefits and shortage of professional staff.

The purpose of this study was to measure changes in attitudes of hospital dietary employees after a training program.

CHAPTER II

REVIEW OF LITERATURE

I. ATTITUDES

Attitudes include both the feeling of liking or disliking and elements which describe the object of the attitude, its characteristics, and its relations to other objects (Katz, 1960).

Four functions that attitudes perform for the individual were noted by Katz (1960) as the following:

1. The instrumental, adjustive, or utilitarian function found in expression of behavioristic learning theory
2. The ego-defensive function in which the person protects himself from acknowledging the basic truths about himself
3. The value-expressive function in which the individual derives satisfactions from attitudes of expression appropriate to his personal values and to his concept of himself
4. The knowledge function based upon the individual's search for meaning, the need to understand the trend toward better

organization of perceptions and beliefs to provide clarity and consistency for the individual.

Changing Attitudes

According to Katz (1960), modifying an old attitude or replacing it with a new one is a process of learning, and learning always starts with a problem, or being thwarted in coping with a situation. Two basic conditions for arousal of existing attitudes are the activation of their relevant need state and perception of the appropriate cues associated with the content of the attitude.

New information will not modify old attitudes unless there is some inadequacy, incompleteness, or inconsistency in the existing attitudinal structure as it relates to the perceptions of new situations (Katz, 1960; Gurein, 1968). The change agent should attempt to encourage the individual to feel some dissatisfaction with his old attitudes and try to arouse values that are important to him (Gurein, 1968). Katz (1960) believed that appeals to change attitudes must be geared to the relevant motivational basis of the attitude. The condition conducive to attitude change is that the expression of the old attitude or the anticipated expression of the old attitude no longer gives satisfaction to its related need state.

The underlying processes of compliance, identification, or internalization in which an individual engages when he accepts influence may be different as noted by Kelman (1967). The resulting overt behavior may appear the same even though the processes are different. Compliance occurs when an individual accepts influence because he hopes to achieve a favorable reaction from another person or group. Identification occurs when the individual accepts influence because he wants to establish or maintain a satisfying self-defining relationship to another person or group. Internalization occurs when an individual accepts influence because the content of the induced behavior, ideas, and actions of which it is composed, is intrinsically rewarding.

Attitudes Affected by Needs.

Herzberg et al. (1959) described factors of hygiene as those involved in situations when feelings of unhappiness were not associated with the job itself but with conditions that surround the doing of the job. Among the factors of hygiene were included supervision, interpersonal relations, physical working conditions, salary, company policies and administrative practices, benefits, and job security. All one can expect from satisfying the needs for hygiene is the prevention of dissatisfaction and poor job performance. Hygiene factors satisfy the need for fair treatment.

Overemphasis on hygiene factors can lead to focusing on the extraneous rewards that reside in the context of jobs.

Emphasis should be on strengthening of the motivators.

Abraham Maslow, 1970, suggested that all people are subject to a "hierarchy" of needs starting with the basic physiological needs for food, liquids, work, rest, and recreation. When these needs are satisfied, the next higher needs are for safety and security including financial security, freedom from arbitrary decisions made by the boss, protection from bodily and mental dangers. When these needs are satisfied, people ascend the scale to the affectional or "belonging" needs as the needs for love and friendship, acceptance, respect, and identification with a group. Next in order come the ego or self-esteem needs including approval, self-confidence, recognition, status, and appreciation. At the top of the scale are the highest needs of all, the self-actualization or self-fulfillment needs determined as the need for "becoming," the need to achieve full potential, the need for self-development. The gratification of the basic needs is an important step along the path to the ultimate positive goal of all therapy, namely self-actualization. These basic needs are mostly satisfiable only by other human beings. Cognitive need, the need to learn, to discover, to explore, and to know and aesthetic need, including the need for completeness, order, symmetry, and the love of beauty may have some value to the individual.

Stress constitutes an important influence on work attitudes and job performance (Costello et al, 1963). The expectations, norms, and values of each individual were suggested by Likert, 1961, as important variables affecting his response to the behavior of his superior. Job attitudes, including morale and job satisfaction are critical aspects of the adjustment pattern of the worker (Herzberg et al, 1957). People differ in their total adjustment to living, and this could be reflected in their attitudes toward work as well as in all other attitudes.

How people perceive or register upon the features of the social environment is crucial in determining how they respond (Bruner, 1958). At any given moment in time a person's attitude toward some concept or issue is probably a function of numerous prior learning experiences (Festinger, 1963).

The level of aspiration of any given person in relation to his feelings of accomplishment determine in large measure his attitudes (Gilmer, 1961). Factors that lead to positive job attitudes do so because they satisfy the individual's need for self-actualization (Herzberg et al, 1959). The profoundest motivation to work comes from the recognition of individual achievement and from the sense of personal growth in responsibility. Professional growth is the key want of employees and is the basic determiner of positive job attitudes.

Morale was noted by Yoder, 1954, as a synthesis of employee attitudes toward employment: toward their individual jobs, toward those with whom they work, toward their supervisors, toward their unions, toward working conditions, and toward their employment as a whole. The general tone of such attitudes among employees in the organization or in a particular division or department may be considered group morale.

The scope of the morale concept transcends the immediate job situation and must be taken to include consideration of the psychological environment as well as the physical environment (Whitlock, 1954).

II. SUPERVISOR'S INFLUENCE

A manager's effectiveness depends on the extent of his ability to give subordinates psychological room for growth. Ability may stem from recognizing their need patterns and providing the kind of climate that will foster their satisfaction (Wedgwood, 1970). According to Ackerman, 1970, motivation is a function of need, strength, and the relative values of a variety of possible satisfiers. Time and effort must be expended by the individual in fulfilling his need while choosing a particular satisfier.

The single most important goal recognized by Herzberg et al, 1959, in the progress of supervision is the development

of new insights into the role of the supervisor so that he may effectively plan and organize work. Jobs must be restructured to increase to the maximum the ability of workers to achieve goals meaningfully related to the doing of the job. Management's responsibility becomes one of structuring the work to allow employees to fully use their skills and abilities and fully direct their motivations toward their work (Penzer, 1971; Beeson and Hodges, 1967). The primary emphasis in job design is on creating a working climate in which the self-actualizing needs of the mature individual can be met, at least partially, through the work performed daily (Rush, 1971; Beeson and Hodges, 1967).

Individuals can't motivate others; they can only create the conditions that permit and encourage self-motivation (Smith, 1971). Motivation factors are inherent in the job itself which include job challenges and job opportunity for achievement. Achievement needs include the opportunity to be creative, to become more expert in their jobs, to be trusted, to be autonomous, to do their jobs and solve their problems in their own way, and to tackle more demanding jobs. When these needs are satisfied, employees feel a sense of commitment to the job. A leader's essential task is to create a climate in which employees satisfy their own motives by working to fulfill department objectives.

Not only does simplification carried to its limits do damage to the workers' self-esteem and motivation, but repetitiveness, when it entails boredom and lack of goals, also increases poor quality work rather than decreasing it (Sorcher and Meyer, 1968). Direct-labor employees may be motivated to become more involved in their work by use of goals, provision of more than minimum training for assembly line tasks, encouragement of employee participation in goal-setting.

A good society is the one that has its institutional arrangements set up in such a way as to foster, encourage, reward, produce a maximum of good human relationships and a minimum of bad human relationships (Maslow, 1970).

III. TRAINING

The administrator's responsibility (Costello et al, 1963) is a matter of setting educational goals, the kinds of behavior required, necessary job skills, and requisite information. The creation of organizational and work conditions under which effective principles of learning can operate may influence the individual toward the desired goal. According to Cantril (1956) the psychotherapist has taught how the success of reconditioning requires a therapy which simplifies goals. Thus the goals could be achieved through an individual's action as he experiences the successful consequences

of his own behavior and rebuilds his self-confidence.

Barnard (1968) believed that the inculcation of belief in the real existence of a common purpose is an essential executive function.

Learning experiences in life may affect human behavior, attitudes, value systems, and personality characteristics (Costello et al, 1963). All the individual's activities in the organization which include the loyalties, awareness of organizational goals, job performance, and even his safety record could be learned. Bass and Vaughan (1966) suggested that the primary objective of training is to bring about certain desired changes in behavior as efficiently as possible.

Employee opinion surveys were used as indicators of training needs and as direct input for their training programs (Byham, 1968).

IV. METHODS OF MEASURING ATTITUDES

The questionnaire (Brianas, 1970) may be used to obtain attitudes and opinions of employees to provide for employee feedback and participation in improving the organization. Attitude surveys can be used to indicate what employees are thinking and this information can guide management in making decisions that will improve employee's morale and job performance (Kirchner et al, 1967). Areas of management policies and company operations which should be

emphasized or changed can be singled out by an attitude survey (Strenski, 1970).

Some companies hold a formal, periodic survey of employee attitudes. Other companies seek out employee attitudes informally through individual conversations and interviews as well as group and departmental meetings. Gellerman (1970) suggested that the act of inquiring implies a commitment to some kind of responsive action. Tripp (1971) noted that management is accountable for taking action if feasible and for feedback by displaying the group's reaction to the attitude survey.

People do not always say what they think. If the employee views the questionnaire as an upward and downward communication, perhaps he will be more responsive in expressing his true feelings. The knowledge that management is concerned about unsatisfactory conditions and is attempting to correct them may result in improved human relations.

Three categories of opinion research are physical changes, relationship changes, and symbolic changes (Carnarius, 1968).

The hygiene factor needs are the employee's relationship with the supervisor, fellow worker, and the organizational climate. If the employee's hygiene factor needs are satisfied, he is not aware of the presence of these needs. When the hygiene factor needs are absent the employee expresses

dissatisfaction. When the hygiene factor needs which are provided by another person appear to be fulfilled, then the individual begins to react to needs that he can basically supply himself such as responsibility, motivation, self-esteem, and fulfillment. An individual's attitudes are related to the concepts he has formed during his life.

CHAPTER III

PROCEDURE

The purpose of this study was to appraise the attitudes of hospital dietary employees as affected by a training program. The study followed six consecutive steps: attitude questionnaire, pretest, training program, posttest, attitude questionnaire, and structured interview.

A form for background information (Appendix A) of the employees was developed. An attitude questionnaire (Appendix A) of forty questions adapted from various sources and edited as related to the hospital dietary department including the administrator, dietitian, semiskilled employees, and the organizational environment, was developed.

A pretest and posttest (Appendix A) based on the subject area of the United States Public Health slide series for food service in hospitals was developed with twenty multiple choice questions. The slide series consisted of one hundred and nine frames with an appropriate commentary (Appendix A). The subject areas covered were (1) communications and human relations, (2) planning general and modified diets, (3) food purchasing, receiving, and storage, (4) quantity food production and service, (5) sanitation and safety, and (6) equipment and layout.

Background information, number of years of education and length of period of employment, were secured from all participants before the training program. All of the participants were classified into the above categories.

Anonymity was assured by giving the participants a number for comparison purposes only.

A preliminary attitude questionnaire was given to thirty-two employed nurse's aides in the Pineville Community Hospital, Pineville, Kentucky. This group indicated their understanding and clarity of the questions with written comments opposite each item on the questionnaire.

Thirty-two semiskilled dietary employees of the same hospital pretested the questionnaire.

Thirty-two subjects were divided in two groups of sixteen each because of work schedules. The training program including six thirty-minute periods was given twice each week and presented to each employee approximately four hours after the beginning of their shift. Additional classes were arranged because of employee's absence due to sickness or days off.

The instructor who administered the program was a student, summer employed at the hospital, who had completed three years of college in administrative dietetics.

The posttest was given immediately after completion of the training program.

The attitude questionnaire was given to all the semi-skilled dietary employees following the posttest.

During a structured interview (Appendix A) by the dietitian with each of the participants, five questions relating to the employee and the training program were discussed approximately two weeks after the training program.

Selected periods of employment were related to the attitude questionnaire before and after the training program for positive and negative attitude changes.

Selected levels of education were related to the attitude questionnaire before and after the training program for positive and negative attitude changes.

The frequency of responses of the thirty-two participants was related to the attitude questionnaire by attitude changes in the following ranges: strongly agree, mildly agree, neutral, mildly disagree, strongly disagree, and no response.

The subjective pretest and posttest were compared according to the means of total scores, z-value, and standard deviations.

Discrimination values of the questions of the attitude questionnaire and the subjective test were determined.

CHAPTER IV

RESULTS AND DISCUSSIONS

Attitude changes were evaluated for thirty-two semi-skilled dietary employees of a one hundred and ninety bed hospital and nursing home. An attitude questionnaire was given before and after the introduction of a training program. The training program consisted of slides and commentary relating to the participants' job assignments. A subjective pretest and posttest were administered before and after the training program.

I. CHANGES IN ATTITUDES

Changes in attitude were evaluated for all participants of the training program. Based on background information the personnel were classified into periods of employment and level of education. The statement of ten of the questions made the answers not comparable to the answers of the other thirty questions. The sequence of possible answers of the ten questions* was reversed. The discussion of each classification follows.

*Questions: three, nine, ten, fourteen, twenty-one, twenty-five, thirty, thirty-six, thirty-eight, thirty-nine.

Period of Employment.

The personnel employed from one day to six months, and two years to five years and eleven months showed more positive than negative attitude changes (Table I). These two periods would appear to be advantageous for the introduction of a training program because there were positive attitude changes.

Questions in the attitude questionnaire presented a choice in answers ranging from strongly agree, mildly agree, neutral, mildly disagree to strongly disagree and no response. Changes from strongly disagree toward strongly agree indicated positive attitudes. Changes from strongly disagree to no response were considered as negative attitudes.

Level, of Education.

An increase in positive attitude changes over negative attitude changes in the two groups which had completed grade school and completed high school was demonstrated. It would seem more desirable to hire employees from these groups because there were more positive attitude changes than changes from some grade school and some high school which were negative. Positive attitude change could have been due to increased motivation on the job. The achievement of having completed grade school or high school could result in developing positive attitudes (Stokes, 1966).

TABLE I
ATTITUDE CHANGES BY PERIOD OF EMPLOYMENT AND
LEVEL OF EDUCATION

Categories	Number of Participants	Attitude Changes		
		Positive	Negative	Total
<u>Period of Employment</u>				
1 day to 6 months	6	23	3	20+
7 months to 23 months	8	24	31	7-
2 years to 5 years 11 months	11	38	35	3+
6 years or more	7	24	30	6-
<u>Education Level</u>				
Some grade school	10	38	50	12-
Completed grade school	10	54	9	45+
Some high school	6	11	29	18-
Completed high school	6	30	12	18+

Frequency of Responses: Participants

In viewing frequencies of responses to the attitude questionnaires from the thirty-two participants, there were fewer changes to strongly agree, mildly disagree, strongly disagree, and no response than to mildly agree and neutral (Table II). The attitude changes in the posttest appeared to be fewer toward strongly agree and strongly disagree than mildly agree and no response. There were indications that the participants became more conservative after the training program. This conservative trend could be interpreted as a result of increased job knowledge. Since these concerns were brought to mind for the first time, it is possible that this could lead to a strong first reaction and a more moderate reaction later. Overt behavior may be affected by many other variables such as organizational climate and co-workers, in addition to one's own private attitude (Festinger, 1963).

As a result of a Chi square analysis of attitude changes of all participants involved in the pretest and post-test, it was concluded that the training program had an effect on the changes in attitude. The Chi square value of 30.184 was significant at the 0.1 level, with five degrees of freedom. A significant change in attitudes also was found after a two-week training program concerned with human relations in dealing with subordinates (Fleishman et al, 1955). However, no consistent differences in behavior were found between the

TABLE II
FREQUENCY RESPONSE BY PARTICIPANTS

	Number		Percentage	
	Pretest	Posttest	Pretest	Posttest
Strongly Agree	576	533	45.00	41.64
Mildly Agree	184	252	14.38	19.69
Neutral	218	264	17.03	20.62
Mildly Disagree	82	63	6.40	4.92
Strongly Disagree	120	109	9.38	8.52
No Response	100	59	7.81	4.61
Total Responses	1280	1280		

group that had received training and the group that had not been exposed to a training program. In order to produce a stable behavior change following opinion change, according to Festinger, 1963, an environmental change must be produced which will support the new opinion and the new behavior. Personnel policies could incorporate the results of an attitude questionnaire.

Attitude Changes by Individual Questions.

Personal interpretation of changes in attitudes for each question is discussed below. For detailed changes of attitude see Appendix B.

QUESTION

INTERPRETATION OF CHANGES

1. The administrator* welcomes ideas from employees.

The employee may not have a chance to express opinions or his expressions may not be received gratefully.

2. The administrator supports the dietary department as much as he should.

The administrator's appreciation for the employees' effort may be important to the individual.

3. The administrator comes in and tells us what to do and how to do it.

The line of authority may not be recognized. He may feel that the employee is not properly trained.

*Hospital Administrator

4. Through meetings the hospital should keep the employees more informed about what is going on.

5. The dietitian gives me a chance to make suggestions.

6. The dietitian respects me for what I am and what I do.

7. The dietitian tells me when I do a good job.

8. When the dietitian corrects me, she shows me how to improve.

Better communication needs to be encouraged in the hospital.

Suggestions concerning job content, operation of the department, or policies may not be received by the dietitian.

Each job must be important to the individual and the organization or it would not be necessary. The person doing the job should feel self-importance to the organization.

Whether a good job means the standards set for the job have been reached or the individual has gone beyond these standards should be determined and explained to the employee.

The employees feel they are helped to become more efficient.

9. The dietitian criticizes me for things which I cannot control.

10. The dietitian makes it hard for an employee to be satisfied with his job.

11. The dietitian gets both sides of a story before she makes a decision.

12. The dietitian treats me as she would want to be treated.

13. The dietitian uses pressure only when necessary.

14. The dietitian gossips about one employee to another.

The employees may be lacking in training. Delegation of authority to equal responsibility may be lacking.

The dietitian does not assist the employee in maintaining the elements he considers necessary for satisfaction.

Each person should give his own impression of a story while the organization's whole objective should be brought into focus.

This could include not giving adequate training or not seriously considering more personal problems.

Types of pressure and examples of circumstances when pressure may be used should be investigated.

Anything important should be said to the individual, otherwise left unsaid.

15. "Tale carrying" is frowned upon by the dietitian.

People are employed for the purpose of reaching certain organizational objectives.

Also there are individual objectives such as belonging to a social environment.

"Tale carrying" could be a disruptive force.

16. The dietitian gives me clear-cut orders and instructions.

Employees should know how to perform their duties and are evidently receiving clearly understood instructions.

17. The dietitian is careful to tell everyone, not just a few, about general information.

Making information available in writing and then requiring each individual to be responsible for acquiring the information would be beneficial.

Otherwise an absent employee may not be exposed to certain information.

18. The dietitian pays enough attention to the safety and comfort of employees in the dietary department.

Safety could represent freedom from accident hazards to the employee. Comfort would include the individual in his work environment.

19. I believe the dietitian is well qualified for her work.

20. Everything possible is done to help the deserving person gain a promotion.

21. Too little attention is given to seniority when promotions are made.

This may relate to the way the employee feels about his own training. Other indicators may be patients', other employees', and also visitors' reactions to the materials and services received.

The amount of stress placed on promotion by management creates a certain organizational environment. The elements of a particular job that influence an individual to consider a position as a promotion should be analyzed. Promotions for semiskilled dietary employees may be very limited.

Management should stress performance of duties as important. Length of work experience may not show improvement in performance. Other factors such as assuming responsibility and leadership should be considered.

22. In this hospital a rating system is used as a basis for promotion.

23. I am satisfied with the way "days off" are handled.

24. Everything is done to see that hospital employees get a fair deal on the job.

25. It seems that employees are "let go" around here for very little reason.

26. I like for my friends to know where I work.

A rating system should be used and the employee should know what is involved.

In a seven day work week sharing of holidays and weekends off may be a necessity.

Factors that employees include as a fair deal should be studied by discussion. Choice of job, shift of work, and contents of the job may be included.

Rules for firing should be well known to the employees and should apply to all employees.

It should first be determined whether it is the type of work (status) or the organization that makes the work unfavorable. If it is the type of work the individual should be allowed a different position suitable to his capabilities.

27. Employees are well trained for this job.

The need for organized training programs is recognized as a necessity for hospital dietary departments. Employees' concept of "well trained" should be explored.

28. My job allows me to use my abilities as much as I would like.

Tests may be one way of measuring an individual's abilities. Training to further develop these abilities relating to the performance of required duties would benefit both the individual and the organization.

29. Employees in my department know what is expected of them.

The expected behavior and performance should be emphasized at the orientation of the new employee.

30. We frequently get conflicting instructions around here.

A policy book concerning instructions given by supervisors and those with authority should be available to all.

31. I have freedom on my job to use my own judgement.

The employee may be allowed to operate within the limits of certain boundaries.

32. The dietitian can just tell me what, how, and when she wants the job done and leave the rest to me.

33. I feel my efforts are recognized and are adequately rewarded.

34. I feel pride in doing my job well.

35. The people in my group are great to work with, fun to be with, and we get the job done.

36. Everyone is always trying to tell me what to do.

It seems the employees are not willing to accept responsibility or they have not received sufficient training.

The terms under recognition and rewards should be clearly analyzed as they relate to the employee.

The dietitian should assist the individual to relate real objectives to the standards set for the performance of his duties.

These people may not feel they are working as a team.

"Trying to tell me what to do" involves how a person feels about a matter. It could be giving helpful directions or giving specific orders not required. The supervisor should be designated as the one with authority to give instructions.

37. We get good cooperation from other departments here.

All departments should recognize the organizational objective as uniting rather than the individual departmental objectives as being separate.

38. I get most of my information from the grapevine.

Employees should recognize that information from the grapevine may not be correct. Official information should be recognized by a signature.

39. If I were working in another hospital, I would do a different kind of work.

If training would prove helpful in making the employee more satisfied, it would be beneficial for both the employee and the organization.

40. The hospital does all it can to improve the services for the patient.

The main objective of services to the patient is recognized.

The apparent need of better communication and more training would improve the organizational climate of the dietary department. Good interpersonal communications could be vital to the effectiveness of any organization (Brianas, 1970).

Subjective Test

The mean of the scores of the subjective test increased from 12.2 in the pretest to 17.5 in the posttest indicating an increase in the retention of knowledge (Appendix B, p. 99). The difference between the mean of the subjective pretest and posttest was found to be significant as determined by z-value, 9.54 (Appendix B, p. 101).

The training program was considered successful because there was a retention of knowledge concerning job responsibilities.

The standard deviation of the posttest (Appendix B, p. 99) was 2.7 decreasing from 3.1 in the pretest. The smallness of the standard deviation between the pretest and the posttest indicated that the training program stabilized the knowledge of the participants.

II. STRUCTURED INTERVIEWS

The results of personal interviews with the employees indicated that 85 percent of the participants considered that the training program was related to their work. The knowledge was useful to their job assignments and was considered worthwhile. The only unfavorable reaction expressed by the participants was a period of rush and tension after loss of time from work for the training program.

Future training programs were indicated as desirable. Some suggestions for areas to discuss included special diets, preparation of food, serving of food, cleaning and sanitation, and how to get along with people. Ninety-seven percent of the participants expressed a desire to participate personally in future training programs. Professional growth is a key desire of employees and is the basic determiner of positive job attitudes (Herzberg et al, 1959). All participants considered efficiency on the job as important.

III. DISCRIMINATIVE VALUE OF QUESTIONS

Discrimination values of questions on the attitude questionnaire and the subjective test were determined by a monograph originated by C. H. Lawshe, Jr. (1948), Purdue University. For the attitude questionnaire the participants responding positively to questions strongly agree, or strongly agree and mildly agree were classified as the high group. Participants responding negatively to questions such as neutral, mildly disagree, strongly disagree, or no response were classified as the low group. The ratio of percentage of positive responses to negative responses determined the discrimination value of each question. The following questions on the attitude questionnaire were considered to have discriminative value if strongly agree was considered the high group: 8, 10, 12, 13, 23, 24, 28, 31, 33, and 40 (Appendix B, p. 102). If

strongly agree and mildly agree were considered the high group, the following questions would have discriminative value: 2, 3, 9, 10, 11, 20, 36, 37, 38, and 39 (Appendix B).

The discrimination value for the questions on the subjective test were based on the ratio of right answers versus wrong answers. The following questions had discriminative value: 11, 13, 14, 15, 16, and 20 (Appendix B). Questions with discriminative value would be expected to have a high degree of reliability in identifying the high and low test scores. Discrimination values identify questions to accept or reject in revising the questionnaire.

Job attitudes are critical aspects of the adjustment pattern of the worker (Herzberg, et al, 1957). An attitude questionnaire may help an individual summarize his own perceptions of the environment. By utilizing the attitude questionnaire, one may communicate to those with authority concerning adjustments that may need to be made in the organizational climate. The results of an attitude questionnaire could indicate the need for more study concerning evaluation of attitudes, changes in personnel policy, or the need to offer a training program. The attitude questionnaire demonstrated the feasibility of use in determining attitude changes.

CHAPTER V

SUMMARY

Attitude changes were evaluated for thirty-two semi-skilled dietary employees of a one hundred and ninety bed hospital and nursing home. A questionnaire was developed to assist in the measurement of attitude changes before and after a training program. The training program consisted of slides and commentary relating to the participant's job assignments. A subjective pretest and posttest were administered to the participants before and after a training program. The total participants were classified as to level of education and period of employment.

Expressions of change of attitudes of participants were compared before and after a training program. Those participants who completed grade school and those who completed high school, had more positive than negative attitude changes. Those who had been employed from one day to six months, and two years to five years and eleven months indicated more positive than negative attitude changes. Both positive and negative attitude changes occurred for each of the forty questions of the attitude questionnaire.

The mean scores of the pretest, and the posttest given after the training program indicated a retention of

knowledge. Employees indicated favorable interest in training programs as determined in the structured interview.

Ten questions of the attitude questionnaire indicated discriminative values. Six questions of the subjective test had discriminative value. From this study both changes in attitude and retention of knowledge were shown to be the result of the training program.

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APPENDICES

APPENDIX A

BACKGROUND INFORMATION

Number _____

Please check one of the following:

LEVEL OF EDUCATION

Some grade school _____

Completed grade school _____

Some high school _____

Completed high school _____

Please check one of the following:

PERIOD OF EMPLOYMENT

One day to six months _____

Seven months to twenty-three months _____

Two years to five years and eleven months _____

Six years or more _____

STRUCTURED INTERVIEW

1. How do you think this training program will affect the duties on your assignment?
2. Do you think we should take the time from our jobs for training programs?
3. What would you like to see included in a training program?
4. Do you wish to participate more personally in these programs?
5. Do you think that we should continually try to become more efficient and always attempt to do a better job?

ATTITUDE QUESTIONNAIRE

1. The administrator welcomes ideas from employees.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

2. The administrator supports the dietary department as much as he should:

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

3. The administrator comes in and tells us what to do and how to do it.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
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Comment:

4. Through meetings the hospital should keep the employees more informed about what is going on.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

5. The dietitian gives me a chance to make suggestions:

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

6. The dietitian respects me for what I am and what I do.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

7. The dietitian tells me when I do a good job.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

8. When the dietitian corrects me, she shows me how to improve.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

9. The dietitian criticizes me for things which I cannot control.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

10. The dietitian makes it hard for an employee to be satisfied with his job.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

11. The dietitian gets both sides of a story before she makes a decision.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

12. The dietitian treats me as she would want to be treated.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

13. The dietitian uses pressures only when necessary.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

14. The dietitian gossips about one employee to another.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

15. "Tale carrying" is frowned upon by the dietitian.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

16. The dietitian gives me clear-cut orders and instructions.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

17. The dietitian is careful to tell everyone, not just a few, about general information.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

18. The dietitian pays enough attention to the safety and comfort of employees in the dietary department.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

19. I believe the dietitian is well qualified to do her work.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

20. Everything possible is done to help the deserving person gain a promotion.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

21. Too little attention is given to seniority when promotions are made.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

22. In this hospital a rating system is used as a basis for promotion.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

23. I am satisfied with the way "days off" are handled.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

24. Everything is done to see that hospital employees get a fair deal on the job.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
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Comment:

25. It seems that employees are "let go" around here for very little reason.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
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Comment:

26. I like for my friends to know where I work.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

27. Employees are well trained for this job.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

28. My job allows me to use my abilities as much as I would like.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

29. Employees in my department know what is expected of them.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

30. We frequently get conflicting instructions around here.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

31. I have freedom on my job to use my own judgement.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

32. The dietitian can just tell me what, how, and when she wants the job done and leave the rest to me.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
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Comment:

33. I feel my efforts are recognized and are adequately rewarded.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

34. I feel pride in doing my job well.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

35. The people in my group are great to work with, fun to be with, and we get the job done.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

36. Everyone is always trying to tell me what to do.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

37. We get good cooperation from other departments here.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

38. I get most of my information from the grapevine.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

39. If I were working in another hospital, I would do a different kind of work.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

40. The hospital does all it can to improve the services for the patient.

Strongly Agree	Mildly Agree	Neutral	Mildly Disagree	Strongly Disagree
-------------------	-----------------	---------	--------------------	----------------------

Comment:

SUBJECTIVE PRETEST AND POSTTEST

From the multiple choice answers, circle the word or phrase which seems to be correct:

1. A form of communication may be
 - A. to write.
 - B. to hear.
 - C. to see.
2. Work schedules have the following purpose:
 - A. to give only time to go to work and time to go home.
 - B. to give a list of duties for me to do.
 - C. to give a list of duties and the time to do each duty.
3. To teach someone a new job
 - A. let him learn by trial and error.
 - B. tell him, show him, and then check again later.
 - C. show him one time only.
4. A menu is written
 - A. after the food is purchased.
 - B. as a basis for all food service operations--purchasing, storage, preparation of food, workers' schedules.
 - C. without considering the patients' food preference.
5. The item that should not be in this food group is
 - A. pork chop.
 - B. green beans.
 - C. eggs.
6. Planning the menu should be done in this order:
 - A. meat, vegetable, fruit, dessert.
 - B. dessert, fruit, vegetable, meat.
 - C. no order.
7. In planning a meal we should have a difference of the items of food in
 - A. color.
 - B. expense.
 - C. size of servings.
8. Therapeutic diets are ordered by one of the following:
 - A. dietitian
 - B. patient
 - C. doctor

9. A diet manual
 - A. is a pattern for each type of diet.
 - B. is for the dietitian's use only.
 - C. is not written in usable form.
10. When receiving purchases,
 - A. it is not necessary to check the purchases.
 - B. purchases must be checked for number and condition before signing the invoice.
 - C. purchases may be checked later.
11. Eggs may be kept in the refrigerator
 - A. two days
 - B. ten days
 - C. three weeks
12. "Convenience foods" means
 - A. Fresh foods are washed before they are sold, example carrots.
 - B. foods are already cooked and ready to be served when warm.
 - C. foods will be liked.
13. The temperature of the refrigerator for fruits should be:
 - A. thirty-three degrees.
 - B. forty-five degrees.
 - C. fifty-five degrees.
14. The temperature for a dry storeroom should be
 - A. forty-five degrees.
 - B. seventy degrees.
 - C. eighty-five degrees.
15. Standardized recipes means
 - A. the recipe has been tested and found satisfactory in number of servings and quality (taste).
 - B. the recipe was taken from a book.
 - C. the recipe has been used many times.
16. The number of ounces of juice in one can (size used in our kitchen) is
 - A. ten
 - B. forty-six
 - C. fifty-eight.
17. Hot foods should be kept at a temperature of
 - A. 140 degrees
 - B. 85 degrees
 - C. 60 degrees

18. Frozen meats should be defrosted
 - A. in the refrigerator.
 - B. in the kitchen.
 - C. in the kitchen for a while and then return to the refrigerator.
19. Sanitation means
 - A. only washing your hands with soap and water before starting work.
 - B. keeping the garbage cans covered.
 - C. clean workers in a clean kitchen preparing clean food.
20. Work flow pattern means
 - A. there is an orderly pattern with no backtracking.
 - B. that the employee is expected to make more steps than are necessary.
 - C. that the employee takes less steps, even to eliminate some of the necessary work.

COMMENTARY FROM SLIDE SERIES KIT,
"FOOD SERVICE IN NURSING HOMES"*

Produced by Edith T. Aitken, Consulting Dietitian under contract with the Public Health Service, United States Department of Health, Education, and Welfare.

I. COMMUNICATIONS AND HUMAN RELATIONS

SLIDES	COMMENTARY
1. COMMUNICATIONS AND HUMAN RELATIONS (Title Slide)	A good food service is one of the biggest assets of a nursing home. When friends or relatives of patients talk about the care given, what is usually the main topic of discussion? A reputation for excellent food is good public relations and the dietary staff must carry most of the responsibility for producing food. Good communications help promote a smooth running service.
2. A SMILE COSTS NOTHING	We need to understand the feelings of the patient in the nursing home. He is in a new environment, sometimes feeling that he has been pushed aside by his family, and that he no longer counts. Eating remains one familiar activity. It helps to bridge the gap between the past and the present. Mealtime provides a welcome break in what may be an uneventful day; it is a time for eating and talking with others, as it was in the family situation.
3. EACH DIETARY EMPLOYEE IS PART OF A TEAM	Dietary service employees can be justly proud of their part in patient care; they are part of a team. The job of each one is important, whether it be cooking, serving, or washing dishes. Their work is just as essential as any of the other services in the home.

Each worker should know his own duties, and do them to the best of his ability; if he neglects a part of his responsibilities, it will be harder for the other members of the team.

4. A CRYING BABY
IS COMMUNICAT-
ING

Communications are necessary for every worker. Communicating is the way in which one person affects another. A baby crying communicates; he gets a response, doesn't he?

5. TIME SPENT IN
COMMUNICATIONS

We communicate in many ways: writing, reading, speaking, and listening. The person who speaks all the time is missing something because he never stops to listen.

We even communicate with our bodies, as when we instinctively draw away from something we don't like.

The tone of voice carries meaning, too. The word "Yes" can be said in many different tones. It may be a reluctant agreement, enthusiastic response, or noncommittal, as if we don't care one way or the other.

6. DIETARY SERVICE
IS PART OF THE
WHOLE OPERATION

The food service employees are also part of a larger team, which includes all the various services.

It is as important to maintain good relationships with those from whom orders are received as with those for whom service is rendered.

7. DIETARY AND
NURSING
SERVICES

Do we cooperate willingly when a nurse brings a request from a patient? If it is the responsibility of the nursing service to deliver the food to the patient, do we make every effort to help them in seeing that the food gets to the patient in good condition? Good communications help to prevent misunderstandings and mistakes.

Each member of the team is important, and every team needs a captain. The food service is one among many general responsibilities of the administrator but the food service supervisor usually has the direct responsibility for the daily food service operations.

A supervisor must depend on the efforts of other people to get things done, and this means there is a need for good communications. For every job to be done, there should be complete understanding of who is to do it, what to do, when, where, and why.

8. INTERVIEWING
THE NEW
EMPLOYEE

Good communications start on the day a new employee is hired. The food service supervisor shows her interest in the new employee and the importance of the job by taking time to listen as well as talk with her, in a friendly, relaxed interview.

This should be a two-way communication, in which the employee can learn more about the job, and the supervisor can become acquainted with the employee.

9. APPLICATION
BLANK

The supervisor should have at hand: The Application Blank, filled out by the applicant (references given should have been checked).

10. JOB DESCRIPTION
FORM

The Job Description, giving information on work hours, time off, pay schedule, age, personal and educational qualifications.

11. PERSONNEL
POLICIES
HANDBOOK

Also the Personnel Policies Handbook. A tour of the dietary department, with introductions to fellow employees, helps to make the new worker feel more at ease. A visit to patient areas, with introductions to nursing service employees, gives the worker a more personal interest in the welfare of those he or she will serve and work with.

Job descriptions are written outlines of the job. They tell the employee what is expected of him, and what the conditions of employment are.

When the employee starts work, he will need a more detailed explanation of the work he is to do. This is called a work schedule.

12. WORK SCHEDULE
FORM

Here is a sample Work Schedule for a kitchen helper. It lists the duties in detail, with the approximate time needed to complete each duty.

If there are no written work schedules in an organization, we may still find that each employee is operating under some sort of timetable of his own. In order to produce written work schedules, each employee might be asked to write down on a sheet of paper what he is doing at each half-hour interval during one day. These notes can then be checked to see that all tasks are covered, and written schedules developed from them.

Written schedules are invaluable in starting new employees, or clearing up misunderstandings over who is supposed to do a certain job. They are useful in helping each employee to complete his assigned tasks within the time allowed. They are a form of written communication which should be combined with spoken explanation.

The schedule should be made for the job, not for any one person, and the duties outlined should be followed by a relief worker as well as the regular worker.

13. SCHEDULES FOR
ALL DIETARY
WORKERS

Work schedules may be summarized on one sheet like this, or the schedule for each worker may be on a separate sheet and posted in the kitchen.

To teach anyone how to do a job, we need both written and spoken communication. Telling someone, or posting a list on a board is not enough. The 4-step Method of instruction is an example of good communication.

14. FOUR-STEP
METHOD OF JOB
INSTRUCTION

1. To prepare the learner, we need to put him at ease. State the job and find out how much he already knows about it.
2. To present the operation, we must tell, show, and illustrate one important step at a time.
3. Next, we try out the performance by having him do the job and explain back why each thing is done.
4. Last, the follow-up, which means that he goes ahead with the job on his own, with the teacher coming back to check frequently.

Using this 4-step method, how would we teach a new employee to make coffee? What are the steps to be explained and demonstrated?

One way of using communication in the dietary service is to discuss any proposed changes in advance with the persons concerned. Regular departmental staff meetings provide opportunity for idea exchange and involving employees in future planning.

15. REACTION OF
CHANGE

The normal human reaction to change is "No." When told that something new is to be started, how often do we hear this!

If the proposed change, and the need for it, had been discussed in advance, these workers might have offered some suggestions which would have improved the procedure. They would have had the opportunity to express any doubts, and perhaps other workers could have convinced them that the new method would work.

16. DO'S AND DON'TS
OF HUMAN RELA-
TIONS

We all want to get along well with our co-workers, and to do a good job. Here are a few do's and don'ts to help us in our relations with other people.

Almost all of these could be covered in two sentences: "Think before you speak," and "Treat others as you would like them to treat you."

Just as professional groups have their codes of ethics, so every employee in a hospital or nursing home needs to observe certain standards of ethical behavior. This involves attitudes toward the patients, the administrator, the nursing staff, and fellow workers.

17. ETHICS FOR
DIETARY
EMPLOYEES

If you feel you have a justifiable complaint, take it to your supervisor. Better yet, write down all the details as if you were writing a letter to someone at a distance. Does it seem you have real grounds for complaint? Then tell the proper person, but don't tell everyone outside the facility first. Your dietary consultant can be helpful in solving problems.

Schedules have been mentioned as a form of written communication. There are many others.

18. FORMS AND
RECORDS

Here are some of the forms and records which contribute to a good food service operation. Can you name others?

19. SUMMARY

Good communications and human relations help promote harmonious working conditions.

II. PLANNING GENERAL AND MODIFIED DIETS

20. PLANNING
GENERAL AND
MODIFIED
DIETS (Title
Slide)

One of the first requirements in a good food service is a carefully planned menu.

21. RELATION OF
MENU TO
TOTAL DIETARY
SERVICE
OPERATION

The written menu is the basis for all good service operations. It dictates the kinds and amounts of foods to be purchased, what storage will be needed, what dishes and utensils will be used in the service.

Every item on the menu should be specific: it is not enough to write "fruit gelatin." What flavor gelatin? What kind of fruit?

Garnishes should be indicated on the menu so that if parsley is wanted, it will be on hand.

We will want to use foods which our residents like. What are some of the foods especially well liked here?

Fortunately, the nutrients recommended for good nutrition can be found in a variety of foods. If we understand the basic nutritional needs, we should be able to fit the foods preferred by the residents into a menu which is nutritionally adequate and satisfying.

22. A DAILY FOOD GUIDE

The next slide shows a daily food guide such as we might use in planning menus.

Let's take our menu for today and check it with this chart.

A. Were there 2 or more 8-ounce cups of milk for each person, including that used for drinking and cooking?

B. Were there two or more servings of meat, enough to make a total of at least 5 ounces of cooked meat? Is the average serving as much as 2-1/2 ounces? Count one egg as one ounce.

C. How many servings of fruits and vegetables were there? Was one of them a citrus fruit or other good source of Vitamin C, such as cantaloupe, raw strawberries, or papaya?

D. Were there four servings from the bread and cereal group? These should be enriched cereal foods, if they are not whole grain. Does the label on the bread say "enriched"?

A portion from the fruit and vegetable group is taken to mean one-half cup, or a portion ordinarily served, such as a medium apple. However, many older persons prefer small servings. So, if the serving of vegetable is usually about 1/3 cup, we will need three 1/3 cup servings to equal two one-half cup servings.

This daily food guide is one way in which we can be sure our food furnishes the protein, minerals, and vitamins recommended for the adult, whether he is under or over 65. The older person needs fewer calories than the young adult, partly because he is less active, but the need for these four basic groups does not change with age.

23. 4 BASIC GROUPS
IN THREE MEALS
AND BEDTIME
FEEDING

If we distribute the 4 basic groups in a pattern of three meals with a bedtime feeding, we might have something like this.

Let's check through and see whether everything has been included. Milk? Meat? Fruits and vegetables? Bread and cereal?

24. 4 BASIC GROUPS
IN 5-MEAL-A-
DAY PATTERN

Other meal patterns, such as the 5-meal-a-day plan could be used just as well, if we are careful to follow the same daily food guide.

Do we have the basic 4 food groups included in this plan? Milk? Meat? Fruits and vegetables? Bread and cereal?

Are any foods missing that are usually included in meals? How about butter, margarine, salad dressings, sweets? These foods are a part of the normal diet; they help to make meals more appealing and satisfying.

Remembering that the older person does not need as many calories as the younger person, we may still offer cakes and pies which are high in calories, if we keep the servings small.

A fruit dessert, always popular with older persons, may be counted as one of the fruit servings for the day, while 1/2 cup of ice cream will replace 1/4 cup of milk.

25. MENU FORM WITH
MAIN DISHES

From a daily food guide we can develop a meal pattern to use in planning the menu for each day.

A large menu form like this with a meal pattern helps in planning at least one week ahead. The person planning the menu needs a quiet place to work, a file of previous menus, and recipes for foods usually served.

Select the main dishes for noon and night first; they are the most expensive items and will largely determine the cost of the meal.

26. NOON AND
EVENING MENUS
COMPLETED

Choose the vegetable and/or salad for each day of the week, then add desserts and any special breads; only two days are shown, but the noon and evening meals for the entire week would be completed in the same manner.

27. BREAKFAST
AND BEDTIME
SNACK ADDED
TO MENUS

Plan breakfast, using this meal to supply Vitamin C if there is no good source in other meals, eggs only if not used in main dishes in other meals of the day. Check for variety in color, flavor, shapes, and consistency. Nourishing bedtime snacks are desirable. They should be planned to supplement the other meals, and written on the menu.

28. CHECK LIST FOR
NUTRITIONAL
ADEQUACY

If we follow a good meal pattern, the menu should be nutritionally adequate, but we need to check to be sure.

With a list like this, it takes only a few minutes to check. After any changes are made, the menu should be checked again for nutritional adequacy.

We also need to think how these foods are going to look and taste.

Each meal should have contrast in colors, in textures, and in flavors. Foods should be portioned in a variety of shapes, not all round or all square.

29. UNATTRACTIVE
MEAL

The next two slides show two meals. See if you find one more appealing than the other. Why?

Do you like this one? What is wrong with it? Sometimes the difference between a good tray and a poor tray is only a matter of changing the method of preparation or the way the food is portioned.

30. ATTRACTIVE
MEAL

Is this better? In what ways? Remember the need to be specific in writing menus.

31. MENU--TOO MANY
OVEN DISHES

Next, we need to know whether we can produce the foods as planned.

A menu meeting weekly with all workers concerned will help to avoid difficulties. For instance, too many oven-cooked dishes, several dishes requiring considerable cutting, or too many items requiring last minute preparation in the same meal will make it impossible to have foods ready at the proper time. How could this menu be improved?

Even if the food budget is fairly elastic, there are always some limitations.

32. PERCENT
DISTRIBUTION
OF TOTAL
OPERATING
COST

The food cost in any facility is usually proportional to the total expenditure for patient care. This is one way in which the patient dollar may be divided. The amount budgeted for food shows how important the food service is in the total operation.

To make the menu planner's job easier, cycle menus are sometimes used.

A good menu is worth repeating. A set of 4 or 5 consecutive weekly menus may be used as a Master Cycle by starting at the beginning and going through again.

33. ADAPTING THE
CYCLE MENU

A new menu for each week is based on the Master. Slight changes will help to give variety, and will not affect the value of the menu, if we substitute like for like.

Fresh fruit in season is a welcome change from canned fruit; strawberry shortcake is similar to a fruit cobbler; ground beef is the same in meat loaf, meat balls, patties, or biscuit roll; sweet potatoes, pumpkin, and winter squash are similar in color and nutrients.

It would be hard to remember that this menu had been served before but there are only a few changes.

When we have a good general menu, we use it as a basis for therapeutic diets.

Therapeutic diets as prescribed by the physician for the individual patients require that some items in the general diet be restricted or changed, but many foods can be used in general and therapeutic diets.

We need a written order for each diet as prescribed by the physician, so that we can carry out his orders.

34. DIET ORDER
CARD

An order card such as this gives us information on what the doctor has ordered. Would it be any better than the one we have? What other information would be helpful?

Some hospitals and nursing homes use a selective menu to allow patients a choice of foods. A choice of two kinds of meats, vegetables, desserts, and salads is usually given.

Many nursing homes use a nonselective menu, but give attention to individual preferences.

35. CARD FOR
PATIENT
PREFERENCES

This is a form used by one nursing home to record the preferences of patients.

When a therapeutic diet is ordered, we need to know how to choose the foods which will fill the prescription.

To plan a diet which will furnish what the physician ordered, we need a pattern for each type of diet, just as we need a pattern for the general diet.

36. DIET MANUAL
PAGE

An approved diet manual will give the information needed. Copies of the approved manual should be available in the dietary department as well as at each nurses' station.

A daily form on which to plan the modified diets most used in the facility will help to avoid mistakes and shortages. If you are using a cycle menu, save these daily sheets and use them again with the appropriate week's menu.

37. MODIFIED
DIETS FOR
ONE DAY

Some diets are restricted in amount of nutrients, as the diabetic, low fat, low calorie, or sodium restricted. Others differ in texture, as soft or low residue. What modified diets are most generally used here? Are they different from those on the slide?

Some patients receive diets prescribed as "soft" solely on account of poor teeth or inadequate dentures and may need only foods that are soft in consistency and small in bite size.

38. DOES THE SOFT
DIET MEAN
PUREED FOOD?

Chewing helps keep gums healthy. For the patient who can chew even a little, meat in small pieces will probably taste better than when pureed.

Sometimes the person on a therapeutic diet doesn't know why his tray is different from others.

39. PATIENT WITH
NO SALT ON
TRAY

The food service supervisor or the dietitian should talk to the patient about his diet, so that he understands why certain foods are restricted.

40. MENU PLANNING
SUMMARY

When we think about the many aspects of menu planning, it's easy to see there's a big difference between "getting dinner," and planning menus which are nutritionally adequate as well as pleasing to the patient. These are points we need to remember.

III. FOOD PURCHASING, RECEIVING, AND STORAGE

41. FOOD PURCHAS-
ING, RECEIVING,
AND STORAGE

Regardless of who purchases the food for a facility, the food service supervisor has some responsibility. He or she may purchase all or part of the foods, or prepare a list of foods needed or check deliveries against orders.

42. MARKET ORDER
WORKSHEET

Purchasing begins with the planned menu. Using it as a guide we know what foods to order. How much will be needed depends on the number of persons to be served (patients, visitors, and staff), the storage facilities available (refrigerated and dry), and the yield to be expected from each food.

43. INVENTORY
LIST

Before we place the order, we need to check supplies on hand in refrigerator, freezer, and storeroom.

An inventory list of foods in alphabetical order within each group, as Canned Fruits, Canned Vegetables, Juices, Soups, and others saves time in checking foods on hand. The inventory should include items which are usually kept in stock.

44. PAGE FROM
PURCHASING
GUIDE

Purchasing guides are available listing yields of units of purchase for different foods, such as this "Food Purchasing Guide for Group Feeding" of the U. S. Department of Agriculture.

If boneless beef chuck is to be ordered for a pot roast and we expect to serve a total of 75 patients and

staff, we need to order three times the amount for 25 portions as given in the guide, or approximately 22 pounds. This should furnish 2.4 ounces of lean meat, cooked weight, per person.

45. FACTORS IN
PURCHASING
DECISIONS

These considerations will help decide where to purchase. Conditions are different in each location: Which suppliers can best provide the quality desired? How often can deliveries be made? Is it better to buy from an institutional supplier or from a retail store? How much time is needed to buy from the various sources? Is it possible to get competitive prices from several suppliers?

When decisions have been made as to what to purchase, a regular procedure should be established.

46. WEEKLY CHART
FOR ORDERING

Buying on a weekly basis is less time consuming than having to order more frequently. There may be an advantage in ordering perishable foods twice a week, to prevent holding them too long.

Good food is safe food. Purchase safe foods. The round U. S. Inspection Seal tells us that the food was wholesome at the time it was inspected.

47. U. S. INSPEC-
TION AND
GRADING
STAMPS

The round stamp is the inspection stamp. The shield-shaped stamp indicates grade, or quality.

The inspection stamp shown is the mark used on fresh and cured meat. A slightly different form is used on processed meat products, poultry and poultry products, or fruit and vegetable products. All show that the food is U. S. inspected.

All meat and poultry sold across state lines must be Federally inspected and carry the round inspection mark.

Grading is not required by law, but it is a guide to quality of many foods. The foods we are most likely to find

carrying the USDA grade shield are beef, lamb, chicken, turkey, butter, and eggs. The grade mark means that the food measures up to a definite standard of quality.

There are other ways in which we can get information about the foods we purchase.

48. THE LABEL
TELLS YOU

Labels on canned foods give information on contents. If you are getting competitive bids on the same item, be sure that each supplier has been given the same specifications, otherwise the lower bid may be due to lower quality.

Whether you purchase foods or not, you may wish to recommend to the buyer some brands you have found good. What makes one brand preferable to another?

49. FACTORS ON
WHICH TO JUDGE
CANNED FOODS

One product may be of better color, or firmer consistency. If we compare the drained weights of two brands, we may find that we get more servings from one than another. Do you know how many servings you get from a number 10 can of green beans? How much each serving costs?

Some of the common food items which appear in every meal are bread, milk, coffee, butter, or margarine. "Standing orders" may be placed for these if we know approximately how much will be used every day.

Milk is available in many forms.

50. COMPARATIVE
PRICES OF DRY
MILK AND FLUID
SKIM MILK

Dry skim milk, also called nonfat milk, from which the water and fat have been removed, is easy to use in cooking and is less expensive than other forms of milk. It may also be added to some foods, such as meat loaf, mashed potatoes, and cooked cereals to increase the amount of protein and calcium in the diet.

Eggs deteriorate rapidly when kept at room temperature. They should be bought only in quantities which can

be kept refrigerated, and not more than ten days' supply at a time.

51. KNOW THE EGGS
YOU BUY

Consider weight. Consider quality. Compare price with weight and quality. Small eggs sell for less than the bigger ones because they weigh less. If Large Grade A eggs are selling for 60¢ a dozen, you would get equal value in Grade A Medium eggs selling for about 7¢ less, or 53¢ a dozen. The same price differential holds true between Medium and Small eggs. So if there is more than 7¢ difference between one size and the next we would get more for our money by buying the smaller size.

52. WHAT METHOD
FOR WHAT
CUT?

A large part of the food budget will be spent for meat. Purchase it wisely.

Grade is one guide to the method of preparation. In general, lower grades of beef as USDA Good are excellent buys for moist heat cooking, such as pot-roasting and stewing.

To buy wisely, consider the cost per serving portion. The cost per pound for carcass meats is lower, but true cost should be calculated on total cost including cutting, divided by the total number of edible pounds of meat.

Portion-cut meats can be purchased in the number of servings needed, and in the size portion desired.

53. CONVENIENCE
FOODS

The original cost of convenience foods may be higher than "home prepared," but a true comparison would have to take into account the cost of the labor involved.

If directions are followed carefully, a standard product should result every time. How does it rate with the Home Prepared product for quality? As good? Not so good? Better?

If less labor is required, what will be done with the time saved? Can it be used to advantage or will fewer workers be required?

54. FOOD ORDER
NOTEBOOK
SAMPLE
PAGE

A record should be kept of the foods ordered, because it will be needed to check foods delivered.

A good order notebook is the best record of foods ordered. The notebook can be used in receiving supplies, keeping track of where foods were purchased, and for figuring food costs.

After foods have been purchased and delivered, they must be cared for properly to keep them in the best possible condition.

Care of foods starts in the receiving area.

55. WEIGH MEAT AS
DELIVERED

The receiving area should have a table or cart to set foods on and scales to weigh foods purchased by the pound.

All foods should be checked for quality and quantity on delivery, and signed for by a person to whom this job is assigned. Standing orders such as bread and milk should also be checked.

Try to arrange for deliveries at a time other than the serving hour, so that a responsible person is available to check the foods, sign the delivery ticket and see that the foods are put away.

Compare the delivery with order book as well as delivery ticket. Mark date, kind, and amount of meats; this saves guessing what is in a package in the freezer.

If food costs are calculated on a basis of food used each day, rather than the cost of all items delivered, it is helpful to mark price per case on goods to be placed in the storeroom. Then as cans are taken out the price per can may be marked on each can.

Perishable foods, such as meats, eggs, fresh fruits, and vegetables, must be refrigerated immediately on delivery.

Frozen foods should be kept in a freezer with temperature of 0°F. or lower. Check the temperature daily.

56. RECORD OF
FROZEN FOOD

A chart such as this is helpful in keeping track of frozen foods on hand.

Perishable foods not frozen should be put in the refrigerator immediately. Eggs should never be left out at room temperature. For best results, the refrigerator should be at temperatures not over 45° F. nor under 33° F. Below 33° F. a slow freezing action takes place.

Some foods keep best at temperatures a few degrees higher or lower than others.

57. STORAGE
TEMPERATURES

You probably don't have refrigerator compartments with all these different temperatures, but in one section of a refrigerator there may be as much as 3° F. difference between top and bottom shelves. Use a refrigerator thermometer to check the interior of the box, and if there is a difference, use the coldest shelves for meats.

Fresh fruits should be examined for stage of ripeness at the time of delivery. Ripen fruits such as peaches, pears, bananas at room temperature, then refrigerate, preferably at 45° F.

Dry stores should be kept in a cool, dry storeroom, preferable with temperature not over 70° F. What is the temperature in your storeroom? Hot sun may be kept out with blinds, or sun-deflecting plastic. Ventilating grills may be placed in doors. Floor fans will help to circulate air.

58. STOREROOM
ARRANGEMENT

Shelves 20 inches wide have been found most advantageous as space for 3 number 10 cans or 4 number 5 cans to be placed in a row from front to back. Shelves 18 inches apart permit stacking one can on top of another. Dotted lines show space for 6 number 10 cans.

In the storeroom, foods should be placed in groups such as fruit, vegetables, etc., with foods in each group

arranged in alphabetical order. If shelves are labeled, it is easy to find foods or put them away. Keep all foods off the floor. Use covered containers on wheels for bulk items and such things as opened cartons of dry skim milk.

Every can of food is like money in the bank. Keep the storeroom locked at all times, except when food is being taken out for use in the kitchen.

Many steps can be saved by making a list in the morning of foods needed for the day and getting them all on a cart at one time. The list may then be left on a hook in the storeroom as record of what has been taken out.

59. TEMPERATURES
FOR PERISHABLE
FOODS

As you have seen in the other slides, there are recommended temperatures for all food storage. Since the best temperature for holding cooked foods on a serving table is 140° F. we see that there are temperature ranges in which perishable foods may be safely held: 45° F. or under for cold foods; 140° F. or over for hot foods.

60. SUMMARY

Supplies must be purchased according to the menu.

Consult recipes to be sure that all ingredients will be on hand.

Orders recorded in the Food Order Notebook form a permanent record of purchases and prices.

Checking goods received is the responsibility of the food service supervisor or a person she has delegated to do it.

All perishable foods should be placed in refrigerated storage immediately.

IV. QUANTITY FOOD PRODUCTION AND SERVICE

61. QUANTITY FOOD
PRODUCTION
AND SERVICE
(Title Slide)

Production of high quality food in quantities needs good management practices. They help to insure that a product will be of the same high quality regardless of which cook is on duty, that there will be enough and not too much, and that foods will be ready to serve on time.

These are some of the good management practices which will make the job easier:

62. GOOD MANAGE-
MENT PRACTICES

1. A Standardized Recipe is one which has been tested and found satisfactory in yield and quality. The recipe should include all details needed to insure uniform high quality each time it is used. The yield should be the number of servings needed for one service in the facility in which the recipe is used.

If different numbers of servings are sometimes needed, depending on whether it is for patients only, or patients and staff, there should be two columns with the correct amount of ingredients for the two yields desired.

2. Portion Control is another good management tool. If the size portion is indicated on the recipe, we must cut or dip the food in that amount to yield the expected number of portions.

3. A Food Production Sheet will help to insure that all foods are ready at the right time, but not too far ahead of time. In making out the Production Sheet, we should time foods so as to have them ready just in time for service. Keep hot foods hot, and cold foods cold during the serving time.

4. All food should be tasted before it leaves the kitchen to test its acceptability. The spoon which has been used for tasting should never be returned to the foods to be served. It is better

to take several teaspoons to use in tasting, and use a fresh one for each food.

5. Standardized Recipes. It is a waste of time and often a source of error, to multiply a family size recipe by 12 every time you want to make 75 muffins.

Family size recipes can be adapted to quantity service if a few simple rules are followed.

63. SAFEGUARDS IN
INCREASING A
RECIPE

Be sure the original recipe is of high quality by testing it before enlarging it. If it is not as good as you would wish, discard it and try a different one.

Checking a recipe which has been developed from a smaller one against a similar one from a good quantity recipe book helps to show any mistakes in the proportions, as of liquid to flour, or amount of sugar in a pudding.

The next slide shows a recipe from Quantity Recipes, by Wood and Harris, Cornell University, Ithaca, New York 14850.

64. RECIPE FOR
BAKED FRUIT
PUDDING

Does this recipe contain all the information needed? How about the form in which it is written? Do you like having the method across from the ingredients, so that it isn't necessary to look at the top, then the bottom of the card?

65. SIZE OF RECIPE
CARD

If you are standardizing your present recipes and putting them in a card file, think about the convenience of the cooks. They will not be sitting at a desk to read the recipe, so you want a card large enough to be easily read at a work table. A 5 x 8 card is usually a good size.

Standardizing the yield of a recipe loses its value if the portion size indicated on the recipe is not used in serving. The person serving needs

to know exactly how much to serve. If a meat loaf is meant to furnish fifty 2-1/2 ounce servings and we cut it in 3-ounce servings, then we will be 8 servings short.

66. MEASURE ACCU-
RATELY FOR
PORTION
CONTROL

If a bowl has a capacity of 6 ounces, then the number of portions needed times six tells us how much soup to prepare, but we need to use a 6-ounce ladle for dipping to be sure of getting the right amount in each bowl.

Do you know how many ounces of juice you normally serve in one glass? If you measure it, it is easy to figure how many cans of juice will be needed. How many ounces of juice are there in a can?

The third management practice listed was making out a Daily Food Production Schedule. If you are using cycle menus, the Daily Food Production Schedule may be filled with the menu for the week, and used again when that week of the cycle comes up.

67. FOOD PRODUC-
TION SCHEDULE

A food production schedule helps the cooks to space the cooking without worrying about whether foods will be ready in time; it should also prevent deterioration caused by hot foods standing too long on the serving table.

A food production sheet or timetable may show that there are too many foods to get ready at the last minute, and may indicate that a change in the menu would be advised.

68. THE TASTE TEST

The last item of management practices was Taste Testing of food before it goes to the patient. Is the meat really tender to chew? Do you ever taste the ground meat? If you don't how do you know it isn't too salty?

The patient won't know that you were short-handed in the kitchen this morning, or that a delivery man was late. He can only judge how the food looks and tastes as it is served to him.

To produce really good food, here are some principles which apply to the various types of food:

69. ROAST WITH
MEAT THERMOM-
ETER--OVEN
THERMOMETER

Meat: Meat, poultry, and fish, which are protein foods should be cooked at low to moderate temperatures (275° F.-350° F.) to avoid toughening the protein. A meat thermometer for roasts to check the internal temperature, and an oven thermometer to check the oven temperature are essential. The thermostat on an oven is not always correct.

70. DEFROST FROZEN
MEATS AND
POULTRY IN
REFRIGERATOR

Frozen meats, poultry, and fish, covered to avoid contamination, should be thawed in the refrigerator. Germs grow quickly in the outer, thawed part of meat at room temperature; their growth is arrested at 45° F., the temperature for refrigeration.

Ground or cubed meats are especially susceptible to bacterial growth because more surface area is exposed in them than in larger pieces of meat.

Removing the frozen meats from the freezer to the refrigerator should be included in the Food Production Schedule as far ahead as necessary, depending upon the size of the piece.

71. DON'T OVERHEAT
EGGS, CHEESE,
OR MILK

Milk, cheese, and eggs: These also need special care in cooking. Low temperatures are best. Cook milk and egg mixtures over hot water to prevent scorching; use a double boiler for cooking milk dishes; set baked custards in a pan of water in the oven.

When hot mixtures are to be combined with beaten eggs, it is best to temper eggs with a little of the hot liquid before adding them to the hot mixture.

72. VEGETABLES
FRESH COOKED
OR HELD TOO
LONG

Vegetable cookery: Have preparation timed so vegetables are ready just at serving time. Vegetables deteriorate in appearance and nutritional value when held for long periods in hot table.

73. SOME POINTS
TO WATCH IN
FOOD PRODUCTION

These are only a few of the factors in producing high quality food in quantity. There are many more which could be discussed, such as work simplification. This is such a broad subject in itself that many hours could be spent on it. Briefly, it means WORKING SMARTER, NOT HARDER. If you examine some of your present methods of working, you may find that you can save many steps and much time by using a different system for the same operation.

Meal Service: The manner in which meals are served to the patient is as important as the food preparation. Every effort should be made to protect the work invested in planning the menu, purchasing foods and preparing them by serving them in an attractive manner.

These are some of the things which will encourage the patient to eat and enjoy his meals:

74. FACTORS IN
GOOD FOOD
SERVICE

1. Pleasant surroundings: All patients able to come to the dining room should be encouraged to do so. Not only is it more enjoyable to eat in the company of others, but the effort of getting dressed and going to the dining room has a stimulating effect. The dining room should be light, airy, and colorful.

Tables should be high enough to permit wheel chairs being pushed up to them, and there should be ample passageways between tables for the use of persons with walkers or crutches.

For those patients who must eat in their rooms, service should be timed so that the patient is ready to eat and the table cleared to receive the tray before the food is brought from the kitchen.

2. Attractive dishes: Many patterns are available. They should be durable, easy to clean and handle, of a size which gives an uncrowded appearance on tray or table, and free from cracks, chips, or stains. Side dishes should be used for serving juicy foods. Bread and butter plates will help to prevent bread getting soaked with gravy or other liquids.

The size of the tray for bed patients should be chosen in relation to the size of the dishes. If dishes are too large for the tray, the tray will have a cluttered appearance. Plates with a narrow rim take up less room on a tray than the conventional wide-rim type.

3. Colorful foods: In many cases, foods in a well-planned meal will be colorful enough to need no other garnish. If they are not, it takes only a minute to lay a sprig of parsley or other garnish on the plate, if it has been preplanned so that the garnish is ready for the server.

4. Cheerful service: The person serving the plate or the tray should look neat, clean, and cheerful. She should never give the patient the impression that she is too busy to take time to attend to his needs, whether it be cutting up meat or serving a second cup of coffee. Meal-time may be the most important occasion of the day for residents and patients, a time when they should not be hurried.

In the dining room, care should be taken to have everything scrupulously clean. If tablecloths are used, a plastic mat may be laid on the cloth under each place setting. Clean washable mats on a bare table may also be used. Mats should be placed squarely in front of the chair and back at least one-half inch from the edge.

75. TYPICAL PLACE
SETTING FOR
DINING ROOM

In setting the place, all items should be set where they are most convenient for the diner. The number of dishes to be used depends on the menu.

To save steps in setting tables with cold foods and utensils, have a definite plan:

76. TABLE WITH
SETTINGS AND
UTILITY CART
WITH SETTINGS
FOR OTHER
TABLES

Preset tables with napkins, flatware, and glasses.

Put cold foods on table just before meal is served.

Serve hot foods after guests are seated.

A cart loaded with all the items to be placed on the table at one time (first a cart with table settings, then later with cold foods) can be used to complete each table as you go, and save many steps.

Dishes for hot foods must be warmed before food is served on them.

77. WAITRESS
SERVING
PLATE

Plates should be served from the left and removed from the left. If "family style" is used, the method for setting tables would be the same as for plate service, since salads and desserts are usually portioned individually in the family style service as well as in the plate service.

A variety of equipment is available and various methods of distribution may be used for conveying trays to bed patients. Whatever system is used in a facility, we must always remember the importance of keeping hot food hot and cold food cold. The length of time between placing food on the tray, and its arrival before the patient may make a big difference in how appetizing the food is to him.

78. TRAY
ASSEMBLY

If trays are served from a central kitchen, an efficient tray set-up area is of great advantage. This may be a cart which was especially made for the purpose, but if such a piece of equipment is not available, a similar working arrangement can frequently be contrived with tables and shelves at hand.

The arrangement of a tray is similar to that used for a table setting, except that each tray is a separate unit and needs individual condiments, etc. The principle is the same, however, to place all items where they will be most convenient for the patient.

79. ARRANGEMENT
FOR SUPPER
OR LUNCHEON
TRAY

This is one arrangement for a supper or luncheon tray. How does it compare with the way you set trays?

At serving time, individual preferences should be considered. Don't depend on one person's memory to know who wants large or small servings, or the substitutions needed when some particular food is on the menu.

80. PATIENT
PREFERENCE
RECORD

Post a list of all patients in the kitchen at the serving area. The kind of diet ordered and any special notes about each patient will help the server.

81. TRAY BEING SET
ON TABLE, AIDE
REMOVING PLATE
COVER

There must be close cooperation between nursing and dietary staffs so that the patient is ready when the tray arrives.

If food is transported in unheated carts, it is usually best to take no more than 8 trays at one time. Hot foods should be covered. If metal plate covers are used, they must be heated before they are placed over the hot food; if they are not, the covers will be hot and the food cold when it reaches the patient.

82. SELF-HELP UTENSILS Food is always more enjoyable when one can feed one's self. Self-help equipment can enable patients to be more independent when eating.
83. SUMMARY These are the things which help us to provide service which is satisfactory to the patient or resident, and to continue the care which has gone into producing the food.

V. SANITATION AND SAFETY

84. SANITATION AND SAFETY (Title Slide) Sanitation is a way of life: clean workers in a clean kitchen preparing clean food. The word "clean" and "safe" both imply that we really care about the welfare of the patients.
85. GOOD PERSONAL HYGIENE Sometimes we can tell how much the workers care by their personal appearance. A clean uniform and a hair net or cap are just the outer surface.
86. GERMS ARE EVERYWHERE Germs are everywhere. How many things did you touch today on your way to work?
87. WASH HANDS Washing hands with soap and water, and drying thoroughly, is one of the best ways to prevent transfer of germs.
If supplies are taken out of their original containers and placed in others, we must make sure the containers are clean and labeled. Here are three cans which have not been labeled.
88. LOOK ALIKE SUBSTANCES The three cans contain three different substances. One is salt, one is sugar, and one detergent. Can you tell which is which? You shouldn't have to guess. Label them!
Store all pesticides and cleaning compounds when not in use in a place outside the food-storage, food-preparation, cleaned equipment, and utensil storage rooms.

89. CLEANING
 SCHEDULE
- Schedule all cleaning, showing when equipment is to be cleaned and which employee is responsible. Post it in the kitchen and see that it is followed. This slide shows some of the items which should appear on a cleaning schedule. What others should be added?
90. REFRIGERATE
 LEFTOVERS
 PROMPTLY
- During service, hot foods should be kept at a temperature of at least 140° F. When service is over, remove foods immediately and if they are to be kept, chill quickly in flat pans. Never allow foods to stand in deep pans at room temperature to cool.
91. SAFE FOOD
 HANDLING
 TECHNIQUES
- Use clean tongs, slotted spoons, or other appropriate utensils for mixing and portioning foods such as tossed salads.
92. MACHINE
 DISHWASHING
 CARTON
- In washing dishes, it is important to separate clean dishes from soiled dishes. After the worker has scraped and stacked soiled dishes and put them in the racks, he should wash hands before moving to the clean end of the dishwashing unit.
- Dishes which have been washed at a temperature of 140° F. and sanitized by a rinse of 180° F. should be allowed to air dry. Even clean towels have germs on them.
- Water spotting of glasses and silver can be overcome by using a special rinse so that no toweling is needed.
93. KEEP HANDS
 AWAY FROM
 STEAM
- There are certain safety rules which should be observed. A kitchen, with knives, hot liquids, and electrical equipment can be a dangerous place for the careless worker. Nine out of ten accidents happen because we don't pay attention, are in too big a hurry, or don't ask questions when in doubt. Cuts, burns, and slips are painful. Don't let them happen to you.

94. KNIFE IN SOAK SINK A sharp knife is less dangerous than a dull knife. Keep knives sharp and in their proper places when not in use. When you put your hand in soapy water in the sink, there might be a knife there, unless all workers have been taught to treat knives with respect.
95. DISCONNECTING ELECTRICAL CORDS Guard against possible shocks in handling electrical equipment. Don't weaken cords by pulling on them. Pull electric cords by the plug, not by the wire to disconnect.
96. PLUGGING IN APPLIANCES Never use any machine until you are trained in its use. Report immediately any shock from electrical equipment, no matter how slight. Be sure all electrical equipment is in the "off" position before it is plugged in, as in this slide.
97. BIG FIRES START FROM LITTLE FIRES Fire safety is important. Know where the fire extinguisher is and don't hang coats or sweaters over it.
A small fire can often be put out with a small extinguisher in the hands of someone who knows how to use it. How many workers in your kitchen have ever taken the fire extinguisher off the wall or squeezed the trigger? Perhaps a local fireman would come and demonstrate the use of extinguishers.
98. DRESS FOR THE JOB Dress for the job: clean washable uniforms; hairnet or cap covering the hair; low-heeled shoe with closed toe; no dangling jewelry (ever lose one ear ring and wonder where it went?).
99. SAFETY CAUTIONS Can you think of other ways in which to promote safety in your food service operation? How about glass breakage, mopping floors, stacking heavy items on high shelves?

VI. EQUIPMENT AND LAYOUT

100. EQUIPMENT AND LAYOUT (Title Slide)
- Except when called on for suggestions in regard to remodeling, the food service supervisor or cook-manager must usually work with the present layout and equipment. However, it is possible that some minor changes and rearrangements of existing kitchens may improve their efficiency.
101. WORK FLOW PATTERN
- Study the work flow and see whether it is an orderly pattern, with no criss-cross or backtracking. Food should move in an orderly pattern through the entire operation.
- We might make a rough drawing of the kitchen, then with a colored pencil trace the route of a head of lettuce from the time it is delivered until the made-up salad is served. Or count the steps taken in making a cake, beginning with collecting the raw materials and ending with the finished cake.
- Would changing the position of a table or refrigerator save time or effort?
- Any new items of equipment purchased should be movable if possible; shelves on wheels, portable cabinets give flexibility to operation.
102. MULTI-PURPOSE RACK
- This is a cart of many uses. It can be a baker's cooling rack, a pan storage rack, a place for portioned salads, desserts, and juices during serving time.
- A planned unit for tray assembly is essential. A cart such as this may be used, or its main features may be copied using tables and cabinets on hand.
103. TRAY SET-UP STATION
- Note the arrangement of this cart. There is a place for trays to be stacked, spaces for silver, name cards, napkins, all that is needed to set up a tray.

If you don't have a Tray Set-up Station, do you have equipment such as tables with shelves over them, carts which could be placed near by, to duplicate the arrangement of this station?

Much time is consumed when clean dishes are stacked on a cart, transferred to a cupboard, then removed from the cupboard to the serving area at mealtime. Covered dish storage carts save time and breakage through less handling of dishes.

104. DISH STORAGE

This type of cart can be loaded at the dishwasher and taken directly to the area where dishes will be used. It is available in both heated and unheated models.

If the kitchen lacks sufficient work space, a portable work station, which takes only a small space, may help relieve congestion.

105. UNIT WORK
STATION

This is a good place for preparing and portioning salads and desserts, and it can be wheeled out of the way when not in use.

Since many work tables in kitchens now have stainless steel tops, cutting boards are needed. One-piece boards such as hard rubber are less difficult to clean than those of wood strip construction

106. USE OF
CUTTING
BOARD

The board may be moved to the edge of the table and chopped or diced foods dropped directly from the board to a bowl placed at a lower level. Boards must be washed and rinsed, not just wiped off, after every operation.

107. SMALL
EQUIPMENT

Buying good institutional hand tools is an economy; they will outlast the home type and are less likely to cause trouble.

108. CABINET OVER
WORK TABLE

A cabinet such as this over a work table will provide useful storage space for such things as spices, baking powder, measuring cups, and other small items.

109. KITCHEN
IMPROVEMENT

Although you may not be planning a new food service department, there may be things you can do to make your present one more convenient.

APPENDIX B

TABLE III
ATTITUDE CHANGES BY PERIOD OF EMPLOYMENT,
ONE DAY TO SIX MONTHS

Participant's Number	Attitude Changes		Total
	Positive	Negative	
11	9	12	3 negative
14	11	2	9 positive
23	11	11	0
24	16	12	4 positive
28	9	7	2 positive
32	15	7	<u>8 positive</u>
			23 positive
			<u>- 3 negative</u>
		Total:	20 positive

TABLE IV
ATTITUDE CHANGES BY PERIOD OF EMPLOYMENT,
7 MONTHS TO 23 MONTHS

Participant's Number	Attitude Changes		Total
	Positive	Negative	
7	16	4	12 positive
12	13	4	9 positive
16	14	11	3 positive
17	5	19	14 negative
19	4	11	7 negative
21	6	8	2 negative
25	8	14	6 negative
27	8	10	<u>2 negative</u>
			31 negative
			<u>-24 positive</u>
	Total:		7 negative

TABLE V
ATTITUDE CHANGES BY PERIOD OF EMPLOYMENT,
2 YEARS TO 5 YEARS AND 11 MONTHS

Participant's Number	Attitude Changes		Total
	Positive	Negative	
1	14	12	2 positive
2	6	12	6 negative
3	12	7	5 positive
5	22	6	16 positive
6	11	9	2 positive
10	5	17	12 negative
13	11	18	7 negative
15	6	16	10 negative
26	12	9	3 positive
29	14	8	6 positive
31	9	5	<u>4 positive</u>
			38 positive
			<u>-35 negative</u>
		Total:	3 positive

TABLE VI
ATTITUDE CHANGES BY PERIOD OF EMPLOYMENT,
6 YEARS OR MORE

Participant's Number	Attitude Changes		Total
	Positive	Negative	
4	9	4	5 positive
8	2	28	26 negative
9	8	12	4 negative
18	19	6	13 positive
20	10	8	2 positive
22	12	9	3 positive
30	9	8	<u>1 positive</u>
			30 negative
			<u>-24 positive</u>
		Total:	6 negative

TABLE VII
ATTITUDE CHANGES BY EDUCATION LEVEL,
SOME GRADE SCHOOL

Participant's Number	Attitude Changes		Total
	Positive	Negative	
6	12	9	3 positive
8	1	29	28 negative
10	5	18	13 negative
13	10	18	8 negative
18	20	5	15 positive
23	10	11	1 negative
24	16	10	6 positive
26	13	8	5 positive
30	10	7	3 positive
31	10	4	<u>6 positive</u>
			50 negative
			<u>-38 positive</u>
	Total:		12 negative

TABLE VIII
ATTITUDE CHANGES BY EDUCATION LEVEL,
COMPLETED GRADE SCHOOL

Participant's Number	Attitude Changes		Total
	Positive	Negative	
1	13	12	1 positive
3	12	7	5 positive
5	22	6	16 positive
11	7	10	3 negative
12	14	2	12 positive
15	6	15	9 positive
16	13	11	2 positive
27	6	11	5 negative
22	10	11	1 negative
32	16	7	<u>9 positive</u>
			54 positive
			<u>- 9 negative</u>
		Total:	45 positive

TABLE IX
ATTITUDE CHANGES BY EDUCATION LEVEL,
SOME HIGH SCHOOL

Participant's Number	Attitude Changes		Total
	Positive	Negative	
9	8	12	4 negative
17	4	18	14 negative
19	4	11	7 negative
20	13	8	5 positive
21	5	9	4 negative
29	14	8	<u>6 positive</u>
			29 negative
			<u>-11 positive</u>
		Total:	18 negative

TABLE X
ATTITUDE CHANGES BY EDUCATION LEVEL,
COMPLETED HIGH SCHOOL

Participant's Number	Attitude Changes		Total
	Positive	Negative	
2	5	11	6 negative
4	9	4	5 positive
7	19	4	15 positive
14	11	2	9 positive
25	8	14	6 negative
28	8	7	<u>1 positive</u>
			30 positive
			<u>-12 negative</u>
		Total:	18 positive

TABLE XI
ATTITUDE CHANGES FOR PERIOD OF EMPLOYMENT,
BASED ON INDIVIDUAL QUESTIONS

Question Number	1 day-6 mos.			7 mos.-23 mos.			24 mos. - 5 yrs. & 11 mos.			6 yrs. or More			Period of Employment
	Neg	Pos	Bal	Neg	Pos	Bal	Neg	Pos	Bal	Neg	Pos	Bal	Balance
1	1	1	0	4	0	4-	7	1	6-	3	2	1-	11-
2	0	3	3+	3	2	1-	4	4	0	4	3	1-	1+
3	1	1	0	3	1	2-	3	5	2+	3	2	1-	1-
4	2	0	2-	0	4	4+	2	6	4+	0	3	3+	9+
5	1	1	0	5	0	5-	5	2	3-	4	2	2-	10-
6	0	1	1+	2	1	1-	2	3	1+	2	3	1+	2+
7	3	0	3-	3	2	1-	0	2	2+	2	2	0	2-
8	3	1	2-	2	1	1-	2	5	3+	1	4	3+	3+
9	2	3	1+	2	1	1-	5	2	3-	3	3	0	3-
10	0	4	4+	2	1	1-	2	4	2+	2	1	1-	4+
11	1	0	1-	0	3	3+	3	5	2+	2	2	0	4+
12	3	1	2-	2	1	1-	4	2	2-	2	1	1-	6-
13	1	0	1-	4	0	4-	4	3	1-	3	1	2-	8-
14	1	4	3+	0	1	1+	2	3	1+	3	0	3-	2+
15	1	1	0	1	3	2+	5	5	0	1	3	2+	4+
16	0	0	0	2	3	1+	2	4	2+	2	2	0	3+
17	2	1	1-	2	0	2-	3	4	1+	3	1	2-	4-
18	2	1	1-	3	1	2-	1	3	2+	2	1	1-	2-
19	1	1	0	0	1	1+	0	2	2+	1	1	0	3+
20	0	5	5+	1	4	3+	4	4	0	3	2	1-	7+
21	0	1	1+	2	1	1-	3	3	0	2	2	0	0
22	0	2	2+	2	2	0	5	2	3-	2	3	1+	0
23	0	2	2+	2	2	0	1	5	4+	2	2	0	6+
24	3	3	0	4	2	2-	4	3	1-	1	2	1+	2-

TABLE XI (continued)

Question Number	1 day-6 mos.			7 mos.-23 mos.			24 mos. - 5 yrs. & 11 mos.			6 yrs. or More			Period of Employment Balance
	Neg	Pos	Bal	Neg	Pos	Bal	Neg	Pos	Bal	Neg	Pos	Bal	
25	1	3	2+	1	5	4+	1	2	1+	3	3	0	7+
26	2	1	1-	1	1	0	3	1	2-	2	0	2-	5-
27	3	2	1-	2	3	1+	4	2	2-	2	1	1-	3-
28	1	2	1+	2	1	1-	1	4	3+	0	0	0	3+
29	1	1	0	0	2	2+	2	2	0	0	0	0	2+
30	2	3	1+	0	3	3+	5	2	3-	5	1	4-	3-
31	2	1	1-	3	2	1-	3	3	0	1	0	1-	3-
32	1	1	0	1	0	1-	4	4	0	2	1	1-	2-
33	1	2	1+	2	1	1-	2	3	1+	2	2	0	1+
34	2	0	2-	3	1	2-	1	2	1+	1	0	1-	4-
35	1	1	0	2	2	0	3	1	2-	0	0	0	2-
36	0	4	4+	2	5	3+	4	4	0	2	2	0	7+
37	1	4	3+	1	2	1+	3	2	1-	2	2	0	3+
38	3	3	0	3	1	2-	3	3	0	0	3	3+	1+
39	1	3	2+	2	4	2+	6	4	2-	4	3	1-	1+
40	1	3	2+	2	2	0	1	2	1+	0	3	3+	6+

(+) denotes positive

(-) denotes negative

TABLE XII
ATTITUDE CHANGES FOR LEVEL OF EDUCATION,
BASED ON INDIVIDUAL QUESTIONS

Question Number	Some Grade School			Completed Grade School			Some High School			Completed High School			Level of Education
	Neg	Pos	Bal	Neg	Pos	Bal	Neg	Pos	Bal	Neg	Pos	Bal	Balance
1	6	1	5-	5	0	5-	2	1	1-	2	2	0	22-
2	6	3	3-	2	3	1+	2	2	0	1	4	3+	1+
3	4	3	1-	3	1	2-	2	3	1+	1	2	1+	1-
4	2	4	2+	1	3	2+	0	3	3+	0	2	2+	9+
5	4	3	1-	4	1	3-	4	1	3-	3	0	3+	10-
6	3	3	0	0	4	4+	3	1	2-	0	0	0	2+
7	3	1	2-	2	3	1+	3	1	2-	0	1	1+	2-
8	4	5	1+	2	2	0	1	2	1+	1	2	1+	3+
9	4	3	1-	3	3	0	2	2	0	3	1	2-	3-
10	3	2	1-	3	4	1+	0	2	2+	0	2	2+	4+
11	4	4	0	1	4	3+	1	1	0	0	1	1+	4+
12	3	3	0	3	2	1-	2	0	2-	3	0	3-	6-
13	3	3	0	3	1	2-	4	0	4-	2	0	2-	8-
14	3	1	2-	2	4	2+	1	1	0	0	2	2+	2+
15	3	4	1+	2	6	4+	1	0	1-	2	2	0	4+
16	2	3	1+	2	3	1+	1	3	2+	1	0	1-	3+
17	3	4	1+	3	1	2-	3	0	3-	1	1	0	4-
18	2	3	1+	4	3	1-	1	0	1-	1	0	1-	2-
19	2	2	0	0	2	2+	0	0	0	0	1	1+	3+
20	3	5	2+	2	6	4+	2	1	1-	1	3	2+	7+
21	2	6	4+	3	0	3-	1	0	1-	1	1	0	0
22	2	3	1+	3	4	1+	4	1	3-	0	1	1+	0
23	1	5	4+	2	3	1+	2	2	0	0	1	1+	6+

TABLE XII (continued)

Question Number	Some Grade School			Completed Grade School			Some High School			Completed High School			Level of Education
	Neg	Pos	Bal	Neg	Pos	Bal	Neg	Pos	Bal	Neg	Pos	Bal	Balance
24	3	4	1+	3	4	1+	3	0	3-	3	2	1-	2-
25	1	3	2+	3	5	2+	1	3	1+	1	3	2+	7+
26	4	0	4-	1	2	1+	1	0	1-	2	1	1-	5-
27	6	0	6-	2	4	2+	2	2	0	1	2	1+	3-
28	0	2	2+	4	3	1-	0	1	1+	0	1	1+	3+
29	3	1	2-	0	3	3+	0	0	0	0	1	1+	2+
30	5	4	1-	3	2	1-	2	1	1-	2	2	0	3-
31	2	2	0	3	1	2-	2	1	1-	2	2	0	3-
32	3	1	2-	4	1	3-	0	2	2+	1	2	1+	2-
33	2	2	0	2	3	1+	3	1	2-	0	2	2+	1+
34	2	1	1-	3	1	2-	0	1	1+	2	0	2-	4-
35	2	0	2-	1	2	1+	0	1	1+	3	1	2-	2-
36	3	2	1-	2	6	4+	2	3	1+	1	4	3+	7+
37	5	2	3-	1	5	4+	1	1	0	0	2	2+	3+
38	2	2	0	3	4	1+	2	1	1-	1	2	1+	1+
39	7	3	4-	2	7	5+	3	2	1-	1	2	1+	1+
40	1	3	2+	1	4	3+	2	1	1-	0	2	2+	6+

(+) denotes positive

(-) denotes negative

TABLE XIII
ABSOLUTE FREQUENCY OF RAW TEST SCORES OF
SUBJECTIVE PRETEST AND POSTTEST

Raw Score	<u>No. Participants</u> Pretest	<u>No. Participants</u> Posttest
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	2	-
7	2	-
8	-	-
9	1	1
10	3	-
11	6	-
12	2	-
13	6	2
14	2	2
15	2	1
16	3	3
17	3	4
18	-	4
19	-	5
20	-	10
Mean	12.188	17.531
Standard Deviation	3.126	2.700

TABLE XIV
SUBJECTIVE PRETEST AND POSTTEST Z-SCORE

Participant	Pretest	Posttest	D*	D ²
1	6	15	9	81
2	14	17	3	9
3	9	20	11	121
4	15	19	4	16
5	7	17	10	100
6	7	9	2	4
7	15	19	4	16
8	16	14	-2	4
9	11	20	9	81
10	12	16	4	16
11	11	18	7	49
12	17	17	0	0
13	13	20	7	49
14	16	20	4	16
15	10	20	10	100
16	11	20	9	81
17	13	19	6	36
18	10	14	4	16
19	16	20	4	16
20	13	18	5	25
21	13	19	6	36
22	13	20	7	49
23	11	18	7	49
24	10	13	3	9
25	11	20	9	81
26	13	17	4	16
27	12	16	4	16
28	17	20	3	9
29	17	18	1	1
30	11	19	8	64
31	6	13	7	49
32	14	16	2	4
			Σ 171	Σ 1219

*D = difference

TESTING THE SIGNIFICANCE OF THE DIFFERENCE BETWEEN
MEANS WHEN DATA ARE CORRELATED

Sum of the squares for d

$$\Sigma d^2 = \Sigma D^2 - \frac{(\Sigma D)^2}{N}$$

Where D = Differences

N = Number

$$1219 - \frac{(171)^2}{32}$$

$$1219 - \frac{29241}{32} = 305.2$$

Standard deviation of these differences:

$$s_d = \sqrt{\frac{\Sigma d^2}{n-1}} = \sqrt{\frac{305.2}{32-1}} = 3.14$$

Standard error of the mean difference:

$$s_{\bar{d}} = \frac{s_d}{\sqrt{N}} = \frac{3.14}{\sqrt{32}} = \frac{3.14}{5.66} = .56$$

$\tilde{z}$ - score

$$\tilde{z} = \frac{\text{Mean difference}}{\text{Standard error of mean difference}}$$

$$\tilde{z} = \frac{17.531 - 12.188}{.56} = \frac{5.343}{.56} = 9.54$$

TABLE XV
DISCRIMINATION VALUE OF QUESTIONS OF ATTITUDE
QUESTIONNAIRE (A) STRONGLY AGREE

Question	% High Group	% Low Group	Discrimination Value
1	22	78	-1.5
2	25	75	-1.3
3	39	61	- .6
4	47	53	- .15
5	63	37	+ .7
6	47	53	- .15
7	61	39	+ .6
8	57	43	+ .35
9	40	60	- .5
10	42	58	- .4
11	23	77	-1.45
12	50	50	0
13	53	47	+ .2
14	60	40	+ .5
15	30	70	-1.25
16	47	53	- .15
17	72	28	+1.2
18	63	37	+ .7
19	87	13	+2.3
20	36	64	- .7
21	14	86	-2.15
22	26	74	-1.25
23	47	53	- .15
24	45	55	- .25
25	14	86	-2.15
26	77	23	+1.55
27	70	30	+1.05
28	48	52	- .1
29	74	26	+1.35
30	17	83	-1.85
31	53	47	+ .15
32	71	29	+1.15
33	52	48	+ .15
34	84	16	+2.05
35	84	16	+2.05
36	34	66	- .85
37	38	62	- .6
38	29	71	-1.1
39	37	63	- .65
40	57	43	+ .4

TABLE XVI
DISCRIMINATION VALUE OF QUESTIONS OF ATTITUDE
QUESTIONNAIRE (B) STRONGLY AGREE
AND MILDLY AGREE

Question	% High Group	% Low Group	Discrimination Value
1	41	59	- .45
2	57	43	+ .4
3	45	55	- .25
4	70	30	+1.05
5	80	20	+1.75
6	77	23	+1.55
7	94	6	+3.15
8	83	17	+1.95
9	57	43	+ .35
10	52	48	+ .1
11	50	50	0
12	69	31	+1.0
13	70	30	+1.05
14	67	33	+ .9
15	41	59	- .45
16	67	33	+ .9
17	83	17	+1.95
18	73	27	+1.3
19	90	10	+2.6
20	54	46	+ .2
21	17	83	-1.85
22	41	59	- .45
23	67	23	+ .9
24	66	34	.85
25	21	79	-1.55
26	87	13	+2.3
27	87	13	+2.3
28	66	34	+ .85
29	90	10	+2.6
30	31	69	-1.0
31	73	27	+1.3
32	77	23	+1.55
33	72	28	+1.2
34	90	10	+2.6
35	90	10	+2.6
36	48	52	- .1
37	48	52	- .1
38	42	58	- .4
39	44	56	- .3
40	82	18	+1.95

TABLE XVII
DISCRIMINATION VALUE OF QUESTIONS
OF SUBJECTIVE TEST

Question	% High Group	% Low Group	Discrimination Value
1	100	0	+4.0
2	66	34	.8
3	90	9	2.6
4	75	25	1.4
5	31	69	1.0
6	87	13	2.3
7	28	72	1.1
8	81	19	1.8
9	62	37	.6
10	78	22	1.6
11	47	53	- .15
12	59	41	.50
13	56	44	.3
14	44	56	- .3
15	47	53	- .15
16	50	50	0
17	31	69	-1.0
18	72	28	1.1
19	66	34	.8
20	47	53	- .15

VITA

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